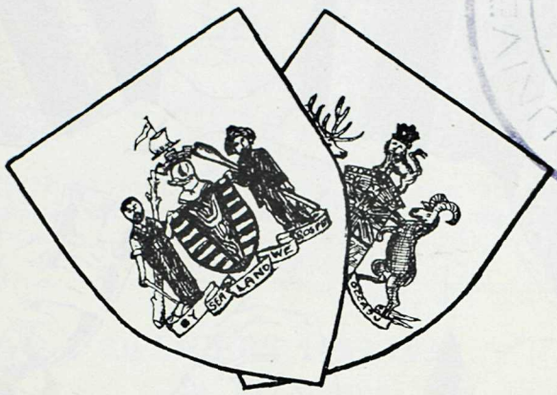
THE BULLETIN



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VANCOUVER MEDICAL ASSOCIATION

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THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

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Vol. IX. DECEMBER, 1932. No. 3

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VANCOUVER HEALTH DEPARTMENT

STATISTICS, OCTOBER, 1932

Total Population Census, 1931)		246,593
Asiatic Population (Estimated)		15,000
	Pate per 1,000	Population
Total Deaths	173	8.3
Asiatic Deaths	10	7.8
Deaths—Residents only	157	7.5
Birth Registrations	301	14.4
Male 145		
Female 156		

INFANTILE MORTALITY—

Deaths under one year of age	6
Death Rate—per 1,000 births	19.9
Stillbirths (not included in above)	13

	September, 1932		October, 1932		November, 1932	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	0	0	0	0	0	0
Scarlet Fever	15	0	12	1	28	1
Diphtheria	0	0	0	0	0	0
Chicken-pox	11	0	27	0	13	0
Measles	1	0	0	0	0	0
Mumps	11	0	19	0	1	0
Whooping-cough	13	0	11	2	11	0
Typhoid Fever	1	1	0	0	0	0
Paratyphoid	0	0	0	0	0	0
Tuberculosis	48	11	37	13	21	—
Poliomyelitis	1	0	0	0	0	0
Meningitis (Epidemic	0	1	0	0	0	0
Erysipelas	0	0	4	0	2	0
Encephalitis Lethargica	0	0	0	0	0	0
Influenza	0	0	—	1	0	0

VANCOUVER MEDICAL ASSOCIATION

Founded 1898 Incorporated 1906

PROGRAMME OF THE 34th ANNUAL SESSION

GENERAL MEETINGS will b held on the first Tuesday of the month at 8 p.m.

CLINICAL MEETINGS will be held on the third Tuesday of the month at 8 p.m.

Place of meeting will appear on Agenda.

General Meetings will conform to the following order:

8:00 p.m.—Business as per Agenda.

9:00 p.m.—Paper of Evening.

1932.

November 1st—GENERAL MEETING.

Papers:

Dr. W. D. Patton: "Blood Cholesterol in Polycythemia and Pernicious Anaemia."

Dr. W. N. Kemp—"Status Lymphaticus, an adrenal-thyroid syndrome."

November 15th—CLINICAL MEETING.

December 6th—GENERAL MEETING.

Papers:

Symposium. The Upper Right Quadrant.

Drs. R. A. Simpson, G. E. Kidd, H. H. McIntosh.

December 20th—CLINICAL MEETING.

Department of Health Advertises Pasteurization

An interesting feature of the January issue of the Canadian Public Health Journal is an advertisement inserted by the Department of Health of Ontario, signed by Honourable John M. Robb, Minister.

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EDITOR'S PAGE

"It must be admitted that medicine and physicians are responsible for many cases of hypochondria." and again "Popularization of medicine injures the physician, who loses his prestige when the patient thinks he is educated himself in medicine. Especially does it injure the patient, who is led astray and caused to lose confidence in treatment where confidence is nearly the whole essential. Of course it is not desirable to render medicine a religion, whose mysteries are open only to a priesthood, yet I am formally of the opinion that physicians should unite to defend the medical Monroe Doctrine expressed by the phrase "medicine for medical men."

The above quotations are extracts from a very thoughtful and sane article published in a recent number of the French Medical Review, "Thoughts on Hypochondria," and they make one stop and think. To what extent do we physicians sow the seeds of hypochondria, imaginary invalidism, not the less distressing and disabling because imaginary? Do we sometimes, while casting out one devil, leave the room swept and garnished, for seven other devils to enter in so that the man's last state is worse than the first?

It is a thing we should ponder over. When smoke rises, and continues to rise, we suspect an underlying fire, and do not say to ourselves "Oh, it is just smoke." And there may be some underlying truth in the accusation that is often levelled at our profession, that we are more apt to tolerate or even create an atmosphere of disease, than to try and create an atmosphere of health and optimism. If there is even a little truth in this—and we do not believe there is a great deal—we should try and avert it.

We confess to very little sympathy with the Pollyanna philosophy of the Christian Scientist. Closing one's eyes to facts is not an accepted method of arriving at the truth, and sickness, dis-function and disease are facts, if anything is. But there is an old adage "If you cannot cure, it is of prime importance not to make things worse," and this is sound common sense. And if we are ever guilty, be it ever so innocently and without intention, of implanting in a patient's mind a conviction of sickness, we have done him a great dis-service.

It is very easy, because we do it unconsciously—perhaps we are merely thinking out loud, and say something that means little or nothing to us—while in the mind of the patient, sensitized as it is by the natural fear that one feels in a doctor's office, this trifle may be magnified into a dread and threat of serious, and often damaging proportions.

We remember a talk that Dr. C. H. Bastin of the Workmen's Compensation Board, gave some years ago, on Traumatic Neurasthenia," and remember, too, how wisely and solemnly he warned us against creating in an injured workman's mind a fear or conviction of permanent and serious injury which does not exist. In his experience, and other men doing the same sort of work say the same thing, this is done very often, quite unintentionally, no doubt, and the workman who could easily have ignored a trifling injury or an unimportant pain, is possessed of an idea that he

has a more serious injury, and feels resentment and a sense of injustice. We have done the man a wrong—we have done an injustice to the Board and to industry, and all because of carelessness.

For it is nearly always carelessness, or thoughtlessness, and unwisdom —a careless remark perhaps, or shewing the man an X-ray which he cannot understand and which is all the more likely to mislead—and so on.

And if we do this in industrial accidents, we must often, too, do it in sickness. In the person afraid of his heart, or lungs, or kidneys— in the rather lazy person, only too glad of an excuse for shirking his responsibilities, in many ways we may implant in a patient's mind the seeds of future misery and loss.

How much should we tell our patients, to what extent should we discuss a case with them? Each case of course, is a separate problem— but if we remember the maxim Englished above "*Si curare non possis primum non nocere,*" we shall not go far wrong.

OBITUARY

In the sudden passing of Dr. John Edward Matheson on Wednesday morning, November 9th, the medical profession of Vancouver generally and the staff of the Vancouver General Hospital especially, lost a member of high promise. The previous week he had been ill with a rather fulminating influenzal attack and on his return to duty on the 7th seemed far from well, but nevertheless carried on his duties as usual, and on Tuesday evening semeed in fairly good health although weak.

On August 1st of this year, Dr. Matheson returned to his duties as Assistant Director of Laboratories of the Vancouver General Hospital after a year's post-graduate study at the Cleveland Clinic, Cleveland, Ohio, where he held a Fellowship in Pathology under Dr. Allen Graham. He returned full of enthusiasm, new ideas and ambition, and had entered into his work with his characteristic zeal, introducing several new methods in the bacteriological department. He had planned several publications for the medical journals and only the day before his death had started the report of an interesting congenital heart.

His cheery disposition, readiness to discuss problems with his colleagues, willingness to serve and eagerness to make the laboratory a real service unit, had won him a wide circle of friends.

A graduate of Toronto University, 1927, he had been connected with the Mental Hospital at Essondale, in the laboratories there and since 1929 had been associated with the laboratories of the Vancouver General Hospital.

NEWS AND NOTES

A medical visitor from Eastern Canada during the past summer, put the question "Why is Infant Mortality so high in British Columbia? Not knowing that it *was* high, we found it rather difficult to answer his question. We are now in a position to make a reply. It will be found embodied in the following statistics issued by the Bureau of Statistics and quoted in the Canadian Medical Association Journal for October, 1932, p. 457: "Quebec's rate is the highest in the Dominion, while that of British Columbia, 49.7 is the lowest . . . . . Of the four largest cities Vancouver has the lowest rate. In 1926 it was 55.0 and in 1931, 42.3."

* * *

Dr. A. E. Trites, who formerly practised on Vancouver Island, has returned from a prolonged course of post-graduate study and has taken offices in the Medical-Dental Building. Dr. Trites will limit his practice to Obstetrics and Gynaecology.

* * *

Dr. C. W. Prowd is away again—this time he has gone to Atlantic City. But he is attending the Radiological Congress there. He is also paying a round of visits in New York, Chicago, Toronto and anywhere his fancy and his keen desire for information may take him. During his absence Dr. Ethlyn Trapp and Dr. MacCallum are taking care of his department at St. Paul's Hospital.

* * *

Dr. A. Schwarzman, a recent Interne of St. Paul's Hospital, has decided to try his luck at Tofino, on the West Coast of Vancouver Island. Dr. Dixson, who practiced in the neighbourhood for many years, died during the summer. Dr. Schwarzman thinks he will have a wonderful time hunting, fishing, etc., until the patients come along.

* * *

The Vancouver Medical Association has completed financial arrangements and obtained a supply of the "Medical History of British Columbia" by the late Dr. A. S. Monro. The Secretary will gladly send a copy of this reprint to any member of the Association or any friend of Dr. Monro's who writes for same. It is wonderfully interesting reading and those who have already received copies have written Dr. Appleby expressing their warm appreciation of the gift.

* * *

Dr. J. C. Thomas who was on the interne staff of the Vancouver General has joined Dr. A. D. Morgan in practice at Port Alberni. Another newcomer to Port Alberni is Dr. W. D. Higgs of Albert Head Victoria, who has been practising on the Prairies for the past five years.

* * *

The Doctors' and Dentists' Cup was carried off at Quilchena last Thursday by Dr. L. H. Appleby who defeated his opponent, Dr. Frost, by a score of 4-2. Some game—some mud.

Dr. W. L. C. Middleton has gone for a short intensive postgraduate course in Urology to the Mayo Clinic, Rochester. The doctor hopes to be back in time to spend Christmas with his family.

* * *

Dr. Everard Nash, who graduated from Toronto University in May, has joined the interne staff of St. Paul's Hospital.

* * *

From time to time, and from various sources, the Bulletin has received complaints about the action of medical men with regard to prescriptions, the complaint being that prescriptions are sent to a certain dispensary regardless of the inclination, and even of the wishes, of the patient in the matter. The patient has a druggist with whom he has dealt for years and whom he has always found very satisfactory, and resents, perhaps, having another druggist forced on him.

There are certain angles to this complaint that merit our consideration. There is the doctor's point of view and there is the patient's point of view. There is a third point of view, also, that of the druggist who is told by a customer of his that the doctor advised him to have the prescription filled elsewhere because X (his own druggist) did not have this preparation in stock or had not as fresh drugs; in the conscientious druggist such accusations arouse very keen resentment and we cannot blame him. Vancouver is fortunate in its system of pharmacies—most, if not all, of the drugstores are well run, and well-stocked—in the hands of registered pharmacists, who must obey very rigid laws in the filling of prescriptions.

Admittedly, a doctor has the right (indeed it is his duty) to make very sure that when he prescribes a drug, this drug shall be the freshest and most potent available—that his prescription be filled exactly and that it be filled at a price which is reasonable and fair to the patient. Admittedly, too, we each of us tend to become attached to one pharmacy, whose owner we know and trust, and where we know that our idiosyncrasies will be respected and our wishes carefully carried out. But we should consider, too, the fact that there are others who have as good a right to fair treatment and whose reputation and, indeed, livelihood, are to some extent at our mercy. We should be very careful in such a case.

Perhaps it is as well, too, to consider the patient's point of view. He has his preferences—convenience enters into the question and it might be wiser, where it is not really a matter of some preparation that can only be obtained at one particular spot, to ascertain his preference in the matter of a drug store and if advisable, concede something to it.

Undeniably, where a pharmacist has devoted himself entirely to prescription work and has invested largely with a view to this, and takes every step necessary to keep himself up to the minute in every particular, he is entitled to our support and we should give it to him. But we must be careful at the same time not to commit any injustice, and we feel that it may be well to draw this matter to the attention of our readers, since it has been brought to our own.

CANADIAN TUBERCULOSIS ASSOCIATION

Vancouver has been without an Anti-Tuberculosis Association since 1920. From 1906 until 1918 the Vancouver Society for the Prevention and Relief of Tuberculosis was functioning in this city, carrying on the work of an Anti-Tuberculosis Association. In 1918 the organization was fused with the Victorian Order of Nurses. Two years later the various branches of the British Columbia Anti-Tuberculosis Association in centres outside of Vancouver ceased their activity.

During the life of these Associations the death rate from tuberculosis steadily fell. From 1918 to 1925 the rate rose rapidly. To-day there is again a falling death rate but the rate in Vancouver is still much too high (86.7 per 100,000). Vancouver should have a tuberculosis death rate of approximately 40 per 100,000—this figure is reached by a comparison of this city with other cities similarly located, of similar cosmopolitan population, climate, and size.

These facts were brought before the various organizations engaged in health work in Vancouver. The result was the formation of the Tuberculosis Division of the Greater Vancouver Health League, an organization affiliated with the Canadian Anti-Tuberculosis Association.

The Association will start its publicity campaign in November. Co-operation of the physicians in British Columbia and especially those of Vancouver is needed. The cause is worthy. Please advise your friends and patients to join the Association. Membership one dollar per year.

* * *

MEETINGS

The regular November meeting of the Association was held on the first of the month. Two very interesting papers were presented, the first by Dr. W. D. Patton, on the "Blood Cholesterol in Polycythaemia and Pernicious Anaemia," and the other by Dr. Norman Kemp, on "Status Lymphaticus—an adrenal—thyroid syndrome." As both these papers were based on original research work carried out by the speakers, the members of the Association spent one of the most interesting and instructive evenings for some time. A good discussion followed the papers. Seventy-three members attended.

The Hospitals' Committee presented a report giving a very thorough resume of the working of the hospital bylaws, re admission of cases at the Vancouver General Hospital. The Committee on Economics presented a report and advised the calling of a special meeting to consider it. A report of this special meeting appears in this issue of the Bulletin.

Dr. J. C. Haramia was unanimously elected an active member of the Association.

* * *

The Clinical meeting was held on the second Tuesday of the month at the Vancouver General Hospital. The new projectoscope was used and proved its usefulness. Members who missed this meeting missed an

exceptionally good programme and refreshments—honest to God coffee —which were as promised, up to the standard set by the programme.

Limitation of time and space does not permit a detailed description of the cases presented. A case of right hemiplegia with aphasia in a male aged 28 with an active Neisserian infection was presented by Dr. Murray Baird. Much discussion centred around the question of aetiology and pathology but in summing up the presenter considered the probabilities were in favour of an infective thrombosis as opposed to a neoplastic or local inflammatory condition. Dr. Baird also presented a patient who had been shown a year previously, suffering from generalized oedema with ascites and pleural effusion. She had been found to have an adhesive mediastino-pleuritis of rheumatic origin and now shows excellent clinical recovery.

Dr. E. J. Curtis presented reports on two cases. The first, a two year old boy, had suffered from unproductive cough for 3 weeks, and intermittent fever for 2 weeks, appearing after presumably, aspirating a peanut into a bronchus. Pneumonic signs had appeared in the right base and the question of prognosis was discussed. The second case was one of nephritis following what was considered to be influenza. It was felt by several who discussed the case that the angina of the fauces, enlarged tonsils, cervical lymphadenopathy and subsequent desquamation about the ankles, although a clear history of an exanthem was not obtained, indicated a mild scarlet fever, and that many such cases were occurring at present.

Dr. F. Brodie presented a man who was suffering from a progressive nerve deafness of the right ear, signs of labyrinthine disturbance and involvement of the sensory portion of the 5th and of the 7th cranial nerves as well. The clinical presentation of this case elucidated by the application of a series of tests and a diagrammatic representation of the pathology, was one of the most impressive features of the programme.

Dr. W. H. Hatfield presented a skiagram of a case of diaphragmatic hernia discovered in a patient at the Rotary Clinic, which presented chest signs suggestive at first of cavitation. The stomach and splenic flexures were both herniated. Apparently some attempt had been made surgically about 14 years ago to correct this and whatever was done gave the patient several years of freedom from symptoms. He is now unable to do any work involving bending over as this results in nausea and vomiting. In the discussion the consensus of opinion favoured non-interference.

Dr. A. C. Frost presented the history of a case of eclampsia terminating fatally. The patient had had meticulous care and observation, no detail of examination which might have given warning of the impending catastrophe being overlooked. The urine and blood pressure were normal on admission to hospital at 3:45 p.m. Medical induction was commenced at 6 p.m. the patient being one week after term and a convulsion with unconsciousness, from which she never fully emerged, appeared at 7:15 next morning. Death followed six hours later. Dr. Pitts exhibited sections from the liver and kidneys which showed characteristic eclamptic changes.

* * *

On Tuesday, November 8th, a special meeting in the Medical-Dental auditorium of all doctors in active practice in Vancouver was called. The purpose was to present problems of an economic nature which apply more or less forcibly to every member of the profession, and to discuss certain proposals bearing upon them. A special committee has been working actively in this connection for some time, and it was felt that a point had been reached when some specific plans which they had been considering should be submitted to a general meeting where a free discussion could be held, and if possible, definite conclusions reached.

The doctors in Vancouver had been informed in advance of the purpose of the meeting and the subject under discussion. It is reasonable to assume that many would disapprove of the particular proposition which was to be brought before them. This alone would be a most cogent reason for their presence.

It was therefore astonishing that only about 25, including the members of the committee, were present. An attendance of less than 10% of the medical population of Vancouver on an occasion of such importance to all, individually and collectively, was a poor recognition of the work which the committee has done. It was obvious that such a representation cannot act on behalf of the whole profession, whose interests are concerned, and therefore, after a long and intensely interesting, discussion, action was deferred until a more representative gathering can be assembled.

* * *

LEAVES FROM A CONSULTANT'S NOTE-BOOK

By Dr. J. M. Pearson

I must apologize for the somewhat presumptuous title of this paper which was chosen because of the comfortable latitude it seemed to allow, permitting one to range over a variety of subjects, not calling for any excessive accuracy of detail nor for a great amount of reading or research.

I propose with your kind permission, to review a few of the commoner diseases as they present themselves to those who naturally see more often the difficult, the obscure, the uncertain and the severe varieties. To discuss in a necessarily brief manner their frequency, means of recognition, treatment and, perhaps most difficult phase of all, their outlook or prognosis. By keeping what I have to say as practical as possible perhaps an occasional useful hint may be gained by my hearers.

Glancing through old case books, it is not difficult to recognize that pneumonia still retains good right to the sinister title of "Captain of the Men of Death" even apart from one's experience in the influenza epidemics of 1918, '19 and '21.

Read before a general meeting of the Vancouver Medical Association, October 4th, 1932.

Pneumonia in this part of the country is more frequently of the diffuse variety, the lesions being spread throughout the lung tissue though perhaps more concentrated on one side.

True lobar pneumonia is in my experience comparatively rare on the Lower Mainland of British Columbia both at the bed-side and on the autopsy table. We deal apparently with a mixed infection and the typing of the pneumococcus with the use of specific sera is rarely practicable.

I am much impressed with the clinical alertness and uncanny sense of possible impending disaster in severe pneumonia cases, exhibited by my friends in the profession here when they seek the help of the consultant. An assistance, on my part at all events, too often illusory for a large—a very large—percentage of the cases which I have been called to see end fatally, and the doctors well realize when they are headed for trouble. This is where experience comes in—experience and a certain habit of pessimism. "Hope for the best and expect the worst" is no bad watchword in severe pneumonia. Auscultation is the best method of examination for early detection. Listen especially at the angle of the scapula and—important point—turn your patient on to his left side after you have examined him while on his right side. It sometimes makes a surprising difference which side is uppermost.

But let me urge you to be most careful about turning on either side a really bad case. At times, if you do so, you may be fortunate to get the patient back into an easier position before he passes out.

I am in the habit of saying to the recent attending interne when I can find one who does not yet seem to have acquired all medical knowledge, that when I am called to see a case of pneumonia the first thing to do is to look at the tongue, the next to observe the abdomen, then to feel the pulse and listen to the heart. Finally, if there is any time left I examine the lungs. You will of course, recognize in this exaggerated statement that I am trying to call attention to the importance of signs of distress which may serve as a basis for prognosis.

To forecast is difficult, but a dry hard tongue, a distended abdomen and a labouring heart are in pneumonia sure signs of impending disaster.

They are all, I take it, indications of severe toxicity (vague and comprehensive term) and it is toxicity that kills rather than the mechanical effect of the lung involvement.

In treatment there are, in my opinion, only two drugs of any value. The one is morphia, the other is alcohol. To these may be added a third—if drug it can be called—intravenous glucose and saline injections, which are as useful on the medical as on the surgical side of the hospital. They should be freely used in all prolonged febrile cases where the intake of fluid is less than three pints in twenty-four hours. Morphia, hypodermically at nights, especially in the early stages, is invaluable. Small doses only; enough to procure a blunting of the patient's senses to his miseries and to procure the odd hour's sleep. A most valuable means of conserving strength and quite without danger when judiciously used.

Whisky is food and stimulant and may be given freely in the later days when strength is waning and the issue is doubtful.

The position of the patient should be a matter of individual preference—the patient, not the doctor, being the individual. Some feel easier well propped up in bed, others most certainly do not.

I will presuppose all details of nursing, fresh air and a physician in constant touch with his patient and pass on to a form of the disease which has interested me very much.

I refer to one variety of the so called "latent" pneumonias of children—ages say, five to ten years or thereabouts. The diagnosis will at times puzzle the elect. The child is obviously very ill and often curiously enough, the symptoms are meningeal in character. The most careful examination of the lungs may not reveal anything for some time but sooner or later signs of consolidation appear. These are fleeting. They may last only a few hours: never with any intensity more than twenty-four.

The important means of diagnosis is the use of the X-ray if it is obtainable. It will tell you hours if not a day before the ordinary physical examination. I say "ordinary" because if you realize this syndrome you may detect (or suspect) fairly early in the favoured location an area of suppressed breathing. The X-ray picture is most interesting showing the involved area as a triangular shadow, base outwards. This condition as described by Barjeon was demonstrated to me many years ago by our radiologist Dr. H. H. McIntosh, and is even yet not recognized as it should be. It has been said that it is just preliminary to a complete lobar consolidation but while frequent observation will show a diffusion from the triangular area, certainly the more severe form does not always supervene. I wish I had time to dwell a little longer on this interesting condition but I must hasten to mention two complications or sequelae which may affect any case, not this last type only or specially. The first is that peculiar suppurative process which may occur in the cellular tissue, intramuscularly and subcutaneously and may track a long way and produce a considerable amount of pus before it is discovered. I have seen two or three such instances following quite ordinary attacks of pneumonia. The condition is probably unusual, is not easy to recognize, may be tedious but not, so far as I have seen, dangerous as regards life. I have no record of the offending organism.

The other sequel or complication is the more common empyema. It is a direct associate of pneumonia, in which disease there is always some degree of pleural involvement and an effusion which may be large but is usually small and, not being purulent, disappears with resolution. Though these effusions give no trouble there is, I think, a groundless fear of infecting them (or other effusions) from the outside. The antecedent of empyema is the rupture of some small purulent focus on the surface of the lung and it becomes evident after a short latent period following the lowering of the pneumonia temperature. There is never any occasion for hurry in these cases. Confirm your suspicions by the syringe, ascertain the nature of the infecting organism and wait. If the agent is one of the haemolytic streptococci, keep on waiting. This is

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the one lesson we learnt from the 'flu epidemic, this and to keep patients in bed soon and late. Why wait? Apparently an auto inoculation takes place or an increase in immunity or a stimulation of the bacteriophage —it matters not how you express it—but by waiting, with perhaps occasional small aspirations patients stand the drainage of the fluid better and do not die in the course of a day or two as some of the strep infections will if operated on at sight.

The best operation is the old operation. Take out a portion of a rib under local anaesthesia (or nerve blocking) at a reasonably dependent site. There is no necessity for irrigation. Blowing bottles is a work of supererogation. I have been fortunate never to have been associated with any case which has not finally closed and remained so, though some are long about it.

There is a shock which occasionally, very occasionally follows pleural exploration with the needle. I have seen sudden death occur twice.

If pneumonia is among the most fatal of acute diseases seen by the general consultant, vascular hypertension is easily the most frequent of the chronic variety. That this is a modern disease is unlikely, though its recognition is undoubtedly so. It is quite impossible (impossible for me at any rate and I have tried it scores of times) to estimate blood pressure by palpation alone. We awaited the discovery of the sphygomanometer.

My first instrument (before the invention of the Riva-Rocci) consisted of a small bulb attached to a graduated open glass tube filled with coloured water. The bulb was pressed on the radial artery to occlusion and a reading made more or less. I have never been very sure of the physical basis on which readings depend and I followed the early experimental work closely, but still it serves—practically. It is important to recognize that a high systolic pressure with a low diastolic carries a better prognosis than a somewhat lower systolic and a much higher diastolic. The wider the pulse pressure, the more rest to the arterial wall. Hardening of the arteries has little effect on blood pressure readings. If you examine such an artery after death you will see that the patches of atheroma are never continuous; there is plenty of good enough artery to yield to the pressure of the cuff.

I may call your attention to the fact that the state of the peripheral arteries as regards sclerosis is no criterion of the state of the cerebral arteries. Either system may be badly affected and the other comparatively free. You cannot by feeling the radial or brachial artery speak with any degree of assurance as to the condition of the middle cerebral.

There are degrees of danger in hypertension. Cases with changes in the eye-grounds and kidney involvement with increased and increasing retention of the non-coagulable nitrogen products in the blood are of the acute type, often ending fatally with surprising rapidity. Some poison is here at work and the blood pressure is only an incident. Fortunately most cases carry a better prognosis. It is said that two and one half years of life remain on the average from the time of discovery but many cases

far exceed this limit. Every hypertension case should have an X-ray of the heart and aorta, an examination of the eye grounds and an estimation of the non protein or urea nitrogen in the blood. With these within reasonable distance of normal, one is able to speak more confidently of the future.

What can we do in the way of treatment? Put no faith in specifics. Regard the patient's condition as a fixed quantity and try to adjust every detail of his environment to fit. The better the adjustment, the better the outlook.

Many cases, perhaps most cases in women, seem to have a time of onset which associate them with the menopanse. We badly want information as to what happens to these patients. Is the hypertension permanent or does it over a period of years, as glandular readjustment is made, tend to disappear?

I feel that in this paper so far the surgeons have hardly had a fair deal, so we will glance for a few minutes at the subject of goitre, essentially a surgical subject.

Toxic goitre, like vascular hypertension is one of the diseases which has swum into our ken mainly within the last thirty years. It is possible that it is of cyclical incidence as I understand that in Eastern Canada, for no apparent reason, the number of cases is slowly but perceptibly diminishing. As in the case of blood pressure we are again indebted to a mechanical contrivance as a diagnostic factor and eliminator of uncertainty. We scarcely realize what a quiet revolution in the practice of medicine these products of the laboratory and the instrument factory are producing. Our art will lose—has lost—something thereby, but there is still plenty left on which to exercise our powers of reasoning and to cultivate the tactus eruditus. The improvement during my medical lifetime in the handling of toxic goitre cases has been enormous. Thanks to the introduction of iodine, to suitable pre-operative preparation and to the perfecting of technique the previously excessive immediate mortality has disappeared. And the post operative care has also improved out of recognition. The use of iodine again, of saline and glucose together with the ministration of the experienced and habituated nurse—we are getting as standardized as the automobile industry. Unfortunately we are without any guide, other than opinion, as to the amount of thyroid tissue to be removed—or left. Recurrence of symptoms is still too frequent and repeat operations may be required. The judicious use of iodine may possibly prevent or control and with rest in bed symptoms may subside.

It is interesting to note that although the use of Lugol's solution was at first limited to cases of diffuse hyperplastic goitre it is now by common consent employed in any form producing toxicity.

Even though I have stated that surgery is now established as the almost universal method of dealing with symptomatic goitre I am sure you will agree with me that it is destined ultimately to be discarded or rather rendered unnecessary, by some form of preventive treatment as our knowledge of the inter-activity of the glandular system improves.

The goitre of sub-adolescence is still with us—whatever the cause. Of 342 Vancouver school girls between the ages of six and fourteen years, 8.18% of cases were observed—in 342 boys of the same age limits 3.3%.

(To be continued)

* * *

LIBRARY NOTES

BOOK REVIEW

Manual of Embryology—J. E. Frazer—Balliere Tindall & Cox, London, 1931.

The science of embryology is a comparatively recent one, and Prof. Frazer of the University of London, is one of its pioneers. Following twenty-five years' work on the embryos of vertebrates, mostly human, he has produced a work on this subject founded on original observation—the first of its kind in Britain.

The twenty-three chapters form a comprehensive and well-balanced review of the subject of the development of the human body. His interpretation of the significance of certain embroyological processes, and his belief that a knowledge of such will provide a clue to many problems of disease and pathology, form interesting features of his work. He complains that to keep his book within limits a drastic cutting out of details was necessary; nevertheless there is no reason to complain that detail is lacking neither text or illustrations. One perhaps misses references to comparative embryological morphology, which add greatly to the interest of any work on this subject.

Prof. Fraser has produced a book that is much needed, a real manual of human embryology based on personal observation, and as such it should take an abiding place among standard text books on the subject.

ABSTRACTS

Treatment of Albuminuria of Pregnancy—Cameron and Thomson—Journal Obs. & Gyn. of the B. E., Vol. 39, No. 2, P. 343.

Early in 1931 Osman and Close demonstrated that during normal pregnancy there is a decrease in plasma bicarbonate, persisting throughout the period of gestation. On the other hand, the water content of blood and tissues is increased and becomes greater as plasma-bicarbonate lessens.

By treating cases of albuminuria of pregnancy with alkalies they found that oedema disappeared and the albumin lessened. Patients were kept in bed and fluid intake restricted to 3½—4 pints per diem. Treatment—50 gr. doses of pot. cit. and sod. bicarb. orally *in aqua* given several times a day until favourable diuresis was obtained (dose increased by 100 gr. a day but more than 600 gr. seldom given).

The writers administered calcium lactate in combination with pot. cit. and sod. bicarb. believing that the calcium content of the blood is also reduced during pregnancy, and especially in the pre-eclamptic state. A medication of Ca. sod. lact. gr 7½, Pot. cit. gr. 40, Sod. bicarb. gr. 20, is made in lozenge form. Three or four tablets a day is prescribed to pregnant women showing albumin. 400 such cases were treated over a period of 18 months.

Incidence of eclampsia in the Lanark Maternity Hospital—Admitted in 1926, 27; 1927, 19; 1928, 24; 1929, 22; 1930, 38; 1931, 8; 1932, 1 up to April 25. So, 9 cases were admitted during 1931 and part of 1932. Not one had been to the ante-natal clinic or received treatment. Those women who showed albumin and came under treatment were apparently immune to this complication.

In the pre-eclamptic, when urine boils solid, the writers advise more active treatment—the contents of 1 amp. Calc. Gluconate mixed with cold sterilized solution of pot. cit. and sod. bicarb, of about ½ pt. capacity before injection. The effect in many instances is dramatic.

The writers describe the last case treated. The urine had to be diluted before quantity could be estimated. Reading was then found to be 17. In 24 hours it dropped to 6 and next day to 0.5. Occasionally a second injection was given but oral administration afterwards usually sufficed.

It is suggested that routine oral administration as above be given all patients attending ante-natal clinics. It would have a two-fold use, (1) prevention of albuminuria and toxaemia, and (2) the alkalinity of the urine would have an inhibitory effect an B. Coli and so lessen the incidence of pyelitis.

It is believed that the maximum effect of calcium may be had in the presence of alkalies.

Vitamins, Intensive Therapy in Measles—J. B. Ellison, M.D.—Brit. Med. Journal, Oct. 15, 1932.

All cases of measles admitted to Grove Hospital from Oct., 1931, to April, 1932, were divided into two groups of 300 each according to wards. Ages 1 to 5. One group received from admission 20 drops of cod liver oil concentrate "adexolin" daily, roughly equivalent to one ounce of good cod liver oil. Other group had normal diet, and cod liver oil during convalescence.

	Controls			Treated Cases		
Age	No.	Deaths	%	No.	Deaths	%
0—1	32	4	12.5	31	1	3.2
1—2	90	16	17.8	101	8	8.0
2—3	60	4	6.7	55	1	1.8
3—4	61	2	3.3	61	1	1.6
4—5	57	0	0	52	0	0
Total	300	26	8.7	300	11	3.7

Average death rate in 5000 cases of same age period from October, 1929, to July, 1930, were for each age as follows:—15.9, 13.8, 3.2, 2.1. General average 8.1.

Of 34 control cases with pneumonia 23 died; of 32 cases treated with vitamin 10 died.

No effect on otitis media or skin complications.

Concludes that the supply of vitamin probably reduced the death rate to an unexpectedly low level and also reduced the severity of chest complications. Author adduces reasons for thinking vitamin A rather than D responsible. No toxic symptoms noted.

* * *

A RESUME OF SPINAL ANAESTHESIA—*(Continued)*

W. N. Kemp, B.A., M.D.

(4) Operative Complications of Spinal Anaesthesia

These will be considered under the following subtitles:

(a) The Fall in Systolic Blood Pressure.
(b) Nausea and Vomiting.
(c) Respiratory Failure.

(a) *The Fall in Systolic Blood Pressure*—This is a common accompaniment of a spinal anaesthesia produced for abdominal operation. The commonly accepted teaching in regard to this fall in blood pressure is to the effect that the block of the vasoconstrictor fibres in the ventral roots causes a vasodilatation in proportion to the number of vasoconstrictor fibres blocked by the intrathecal novocain. This theory is absolutely contrary to sound physiological reasoning and is moreover at direct variance with actual fact as observed under spinal anaesthesia in the clinic. The reasons for rejecting this theory of the etiology of the fall in blood pressure may be summarized as follows:

(1) The vasoconstrictor fibres from the vasoconstrictor nuclei in the cord and medulla leave the cord from the anterior horn by way of the ventral roots. *They are distinctly myelinated.* They synapsise with cells in the sympathetic ganglia and as postganglionic fibres incorporated in the spinal nerves are distributed to the various arteries and arterioles of the body. The nervous control of the vascular musculature is manifested through varying degrees of *pressor* and *depressor* impulses of central origin. It is impossible to conceive of a general vasodilation of central origin without the media of *depressor impulses.* The latter are *antidromic,* that is, *they reach their vascular terminus by way of the sensory nerves of the dorsal roots.* As has been indicated by Willinsky's work, *the latter are the first to be blocked by the intrathecal novocain.* Therefore, on anatomical and pharmacodynamic grounds, it may be postulated that *no vasodilation of central origin occurs under subarachnoid block.*

(2) It is the experience of most observers that a *vasoconstriction* rather than a vasodilatation actually occurs under spinal block. This has been commented upon favourably by many surgeons.

To what can we ascribe this often very marked drop in arterial blood pressure that may accompany spinal anaesthesia? Recent researches conducted by Seevers and Waters, pharmacologist and chief anaesthetist respectively of Wisconsin State Hospital prove that tissue oxygen-want is mainly responsible for the fall in systolic blood pressure. This lack in tissue oxygen supply is due to impaired respiratory exchange, which, in turn, is caused by the following factors:

(a) The loss of all or nearly all external stimulation from the skin through blocking of the exteroceptive fibres. The block of the *interoceptive* fibres from the pulmonary parenchyma may also be a factor in respiratory decline.

(b) The upset in thoraco-abdominal pressure relations caused by opening the peritoneum.

(c) The reflex inhibition of the diaphragm from the operative proceedures.

(d) The use of extreme Trendelenberg position and tight upper abdominal packs.

(c) The premedication used.

The researches of Dale and Richards, and of A. Krogh have established the following facts:

(a) That the capillaries are capable of dilating or constricting independently of the arterial tree.

(b) That normal condition of tonus under which the capillaries work is due to a *circulating hormone which is probably pituitrin.*

(c) That the most potent factor in causing capillary dilatation is *oxygen-want.*

(d) An alteration in the H-ion concentration (pH) of the tissues as would be caused by the accumulation of CO2 or lactic acid is another potent factor in maintaining capillary dilatation and in causing an alteration in permeability of the capillary walls which, in turn, permits the transudation of lymph from the blood stream and a resulting oligemia.

Other probable contributory causes to the fall in systolic blood pressure are:

(1) The slowing of the heart from relative para-sympathetic (vagus) preponderance in the absence of the stimulatory sympathetic action (cut off by the block).

(2) The loss of tone in the skeletal musculature, which tonus is one factor in the normal maintenance of systolic pressure.

(3) The loss of the normal assistance afford to the return flow of venous blood to the left heart by the aspirating effect of the normal thoracic movements.

(4) Manipulation and traction on the viscera during operation.

To summarize, it may be said that recent researches in spinal anaesthesia and capillary action as well as in the production of histamine shock might reasonably lead to the formulation of the following theory of the cause of the fall in blood pressure in spinal anaesthesia: That the fall in blood pressure under spinal block is a form of shock to which the term "spinal anaesthetic shock" might well be given; (all shock being essentially due to excessive and general capillary dilatation with the transudation of lymph and plasma and a resulting oligemia); "spinal anaesthetic shock" is primarily due to anoxemia and venous stasis resulting principally from decreased respiratory exchange incidental to the spinal block and the operative proceedures; anoxemia acts by initiating capillary dilatation and stasis; anoxemia and stasis result in increase in H-ion concentration of the blood and tissues and alteration in capillary permeability with transudation of lymph and plasma colloids; this creates an osmotic pressure in the tissues that attracts more lymph from the blood; thus becomes established a vicious circle of depressed respiratory function—anoxemia and tissue oxygen-want—capillary dilatation and stasis—increased H-ion concentration of the blood— increased permeability of the capillary walls —transudation of blood lymph and blood colloids—increased osmotic pressure in the tissues attracting more lymph from the blood — a general marked decrease in the volume of circulating blood (oligemia)—a fall in arterial blood pressure from oligemia—(the manifestation of the clinical signs of shock such as pallor from arterial vasoconstriction and fall in blood presure are from oligemia)—further weakening of the cardiac efforts by the persisting low arterial pressure (the heart requires a minimum pressure of 90 Mm. systolic for efficient function of the cardiac musculature)—increase in CO_2 content of the blood (hence increased H-ion concentration) as a result of continuing venous stasis and anoxemia—increased dissociation of oxyhaemoglobin and consequent diminution in its capacity to carry oxygen. Thus oxygen-want is the starting point and finishing point in the vicious circle of spinal anaesthetic shock.

Treatment for Spinal Anaesthetic Shock

Treatment for Spinal Anaesthetic Shock may be considered under two heads:

(a) Prophylactic Treatment
(c) Immediate Treatment

(a) *Prophylactic Treatment* consists of the following measures:

(1) The encouragement of deep breathing by the patient.
(2) The use of a minimal amount of premedication.
(3) The non-use of a marked degree of Trendelenberg position.
(4) The obtaining of the surgeon's co-operation in the omission of tight upper abdominal packs that restrict the free movement of the diaphragm and in the avoidance of excessive visceral manipulation and traction.
(5) The use of prophylactic intravenous infusions of saline especially in the presence of a real blood loss.

(b) *Immediate Treatment* consists essentially in active measures to relieve the anoxemia. This is best accomplished by the exhibition of oxygen inhalations through the gas machine. The researches of Krogh on capillary constriction and dilatation would indicate that *pituitrin* is the normal hormone maintaining capillary tone. Consequently, if a peripherally acting drug is desirable for subcutaneous injection pituitrin is the logical drug to use. Adrenalin, although it causes a temporary rise by vasoconstriction of the arteries and arterioles, ultimately *increases the capillary dilatation.* It is possible that ephedrin, being pharmacologically akin to adrenalin, has the same unwanted action upon the already dilated capillaries. Regardless of the possibility of this dilating action on the capillaries, *it is a well established clinical fact that ephedrin is worse than useless in the restoration of the fallen blood pressure of spinal anaesthetic shock.* Labat uses nothing but postural treatment in cases of spinal anaesthetic shock. He considers that, since the blood pressure always comes back to near the normal level when the anaesthesia wears off, the maintainance of a blood supply to the vital centres by Trendelenberg position is the only essential. However, it appears rational that active steps should be taken to restore, as far as possible, normal circulatory and respiratory function. The incidence of post-operative pneumonia has been found to be as great or greater under spinal than it is under ether anaesthesia. Probably the prolonged venous stasis and diminished expansion of the lungs which has been a feature of many spinal anaesthesias is the factor which predisposes the patient to this unexpectedly high incidence of postoperative pulmonary complications.

(B) *Nausea and Vomiting* during the operation may be due to anoxemia, to the fall in blood pressure or to visceral manipulations. The inhalation of deep inspirations of air or oxygen is usually of immediate benefit.

(C) *Respiratory Failure*—A cessation of respiration may occur under spinal block. When it occurs it is usually momentary if immediate steps are taken to offset it. If the novocain in concentrated form reaches the posterior roots in the upper thoracic and cervical segments the proprioceptive fibres of the diaphragm and the accessory muscles of respiration will be blocked and a true respiratory muscular paralysis will occur. This form of respiratory paralysis is easily demonstrated by injecting huge doses of intrathecal novocain (1250 to 2500 mg.) into laboratory dogs. Although total paralysis of the central nervous system soon occurs the animal can be kept alive and in good condition with no appreciable change in blood pressure if he be placed in a modified Drinker respirator. The animal's normal respiratory mechanism is usually re-established in 5 or 6 hours as the high effect of the block wears off. The conclusion to be drawn from this laboratory experiment is, obviously, that in the most unusual event of such a real respiratory paralysis occurring clinically the remedy is artificial respiration combined with the intracheal insufflation of oxygen until such time as the normal respiratory mechanism becomes established. This form of respiratory failure must be of very rare occurrence. The first mentioned momentary but none the less dangerous form of respiratory failure is not so rare. It is not a paralysis due to nerve block as is the form of respiratory paralysis just described. It can best be described as a *complete respiratory inertia* occurring suddenly with loss

of consciousness and the eye signs of fourth stage ether anaesthesia. *This* emergency is best handled by the insufflation of the lungs with oxygen under positive pressure through the face mask of a gas machine. In the absence of a gas machine, W. R. Evans recommends mouth-to-mouth insufflation in preference to artificial respiration alone even with intrapharyngeal oxygen.

(5) Postoperative Complications and Their Treatment

(A) *Postoperative Headache*—This is sometimes a very annoying and persistent postoperative complication. For purposes of diagnosis and treatment, postoperative headache may be divided into two categories:

(a) *Lumbar puncture headache;* (b) *Meningitic headache.*

(a) *Lumbar Puncture Headache* is the most common form of postoperative headache and, according to Evans, it is preventable in 95 per cent. of cases by the adoption of a careful and precise lumbar puncture technique. Most important in its prevention are the following:

(1) Good preliminary cutaneous anaesthesia.
(2) The use of a fine spinal puncture needle.
(3) The maintainance of the head and shoulders at a level six or eight inches below that of the pelvis for 12 hours after induction of anaesthesia.

Diagnosis of lumbar puncture headache is made when the patient complains of an occipital or parietal headache which appears during the first twenty-four hours, which gradually increases in severity, which is definitely worse when the head and shoulders are raised but *which disappears when they are lowered to a level below that of the rest of the body*. This type of headache is generally considered to be due to loss of spinal fluid.

Treatment consists of the following measures:

(1) Lower the head and shoulders for 24 hours.
(2) Force fluids, intravenously and by mouth. In intractable cases Evans recommends 100 c.c. of a 0.5% saline intravenously.
(3) Eliminate excitement.

(b) *Meningitic Headache,* in contrast to the lumbar puncture type, is due to *increased* spinal fluid pressure caused by chemical or bacterial irritation of the meninges.

Diagnosis—It is associated with the cervical rigidity, photophobia and other signs of meningeal irritation. It increases in severity with the raising or moving of the head but, unlike the lumbar puncture headache, *it is not appreciably improved by lowering* the head. It is relieved only by an ice cap or drugs or by removal of some of the spinal fluid. The latter shows increased pressure and an increase in cells and globulin content.

Treatment:

(1) Keep the patient flat in bed with an ice cap on his head.
(2) Make frequent lumbar punctures to relieve pressure.
(3) Promote diuresis and catharsis. The best diuretic is 10 per cent. intravenous glucose in infusions of 1000 c.c.

(B) *Postoperative Paralysis and Neuritis*—These are rare complications of spinal anaesthesia and when they occur they should cause little anxiety as they usually clear up spontaneously. The commonest form of this type of temporary paralysis is that affecting the external recti of the eye which are supplied by the sixth cranial nerve.

(C) *Postoperative Backache*—This is an uncommon but important post-operative complication that occurs under either general or spinal anaesthesia. It is due to the strain thrown upon the lumbar arch by prolonged dorsal decubitus upon the comparatively rigid operating table. Under spinal anaesthesia the lumbar muscles being atonic, the strain upon the ligamentous elements in the lumbar arch is greater than under general anaesthesia. In the *prevention* of this form of strain a small pillow in the lumbar arch is indicated.

(D) *Postoperative Hiccough*—This is an occasional complication of any postoperative state regardless of anaesthesia. It would seem that it is most frequent following prostatectomy under spinal anaesthesia.

Treatment consists in 5-10 per cent. carbon dioxide and oxygen inhalations. R. M. Waters uses this treatment in the State of Wisconsin General Hospital with entire satisfaction. He advises the development of a very active hyperpnoea for a long enough period to bother the patient slightly, and the repetition of this treatment if the hiccoughs recur. In the event of an unusually severe attack that does not prove amenable to carbon dioxide inhalations and the production of hyperpnoea, Waters suggests a moderately heavy dosage of the barbiturates ("nembutal" or sodium amytal).

SUMMARY

The indications and contraindications for spinal anaesthesia have been discussed. The technique of induction, control of anaesthesia, novocain dosage, posture and general conduct of a spinal block have also been briefly indicated. Under the head of the physiology of spinal anaesthesia, the reecntly expounded theory of A. I. Willinsky concerning selective action of novocain upon the dorsal roots in the subarachnoid space is adopted as the most rational theory, explaining as it does, most of the phenomena of spinal anaesthesia. The fall in systolic blood pressure that is a common accompaniment of laparotomies under spinal block is described as a form of shock. The cause of the shock is considered to be anoxemia and the treatment is, accordingly, increased respiratory activity and if possible, the inhalation of oxygen, preferably through the mask of a gas machine. The postoperative complications of spinal anaesthesia are discussed and treatment suggested as indicated.

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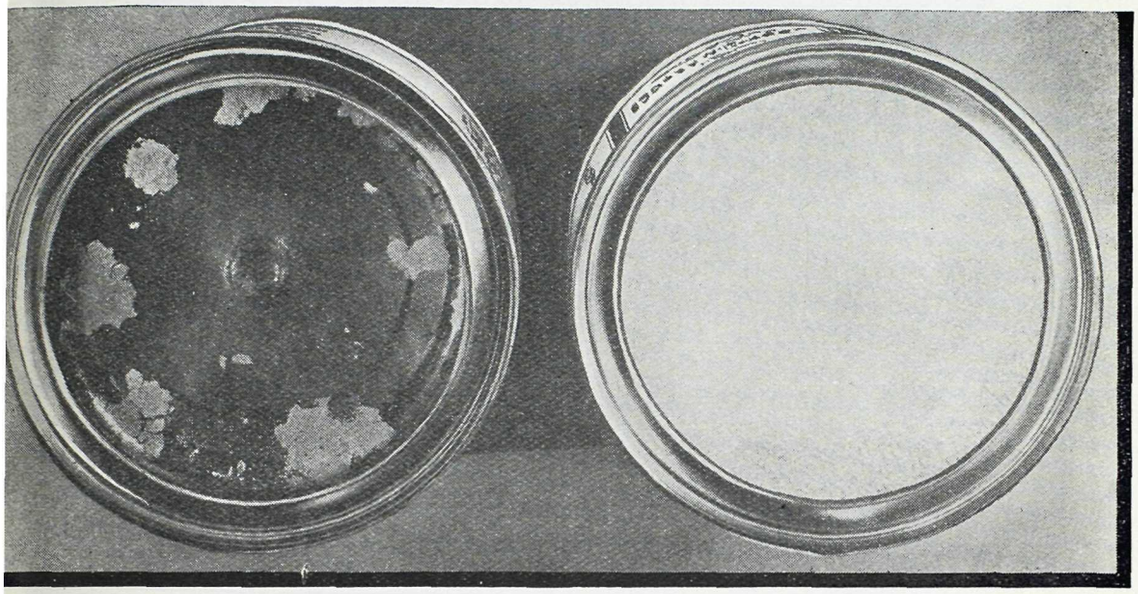

Syrup Contaminated by Exposure to Air

G. 1. The can of syrup* shown above was ɔened for one-half hour in a bacteriological lab-atory to permit withdrawal of a portion of its ntents. This was done with sterile pipettes. The n was then covered tightly and stored. One ɔnth later it was again opened for the purpose obtaining more syrup but examination revealed ɐ heavy mold growth pictured above. Growth ɔo developed in two other cans purposely ex-ɔsed for a brief time. Mold grew in one as early 7 days after the can was opened.

No Growth in DEXTRI-MALTOSE *After Exposure to Air*

FIG. 2. This can of Dextri-Maltose was opened for one-half hour to approximate conditions under which accidental contamination appeared in syrup at left. To make the test more severe, the Dextri-Maltose was also heavily inoculated with a micro-organism which had previously produced thick growth in syrup. The can was then closed and not opened for 40 days, at which time no growth was visible. Later, the can was opened 4 or 5 times for a total exposure of about 1 hour, without the slightest evidence of growth.

* *A maltose-and-dextrin syrup experimentally made and studied but not marketed.*

Thrush Organism Grows in Syrup — Fails to Grow in DEXTRI-MALTOSE

s a more stringent test, syrup was inoculated th the pathogenic thrush organism. A thick mold owth developed and the inoculum grew after 17 ıys. In sharp contrast, Dextri-Maltose inoculated ith the same strain was entirely free from growth. ıese tests were conducted in a modern bacte-ɔlogical laboratory. Considering that the thrush ganism and other molds grew so rapidly in syrup under these conditions, how much greater is the chance for contamination in the average household where the syrup can would be opened at least once daily! Therefore, because carbohydrate preparations in syrup form not only attract insects and dust but also offer a fertile field for the growth of fungi, we shall continue to supply Dextri-Maltose only in powder form.

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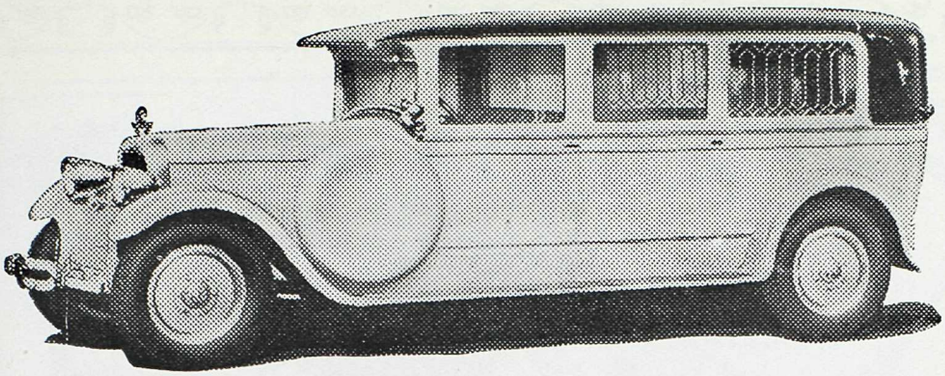

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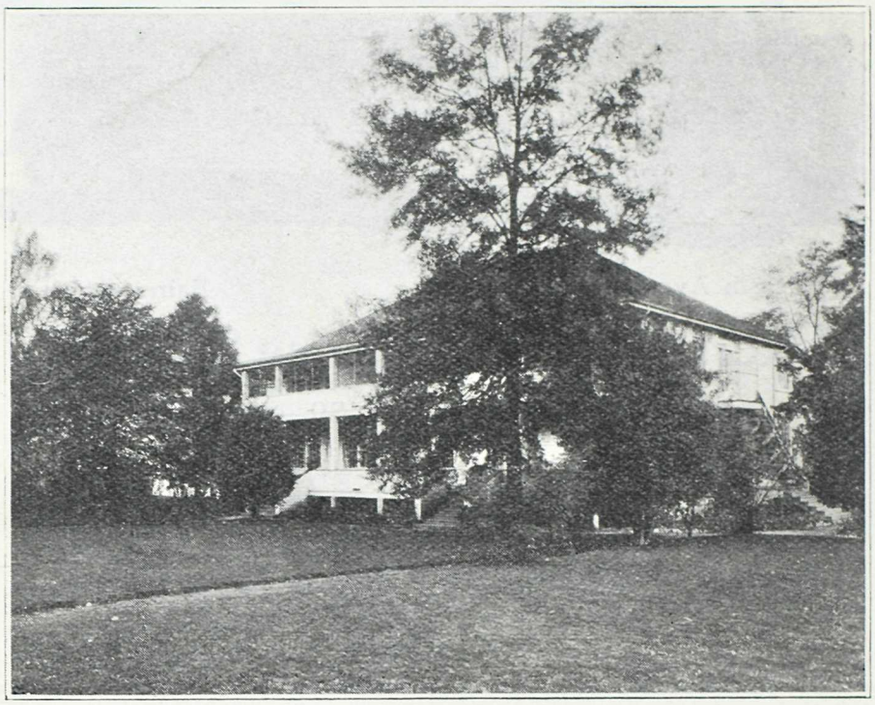

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