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OF THE VANCOUVER MEDICAL ASSOCIATION

A Happy and Prosperous New Year to All

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We extend

The Season's Greetings

and

Good Wishes for the New Year

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PHARMACY

STRAND THEATRE BLDG.
VANCOUVER, CANADA

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THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

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Vol. IX. JANUARY, 1933. No. 4

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VANCOUVER HEALTH DEPARTMENT

STATISTICS, NOVEMBER, 1932

Total Population (Census, 1931)		246,593
Asiatic Population (Estimated)		15,000
	Rate per 1,000	Population
Total Deaths	191	9.4
Asiatic	14	11.4
Deaths—Residents only	166	8.2
Birth Registrations	294	14.5
Male 158		
Female 136		
INFANTILE MORTALITY—		
Deaths under one year of age	7	
Deaths Rate—per 1,000 births	23.8	
Stillbirths (not included in above)	8	

CASES OF CONTAGIOUS DISEASES REPORTED IN CITY

	October, 1932		November, 1932		December 1st to 15th, 1932	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	0	0	0	0	0	0
Scarlet Fever	12	1	41	1	8	1
Diphtheria	0	0	0	0	1	0
Chicken-pox	27	0	35	0	12	0
Measles	0	0	0	0	1	0
Mumps	19	0	4	0	15	0
Whooping-cough	11	2	18	0	17	0
Typhoid Fever	0	0	2	0	0	0
Paratyphoid	0	0	0	0	0	0
Tuberculosis	37	13	41	9	19	–
Poliomyelitis	0	0	0	0	0	0
Meningitis (Epidemic)	0	0	0	0	0	0
Erysipelas	4	0	3	1	1	0
Encephalitis Lethargica	0	0	0	0	0	0
Influenza	–	1	–	12	–	–

VANCOUVER MEDICAL ASSOCIATION

Founded 1898 Incorporated 1906

PROGRAMME FOR REMAINDER OF THE WINTER SESSION 1933

January 3rd—General Meeting.
Papers:
Goitre—Dr. W. D. Keith, Dr. T. H. Lennie, Dr. H. H. Pitts.
January 17th—Clinical Meeting.
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.

Milk-Borne Typhoid Outbreak at Yale

The "Milk Inspector's Letter," from the Michigan Department of Agriculture, Bureau of Dairying, recently contained the following interesting item:

> "A milk-borne typhoid outbreak resulting in twelve cases and one death occurred recently at Yale, Michigan.
>
> The first case developed on February 1st, 1932, and the last on February 15th. All but one of the cases were known to have used the milk of one raw milk dealer, and the other may have used it.
>
> The milk supply of the city, which had been entirely raw, was ordered pasteurized. The dealer supplying the suspected milk, sold milk produced on his own farm and milk purchased from another farm.
>
> A woman who was staying at the farm from which milk was bought was found to be a typhoid carrier. The search for a carrier was unsuccessful at first because the carrier had left the farm, but she happened to come back while the investigation was still in progress.
>
> The case which proved fatal was a lady of 49, the mother of twelve children.
>
> This outbreak is another argument against raw milk, particularly milk produced on a farm having no sterilizing or other proper equipment for milk handling and transported to another place for bottling raw."

There are about fifty such arguments each year and still the use of raw milk continues in many cities, and occasionally is sharply defended by some members of the medical profession.

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EDITOR'S PAGE

To all our readers, we wish a very happy and prosperous New Year. Perhaps the latter adjective is still somewhat too extravagant a word, in these days when prosperity is to most of us merely a memory or a hope, but it does no harm to wish for it, and there are not wanting signs that the trend of events from now on will be in a rising, instead of a descending scale.

1933 will be a memorable year to us as medical men practising in British Columbia, in one respect at least. For this year, beginning with January 1st, the medical profession of British Columbia sets out on a new course. Following the example of our sister province, Alberta, the B. C. Medical Council is absorbing the duties of the B. C. Medical Association (the word amalgamation is a misnomer in this respect) and is becoming the main body of organized medicine in the province, assuming all the duties that are concerned with medical practice, except educational and social duties, which will still be performed by a somewhat reconstructed B. C. Medical Association.

This is an important move, and has certain implications which it behooves us all to consider. The move has not been a sudden or impulsive one—it has been taken after a long period of careful thought and consideration. We believe that it is entirely a move in the right direction, and that eventually it will mean a great deal to every medical man in the province.

In the first place, it will unify medical organization, and eliminate a great deal of over-lapping and waste effort. It has always seemed rather absurd that there should be two provincial organizations, with our comparatively small medical population—yet, as things stood, it was unavoidable. The B. C. Medical Council was a statutory body, with definite powers, but limited scope of action—the B. C. Medical Association had a wide scope of action, but no power, and its membership was voluntary and limited.

There are too many organizations nowadays, and we believe that any step which simplifies things will make for economy and efficiency.

Again, this move is, in our opinion, a right one for another reason—nobody will deny that medical organization in some form is necessary to protect our interests, and to speak for the whole profession. This however entails expense, which, in the past, has been met by the fees paid by the members of the B. C. Medical Association. These members paid too much, and they paid for others who for one reason or another, failed to join the Association, yet benefited by its work. It is infinitely fairer to spread these costs over the whole profession.

It will, too, be very much cheaper—and this is a consideration in these days.

To the B. C. Medical Council, as it assumes its new duties, we wish every success, and for it we bespeak the support and confidence of every man in the province.

* * *

We understand that following the reorganization of the B. C. Medical Association, Mr. C. J. Fletcher, the Executive Secretary of that organization, is retiring from office, and the Bulletin would like to pay its tribute to this officer, who for over eleven years has served the medical profession so faithfully and well. Every member of the B. C. M. A., and especially those whose practice lies outside the cities, so that to a great extent they are isolated, and cut off from their fellows, will miss Mr. Fletcher, who has been to them an ever-reliable friend and counsellor, has helped them with many of their difficulties and problems, and has always been a most welcome visitor. What success the British Columbia Medical Association has been able to achieve, has been mainly due to his loyal and untiring efforts, and the profession as a whole in B. C. owes him a debt of gratitude. We wish him all good luck and prosperity in the future.

REPORTING OF CANCER

Cancer is now a notifiable disease and every doctor is legally required to report each case under his care to the Health Authorities. Every doctor who fails to report his cancer cases is withholding from all those who are interested in the problem of cancer, his individual contribution to the accumulating mass of data from which will be derived knowledge of value to all who are treating cancer. The recognition of the fact that one is himself refusing to aid in the conquest of cancer should alone be sufficient penalty for the omission.

ANNUAL DUES

We would urge those members who did not accept the drafts recently presented for the annual dues to send in their cheques at an early date as the Association will need the money to "carry on."

MEETINGS

The December general meeting of the Association was held on the 6th instant, in the Medical Dental Building Auditorium. Fifty-seven members were present.

The Graduate Nurses Association of B. C., represented by Miss Mabel Gray, of the Department of Nursing of the University of B. C., and Miss Duffield, District Superintendent of the Victoria Order of Nurses, outlined to the meeting the proposed scheme for an Hourly Appointment Nursing Service. After these ladies had retired the Association passed a resolution approving of the scheme under the administration of the Victorian Order of Nurses.

The National Health Clinic, having an office at 142 Hastings West, came up for discussion. The Chairman pointed out that the matter had been under consideration by the Council of the College of Physicians and Surgeons and read a letter from the Registrar. Dr. T. K. McAlpine produced a printed circular which was being circulated in the public schools among teachers and pupils and after considerable discussion moved the following resolution which was unanimously adopted: "That the Van-

couver Medical Association does not approve of the National Health Clinic and that the members of the Association and others be so notified."

Dr. Pitts reported on behalf of the Dinner Committee held on November 26th, at the Hotel Vancouver. 116 men were present. Dr. .J J. Mason was the 1932 recipient of the P. G. F. Degree. The dinner was, as usual, a great success, and the Committee reported a small credit balance.

Dr. D. L. Dick was unanimously elected to membership in the Association.

Dr. G. F. Strong, representative of the Vancouver Medical Association on the Executive of the B. C. Medical Association, reported that a merger of the B. C. Medical Association and the Council of the College of Physicians and Surgeons of B. C., along the lines of the Alberta scheme, had been arranged and the Council would take over all political and legislative activities as from 1st of January, 1933. Dr. W. S. Turnbull, as President-elect of the provincial association, and Dr. H. H. Milburn, as chairman of the Constitution Committee, also addressed the meeting elucidating several points in detail. Dr. Milburn pointed out that the Constitution and Bylaws of the B. C. Medical Association had been amended in accordance with the request of the Council and a copy of the revised constitution will be available for perusal by the members of the Vancouver Medical Association at an early date. He also stated that all the district local societies will be notified of the changes and if possible a copy of the Constitution and Bylaws will be published in the Bulletin.

The scientific part of the evening's programme was a symposium on the Upper Right Quadrant, Dr. G. E. Kidd dealing with the anatomy, Dr. H. H. McIntosh discussing it from a radiological view point, and Dr. R. A. Simpson speaking on the physiology. Unfortunately owing to the time taken up by the business meeting full justice could not be done to the excellent addresses, Dr. Simpson only having time to give half his paper and there was practically no time for discussion.

* * *

GEORGE HERBERT GIBSON

(By H. B. Maxwell)

To those of us who were fortunate enough to know George Herbert Rae Gibson, it came as a great shock to hear of his sudden death in Edinburgh, on July 19th, 1932.

He was born in Edinburgh on April 5th, 1881, the only son of Dr. George Alexander Gibson, a leading heart specialist of his day. George (Junior) was a brilliant student at school and college, excelling in athletics as well as in his studies.

The space at our disposal does not permit of a full account of his very active, tho' short life, so that only the high lights, especially as regards his connection with the Vancouver Medical Association, can be touched upon.

In 1906 he graduated M.D. of Edinburgh, and in 1908 he was admitted a member of the Royal College of Physicians of which he became a Fellow in 1911. With these splendid qualifications he came to B. C. in 1912, but had to wait for some time before there was an examination of the college to entitle him to practise in the Province.

Impecuniosity being his chronic condition, and as he was determined to make his own way without parental assistance, he wandered around in search of work of some kind. This he at last managed to find in a town in Northern B. C., where his dress suit and large experience of dinner tables, enabled him to get a job as waiter in the principal hotel of the town.

In that capacity he made the acquaintance of one of the leading doctors and after a time disclosed his identity.

The doctor in question was very anxious to take a holiday and begged that George would act as locum tenens for him, assuring him that none would be any the wiser that he was not registered. This he consented to do as the remuneration was very much more than the waiter's job. So due notice was given to the proprietor to get another waiter on a certain date.

George left his job on Saturday and on Monday morning was occupying the office of the doctor. His first call was to visit the wife of his erstwhile employer. Imagine her surprise when the waiter was ushered into her bedroom, instead of the doctor for whom she had sent!

When, eventually George Gibson was registered, he started practice in Vancouver. He endeared himself to all with whom he was associated and soon became a leading figure in all the social life of our Association. No one who was fortunate enough to have been at the Annual Dinner in 1913, will forget his epoch making speech in proposing the Toast to the Ladies, a speech scintillating with wit and brilliance of a very high order.

Soon after his arrival in Vancouver he joined the 72nd Battalion, of which he became M. O.

In 1914, we find George Gibson amongst the first to join the Canadian Army and he left Vancouver in the first troop train for Valcartier, crossing the Atlantic with the 1st Canadian Division.

After spending some time in the mud of Salisbury Plain, he arrived in France on February 14th, 1915.

His book "Maple Leaves in Flanders' Fields" was one of the most humourous as well as most interesting of the early books of the war and should be read by every Canadian whether or not he was overseas.

Thus began a distinguished war record of which George Gibson seldom spoke; but we know that, during his time in France, he was present at every general engagement in which the Canadian Corps took part from its landing till the end of October 1918. He was with his battalion during the first brutal gas attack at Ypres in April, 1915, also at Festubert and Givenchy in the same year.

After acting as Battalion M. O. for many months he accepted the invitation of General Sir Arthur Currie, at that time commanding the 1st Canadian Division, to be his personal aide-de-camp. Later he returned to military medical work of an administrative nature and to a Field Ambulance.

Sir Arthur Currie wrote thus of Lieut.-Col. Gibson: "He went to France as a Battalion Medical Officer and served as such till September, 1915. At that time he was the sole remaining medical officer of a battalion still serving with his unit ,and had displayed outstanding efficiency in that work.

"His personal gallantry, his devotion to duty, his tact, his initiative, and his ability in handling men, were most marked. No officer in the Canadian Medical Service was better known or better liked, or considered more efficient, than Leiut.-Col. Gibson, and none have had a wider or more varied experience."

He was awarded the D. S. O. and the Croix de Guerre—the latter in 1916 in recognition of his courage in rescuing his badly wounded Colonel in the face of the German fire.

On demobilization in 1919, George Gibson was appointed Commissioner of Medical Services to the Ministry of Pensions, Scottish Region, which post he held till 1921, when he returned to work on his special subject—Lunacy, being appointed Deputy Commissioner of the Board of Control for Scotland.

It was when his battalion was at Estaire that he received a telegram telling of the birth of his first child, who was, in consequence baptized by that name.

A small incident in connection with this birth is worthy of mention: It was not until sometime after his departure from Vancouver that his young wife came to a doctor with the information that she was expecting her first baby and that it was George's wish that she should break the news to the doctor whom George wished to attend her. Later on the doctor received a letter from George written in his own inimitable style in which he expressed his confidence in the doctor and did not wish to dictate anything, "but that if possible, he desired the heir to the estate to come into the world without a crown of forceps on his head!"

In 1925, George Gibson succeeded the late Dr. J. S. Fowler, as Secretary and Registrar to the Royal College of Physicians. (Edin.).

The President, Dr. Robt. Thin, in his obituary notice to the College wrote:— "He was an ideal secretary, meticulously careful in his work, resourceful and tactful in business, never flurried by unexpected happenings and sparing neither time nor trouble to serve the highest interests of the college."

He retained his love for Canada till the end and each month wrote the Edinburgh letter to the Canadian Medical Journal.

At the annual meeting of the British Medical Association last year to which so many of the members of the Canadian Medical Association went, it was a great joy to those who knew him before the war to see him again, and altho' at that time he was far from well, he never-the-less kept the knowledge of a severe cardiac condition to himself and was the heart and soul of a dinner party at which he recited some most clever poetry of his own composition.

A little incident showing his many sided virtues may be of interest here.

His continual smile and never-ceasing wit would give one to think that he had no serious thoughts, so when, a few days before his passing, he greeted his wife with the information that he had thought of a new motto for the family, she was expecting something humourous and was naturally taken by surprise when he informed her that the motto he was going to adopt was, "In quietness and in confidence shall be your strength."

He left home on the morning of July 19th, in his usual spirits, was taken suddenly ill in a street car later in the morning and passed into the larger life without suffering.

His life was not insured and his appointment carried no pension for his widow and two children who are left in great financial straits.

A fund is being formed to invest for their benefit.

[If any of George Gibson's friends can see their way to subscribe towards this fund the Editor will gladly receive it and forward it to the proper quarter. Ed.]

* * *

LIBRARY NOTES

REVIEW

A Text-Book of Pathology—an introduction to medicine by William Boyd, M.D., M.R.C.P. (Ed.), F.R.C.P. (Lond.), Professor of Pathology in the University of Manitoba; Pathologist to the Winnipeg General Hospital, Winnipeg, Manitoba. Lea & Febiger, Phila, 1932. $10.00.

In the completion of his Textbook of Pathology, Dr. Wm. Boyd, Professor of Pathology at the University of Manitoba, has produced a trinity of books dealing with pathology that has probably enjoyed the widest sale and mental digestion of any on that subject during the past decade or more. In it there is that attention to detail, and clarity of description in the author's own pleasing individual style that make it so readable and bespeak the scholarly mind that penned it.

In the preface of his latest work, Dr. Boyd states that it is essentially a textbook for the student of pathology, either undergraduate or post-graduate, and not for the pathologist and professional laboraory worker. On this point one might take issue with him, for there is much

to stamp it as a reference book even for those whose particular field lies in the realm of pathology. He has introduced physiology into several of the sections which make for a more lucid understanding of the various pathological processes that are discussed in those sections.

The author has followed the principle he adopted in his "Pathology of Internal Diseases" of assembling the leading clinical and pathological findings under the "Relation of Symptoms to lesions," at the end of the discussion of the various lesions, which gives the reader a firmer mental grasp and clearer mental picture of the whole process.

The volume is divided into General and Special Pathology, these being again subdivided into sections according to the various causes of disease, etc., in the first instance, and the various anatomical sections in the second. In all there is the presentation of facts from the most recent literature and the author's own wide experience and knowledge, and a well chosen bibliography is presented for the reader at the end of each chapter.

The book can be highly recommended, both to student and practitioner, for its clear cut presentation of the newer concepts of pathologic anatomy, pathologic physiology and internal medicine.

H. H. Pitts.

ABSTRACTS

Kupfer Cell Migration—Dudley A. Irwin, M.B., Can. Med. Assn. Jnl., Vol. 27, Oct., 1932, pp. 353-356.

Following injection thorium dioxide is found stored in liver, spleen, bone marrow, lymphatics and in small amounts in adrenal and ovary. No change occurred after four months in tissues other than the liver. In the liver the following changes were observed:

1. Kupfer cells gradually acquired the thorium. (2) Kupfer cells migrated to the central vein. (3) Kupfer cells entered the blood stream. (4) Kupfer cells caught in the lung capillaries. (5) Kupfer cells were found in the mucous membrane and mucus of the trachea indicating the method of excretion of thorium.

L. H. Appleby.

Blood Sedimentation Test—J. W. Cutler, Am. Rev. of Tuberculosis, Vol. 26, 1932, p. 134.

In this article 131 patients receiving artificial pneumothorax treatment were studied and the sedimentation test was regularly applied as an indication of activity. Physical and X-ray findings were obscured by the treatment but it was found that the sedimentation rate was a very sensitive indication of activity in the compressed lung and that it was not safe to allow patient to resume exercise until the sedimentation rate was normal or nearly so. A normal sedimentation rate indicated quiescence of the lesion but not necessarily healed stability. An increasing sedimentation rate should always be respected and patient warned of the danger of relapse.

Observations on the Red Cell Sedimentation Test in Pulmonary T. B.—J. Kaminsky et al, American Rev. of Tuberculosis, Sept., 1932, Vol. 26, p. 282.

The writers report results of red cell sedimentation test in 500 cases. The technique used is that described by Cutler (Am. Rev. T. B., 1929, XIX., 549). They show by graphs and tables that there is a very close parallelism between activity of the lesion and the sedimentation rate in pulmonary tuberculosis. There were no cases with active pulmonary tuberculosis which showed normal sedimentation rates. Except in dying patients activity of the T. B. process was indicated, and in some anticipated before other clinical signs of activity, by the sedimentation test. A single test is of some help but tests at intervals serve to some extent as a guide to effectiveness or otherwise of the treatment.

C. H. Vrooman.

* * *

TRANSURETHRAL PROSTATIC RESECTION

By. Dr. W. L. C. Middleton

The marked development of the various electro-surgical units during the past few years has brought some pronounced changes and advancements in several surgical fields, chief among which is the handling of bladder-neck obstructions by transurethral prostatic resection.

At the Mayo Clinic it is startling to see how completely and how rapidly the transurethral method of resection has taken the place of prostatectomy. Dr. H. G. Bumpus has been developing his method of operation and his instrument during the past seven or more years, at first doing only those cases thought to be in too poor a physical condition to stand protatectomy. His results were so good that is was soon being asked, why if transurethral resection was successful in poor operative risks, it should not be used in all cases having bladder-neck obstruction. How quickly and how decidedly this was realized is shown by the figures. From January 1st, 1932 to October 1st, 1932, 205 cases of transurethral resection were done, as against 37 prostatectomies. No prostatectomy was done during the last 3 months of this time, and only one has been done since then, while the number of transurethral operations will number, by the end of the year, well over three hundred.

When one thinks of the mortality rate of prostatectomy, the long uncomfortable stay in hospital, the too often poor functional after-results, and the total cost of such an operation to the patient (and in the case of staff patients to the hospital) and compares these with the results that are being obtained by Drs. Bumpus and Thompson during the past year, one is again startled by the comparison.

Up to the time of my leaving Rochester there had not occurred one death following transurethral resection since the beginning of this year. Most of the patients are up on the 3rd or 4th day and voiding freely. The majority is out of hospital under two weeks, many under seven days.

In examining some 400 charts of patients operated on during the past three years I was struck by the fact of how little the operation affects

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the majority of patients. The post-operative temperature chart shows a rise of temperature of usually less than one degree; in over 75% of those I examined it rarely reached 103 degrees during any time following the operation.

The pre-operative care is similar to that of prostatectomy, though the majority of cases are operated upon within 5 days of admission, if there is good kidney function and a fairly clean urine.

Severe post-operative haemorrhage rarely occurs though occasionally cases start to bleed from 10—20 days following the operation, especially if they have been very active during this time. This occurred in 5% of the 205 cases mentioned above. In this series, perforation of the bladder or any other mishap requiring a suprapubic operation did not occur. There has been no incontinence following the operation. Epididymitis has occurred in 8% of the cases. A preliminary vasectomy is done very seldom.

About 90% of the cases required one resection. Two, and in a few cases, 3 resections were needed in the other 10%, due chiefly to the large amount of obstructing tissue present. Five of these patients had undergone a previous prostatectomy.

Recurrences do and will occur. The aim of the operation is to remove only that portion of tissue obstructing the free flow of urine and allowing a complete emptying of the bladder. Unless this is done a poor result or a recurrence of the patient's symptoms is bound to occur. The fault here is not in the method but in the technique. In the 205 cases, only five of the number can be classed as recurrences, 3 benign hypertrophies done 3, 6 and 7 years previously, and 2 prostatic carcinomoas done 8 and 12 months previously. The carcinomatous prostatic cases naturally show a tendency to recur, but any procedure that will allow these unfortunate patients to pass their remaining years in comfort, both physically and socially, is invaluable.

Spinal anaesthesia is used as a routine and is very satisfactory. 25 to 50 milligrams of ephedrine is given just previous to the spinal injection to counteract the usual drop in blood pressure. Novocaine is the anaesthetic most generally used, from about 60 to 100 milligrams of the drug being required, depending upon the operator's estimate of the time the operation will take.

After studying the instruments and methods of men such as Bumpus, McCarthy, Davis, Alcock and others over this past year, and after a recent study of the technique of the method used by Bumpus, I cannot help but think that he has something that the others lack, probably due to the fact that he can do the operation with less coagulation and subsequent sloughing than the others. Anyway his results studied from any angle are excellent, especially when one realizes that his patients are not picked and include many patients of advanced age 87 being the oldest, and many with serious lesions such as heart blocks, angina pectoris, severe coronary sclerosis, severe diabetes, hypertension and various nerve lesions.

TYPHOID IN THE OKANAGAN

Dr. G. A. Ootmar

On October 6, a case of suspected typhoid fever was admitted to the Kelowna Hospital. As soon as the case was reported to the laboratory, diagnosis was confirmed by Widal, blood culture, faeces and urine examinations. At the same time the patient's movements prior to his admission to hospital were investigated.

The patient was a young man, who came from eastern B. C. in July to work on a farm near Kelowna. He left this farm to work on another farm on October 5th and two days later was admitted to the Kelowna Hospital with a diagnosis of possible typhoid.

We investigated conditions on the farm where he worked first and found many families living together in one house. There was a Japanese family with six children, a German family with seven children, and a Hindu married (?) to an Indian squaw in possession of three children, and also an old Hindu bachelor—altogether 23 people living in overcrowded conditions. We did a complete Widal test on all the people in the house, although we had difficulty in convincing this cosmopolitan family of the necessity. Not by any means the least troublesome was the squaw, who hid in the attic and only after telling the husband that not one apple nor one onion might leave the farm if we did not discover the source of the disease did she consent. They all proved to be negative, except the squaw, who was positive in Ty. up to 1/60, and admitted that she had had typhoid in 1924 and was cared for in the Vernon Hospital. The patient stayed only two days on the other farm, where a family with seven children lived, but as the danger of infection there was a very grave one, we were faced with the fact that thirty-one persons had to be inoculated for typhoid. As the latter family was French we had many races of the earth together, and it was without doubt hopeless to put a needle 31 x 3 times in white, brown and amber coloured arms ranging from 65 to 1 year of age. Moreover the farm was far away—we faced the prospect of bad roads in the coming winter and who knew if the roads would even be passable, when the time came to give our last immunization? So all things seemed to justify the administration of an oral vaccine. We have made oral vaccines in this Laboratory for the past two years and the results reported by the doctors justified their use.

To the many other reasons for giving an oral vaccine, we add still another one.

We know how a doctor far away from a laboratory has not always on hand an oral vaccine for typhoid prepared in a laboratory, and we thought that if we gave orally the triple vaccine used for subcutaneous inoculation, many Doctors would be able to give oral vaccine at once by using this combined typhoid paratyphoid preparation. It contains 1000 millions B. Typhosus, 750 millions Para A and B and though our previous oral vaccines contained many times more than this amount, we felt

the benefits of using this vaccine to be so great, that we decided to give every person 1 cc. of the vaccine in a glass of water on three successive mornings. As 1 cc. is not understood by the people we diluted the 3 cc. with 5 times normal saline and told them that quantity was the amount they had to take in three doses, each dose being about one teaspoonful.

We tested the vaccine for sterility and when we were certain about this we tried it first on the Hindu bachelor (honi soit qui mal y pense) and, 4 days after the last dose, we found a very slight agglutination in his blood. All the remaining 30 adults and children with the exception of the squaw, were ordered to take it and did in fact take it, as agglutination tests later on showed.

We have the history of two adults whose blood we tested every seven days. It was not probable that we would get the consent of many of the people to repeated blood examinations, nor was it possible to visit them, but the two men came regularly to town and were willing to offer their blood on the "alter of Science."

The question of an oral vaccine against typhoid is not one of recent date. In 1904, Wright used a heat-killed suspension of typhoid germs and treated seven individuals by mouth. Metchnikoff fed heated typhoid bacilli to chimpanzees.

Recently Rachel Hoffstadt and Randal L. Thompson vaccinated orally several students (93). The vaccine consisted of one billion typhoid B. (Hopkins and Patton strain), 7 million Para A. (Rogers strain) and 7 million Para B. (Rossland strain) per cc. and came to the conclusion that agglutination and complement fixation can be produced by oral inoculation and that there is no delay in appearance of these agglutinins over that of the subcutaneous method. Our results with the oral use of the triple vaccine made for subcutaneous inoculation are as follows:

Hindu—

October 11—Negative for Typhoid, and Para A and B in dilutions 1/20, 1/40, 1/80.

October 14-15-16—Oral vaccine administered.

October 23—Positive in dilutions 1/20 and 1/40, negative 1/80, for Typh. and Para A and B.

October 31—Positive for Typh. and Para A and B dilution 1/20 and 1/40, negative for all in 1/80 and 1/160.

November 7—Positive for Typh. 1/20 and 1/40, positive for Para A and B up to 1/320.

German—

October 11—Negative for Typh. and Para A and B in dilutions 1/20, 1/40, 1/80, etc.

October 14-15-16—Oral vaccine administered.

October 23—Positive for Typh. and Para A and B in 1/20 and 1/40.

October 31—Positive for Typh. 1/20 and 1/40, positive for Para A and B up to 1/160.

November 7 Positive for Typh. 1/20 and 1/40, positive for Para A up to 1/320, Para B up to 1/160.

The other persons were not tested regularly.

Have we then an easy method at hand for immunization against typhoid, etc.? Many questions yet remain to be answered.

In our 5-year plan to free the Okanagan Valley of typhoid there are many points requiring further investigation. First of all, we have our own carriers well in hand and under proper control and no epidemic of typhoid has occurred in the last 3 years—Why is it that in the sporadic cases (4, in 1932) among 10,000 inhabitants it is always the newcomer who falls ill first and then the inhabitants are endangered? Is it because although they have some immunity against the disease, it is not sufficient to protect them when the germs have increased in virulence by passing through a susceptible body?

Secondly: Whence do these inhabitants get their immunity? Are there still many carriers roaming around, giving slight infection and immunity and may not the load of blame borne by the carrier be offset by the benefit of the immunity given to contacts? In that case we have to find out whether weak dilutions of oral vaccine are able to give some immunity, however slight it may be.

We still know so little about the life history of the disease. Between the theory of Virchow (1857) who attributed the disease to fermentation of faecal matter poisoning the air and the very latest ideas about the disease, lies a long trail: on it we find the detection of typhoid germs—we find their specific behaviour in different media . . . we were able to grow typhoid strain which coloured litmus milk blue within 10 hours, which shows decreased agglutination and decreased motility. It is true we passed them through plants, but who can tell if this does not happen in nature also? Watercress, lettuce, all raw vegetables, are perhaps to be looked upon as intermediate hosts. Intermediate hosts between the motile bacillus we know and the nearly non-motile bacillus which can be cultivated from the sap of plants and recultivated to the classical typhoid germ with all its known properties.

When our 12 x 16 laboratory has moved to larger quarters (3 rooms, we can hardly believe it) we will start our researches again. Now it is too dangerous to grow plants containing living typhoid bacilli in such a small room. Then we will remember Reynault, who in view of his findings in 1898, in Baltimore, in the John Hopkins Hospital, a patient with typhoid fever and intestinal haemorrhages showed a culture of para coli bacilli) suggested that the para bacilli formed a sort of chain between coli bacilli and the typhoid bacilli.

Then perhaps the short history of the agglutination we got in our laboratory, the culture of urine and faeces of a carrier, will be better understood. The tests vary as the phases of the moon, waxing and waning, present, non-present. Do typhoid germs change their classic proper-

ties after a long stay in the urine as they do when they pass through plants, and do the Inhabitants of the Valley where watercress is a favorite vegetable in the spring, where lettuce is raised and consumed (to mention but a few vegetables) get a slight immunity against typhoid from these vegetables, containing in their sap modified typhoid germs?

Are the slight intestinal indispositions we so often see occurring in mild epidemics and in which we never were able to find typical germs, perhaps due to a typhoid bacillus, very decreased in virulence, not following the classic cultural properties of the Eberth bacillus?

Is the life history of the typhoid bacillus then written in a book closed with seven seals and moreover printed in hieroglyphics?

I will not end this article without expressing my hearty thanks to my assistant Mr. F. Smith for his many suggestions and for the careful way in which he performed the tests. It is certainly due to his high interest in the matter—his large experience with vaccines in the Public Health Laboratory, Auckland, and other laboratories in New Zealand, and elsewhere, that we were able to study the influence of the oral vaccines on prevention of typhoid.

* * *

SALT-FREE DIET IN TUBERCULOSIS

In the past two years a great deal has been published in the European dermatological Journals about the use of salt-free diet in tuberculosis of the skin, especially lupus vulgaris. No original articles on the subject have yet been noted in English language medical journals.

The diet, which not only is distinguished by being salt-free, but is also low in protein and high in fat and vitamin content is commonly spoken of as the Garson-Sauerbruch diet. Most continental dermatologists wrote of its effects with enthusiasm. Some clinics seem to be relying upon it as the chief or almost the exclusive agency for treating lupus. From the Charite-Hauptklinik, of Berlin, a book of menus for 365 days, with lists of permitted and forbidden articles, cost-estimates and cookery receipes as used in the dietetic department, has been issued at a normal price of R M 3-60.

Naturally the applicability of this diet in the treatment of pulmonary and bone and joint tuberculosis has been the subject of inquiry and experiment. The theory underlying the method appears to arise from the alleged effect of excess sodium in causing liquefaction of colloids, in turn affecting reception and conduction of stimuli, and the connection between salt and vitamin assimilation. This in turn is supposed to have profound effects on the living medium provided by the fluids and tissues for growth of the tubercle bacillus. While much of this rests upon a basis containing a very small amount of proved scientific fact, there has been a large amount of data collected from properly controlled clinical

experiment over a considerable period of time under conditions which appear ideal for such study.

So far the therapeutic effect appears very definite and encouraging in lupus vulgaris, less so in bone and joint disease, and in pulmonary disease the reports so far have been drawn from comparatively few cases and give much less cause for satisfaction.

The writer of this brief review has had one experience with this diet in a case of lupus vulgaris, observed over four years. Response to local and general measures was very slow and only mildly encouraging. About ten months ago a strict salt-free, meat-free, high fat and vitamin diet was instituted with no other change in the treatment or environment. Very marked improvement was observed within three months and this has continued. It is felt that this view is shared by the patient, that the advance in six months was greater than in the whole three years preceding.

D. E. H. CLEVELAND.

LEAVES FROM A CONSULTANT'S NOTE BOOK

By DR. J. M. PEARSON

(*Conclusion*)

It is interesting to compare these figures, which are in white children, with those in Japanese. Of 260 Japanese school girls in Vancouver, ages six to fourteen years (schools in comparable localities and the same year 1929) the percentage of enlarged thyroids was 3.07, of 285 Japanese boys 1.7.

An even more interesting feature is that all cases of goitre in both sexes occurred in Japanese children born in Canada, none being observed in those children born in Japan.

That there is or has been a comparative racial immunity to thyroid enlargement and disease among Japanese living in Canada has long been the common opinion of observers here. It must be remembered that rarely not only the simple goitre but also the toxic variety does occur. Thus in the last twelve years I have records of six definitely toxic cases in Japanese, five of which were in men. As I shall show later Basedow's disease is not known in Japan itself.

An obviously possible prophylactic is the wide-spread use of seaweed as an article of diet or as a condiment. This has frequently been referred to.

In a personal communication from the Home Department of the Imperial Japanese Government in 1922 my correspondent says that "some kinds of seaweed are quite freqently used as food" in Japan. He proceeds to mention seven varieties and the amount of iodine therein contained. Of these I believe two are in more common use. The Laminaria Japonica and the Ecklonia Bicyclis. In the dry state the former (known colloquially as Kombu) contains from 0.138 to 0.295% of iodine while the latter (called commonly Arame) has 0.232%.

In the ash 0.619 to 1.312% of Iodine is shown by the Laminaria and 0.414% by the Ecklionia.

Just what the average daily intake of this article of diet is I do not know but it is evident that from early life and probably through the maternal connection in embryo, a small but persistent absorption of nascent iodine occurs and the exponents of this theory will doubtless feel satisfied as to its prophylactic effect.

There is however, the question of water supply, the effect of which on the incidence of simple goitre in the human has been demonstrated by McCarrison in India and in animals in British Columbia by Keith. Whether this is a question of pollution, as may be inferred from the Indian work, or whether it is due to the presence or absence of chemical content of vegetable or mineral origin is not clear to me.

In particular parts of the Japanese Empire this problem apparently occurs. In the mountainous districts of the Island of Formosa which lies some 700 miles south and west of Japan proper, goitre (presumably of the simple form) is endemic. An article in the Tokyo Medical News of May 1922 from the medical department of the University of Kyushu (which is the southernmost island of the Japanese group) refers to the many cases of goitre occurring among those living in Formosa on a certain stream, while people living in adjacent districts but using water from another stream are free.

The sources of water used by the inhabitants of Japan are various. Seventy per cent of the population used water from wells at the time of my information, only some 12% being supplied through water works.

I am unable to get any figures as to the prevalence of any form of goitre in Japan much less to correlate its incidence with any source of water supply.

Evidently its toxic forms are not entirely unknown, for Basedow's disease figures in the mortality statistics.

In 1914 it is reported that 198 deaths occurred from this disease in a population which, including Korea and Formosa, was then 77,500,000. The number increased to 310 in the year 1918, females being in a majority of about 4 to 1.

Having received such kind consideration in these and other matters at the hands of the Japanese Government in 1922, I again made application last year for a revised set of answers to my questions brought up to date.

Several letters direct having elicited no reply I made enquiry from the Japanese consulate here only to receive the information that his Government did not communicate with private individuals except through official channels.

Before I leave this subject of toxic goitre may I say a word as to the use of digitalis in this condition? Digitalis has a very definite place in cardiac therapy and that place is certainly not the cardiac disability of thyro-toxicity. To give the futile doses which seem to be a routine in some clinics is a mere obeisance to superstition.

If, on the other hand, it is pushed to its physiological effect it is positively harmful and I have seen a fatal termination hastened by such procedure. In any event I am not much alarmed by the cardiac

bugaboo in this condition, whether as a danger in the acute variety or as an argument for operation in the more chronic condition. A general rule may be stated, to control the thyroid disfunction and the heart no matter how bad it may appear to be, will take care of itself.

So much for the thyroid gland. I fear that your patience and may time are both nearly exhausted. I had intended in this paper to have taken more of an "airplane" survey of medical practice instead of the more detailed exposition of a few subjects into which I have been led.

Such as it is it has at least one merit. I have endeavoured to place before you the conclusions at which I personally have arrived and the methods I have used.

There is much I wanted to speak to you about even without going into the region of the unusual. I should like for instance to have considered diabetes. The question of diet in this disease is a romance in itself.

Beginning in modern times with the oatmeal diet, the potato diet and other special fads, followed by the starvation treatment of the French school which was systematized by Allen and his co-workers at the Rockefeller Institute, down through various modifications including that of high fat, low carbohydrate, until at last in the gospel according to Rabinowitch we seem to have returned about to the place where we began.

Another subject which I should like to have discussed with my surgical colleagues is the management of acute gastric and upper intestinal haemorrhage. This is an occurrence which seems to be little regarded in our literature and concerning which one might say that the number of opinions is as the number of men. Yet life or death may wait upon a proper and resolute course of action and I fear that among the more severe cases the mortality must be high.

I wanted also to point out to you the success which may at times be obtained in the worst type of thoracic aneurism by the revival and patient application of an old treatment first laid down by Tufnell. The chief features of this are the most careful and prolonged restriction of all movement and the most drastic reduction in solid and fluid intake.

The treatment is onerous both to patient and physician but the reward may be most brilliant.

I observe that my colleagues, on hospital staffs here and elsewhere are concerning themselves with the increased and increasing incidence of tuberculous infection among nurses and other attendants on such patients.

Some years ago when I was doing a great deal of work among the nurses of one of our large institutions I was deeply impressed with the all to frequent form of tuberculous meningitis.

This disease as I have seen it is far from uncommon, is generally more rapid in its course than is usually recognized and is invariably fatal. It is interesting therefore to note the occasional reference to recoveries by eminent British authorities such as Purves Stewart and Farquhar Buzzard among others.

The whole of our knowledge of the heart, its physiology and its pathology has been re-cast and reduced to something like order within the period of my medical life.

No more brilliant chapter in the history of medicine has ever been written and one is tempted to say that no more brilliant chapter will ever be written. And the writing was in the main the work of a general practitioner. The name of James Mackenzie should be an encouragement and an inspiration to every young physician.

Without special training, without great hospital facilities, without laboratory assistance, without university backing, immersed in a busy general practise by day and by night, active in surgery, skilled in midwifery—in true Baconian style and with an open mind Mackenzie followed his quest.

Like Harvey he searched out the secrets of nature with no equipment save his fine intellect and his stout heart.

And there are still fields to be tilled and by the same methods. Though the harvest may not be so rich the yield will be bounteous enough.

In a sense the manner in which Mackenzie worked appears anachronistic. Today we have somewhat lost sight of the means of research by clinical observation which is obscured by our modern fashion in laboratory methods.

It is well to have been shown that the ways of the clinician are still, if not ways of pleasantness, yet ways of profit.

For in medicine the tree has many branches—the river has many tributaries. It is this diverse nature of our calling which enables medicine to employ so many types of intellect, so many specialties and such various cognate pursuits. Lonely men in obscure laboratories in distant parts of the world are at work on unrelated problems from which in due course medicine will extract its necessary modicum of information for practical use.

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Relative Values of Carbohydrates

New Findings Confirm Old Truths →

Recent scientific investigations in rats (tabulated at the right) are in accord with many years of clinical observations on babies, as shown by the following excerpts from authoritative medical literature reflecting the consensus of three decades of pediatric experience.

CHART OF CARBOHYDRATE HYDROLYSIS[3]

MILK SUGAR GROUP
Lactose**
(Milk Sugar)
- Dextrose*
- Galactose*

CANE SUGAR GROUP
Saccharose**
(Cane Sugar)
- Dextrose*
- Levulose*

MALT SUGAR GROUP
Starch
- Amylodextrin***
  - Erythro-dextrin***
  - Achro-dextrin***
- Maltose**
  - Dextrose*
  - Dextrose*

Note—The end product of maltose is all dextrose, which means quicker assimilation than end products from other carbohydrates.

*Monosaccharide **Disaccharide ***Polysaccharide

Maltose splits into two molecules of dextrose. Sucrose and lactose split into one molecule of dextrose and one of levulose or galactose respectively. It is no doubt due to the simpler structure of maltose that it is more readily absorbed than other sugars. It must also be considered that after assimilation the levulose of sucrose and the galactose of lactose must undergo conversion into dextrose, which is the only form in which sugar is present in the blood. It is reasonable to suppose that this conversion requires an expenditure of metabolic energy not required when carbohydrate is absorbed entirely in the form of dextrose.

[3] Morse, J.L. & Talbot, F.B. *Boston Med. & Surg. Jl.*, **159**:852.

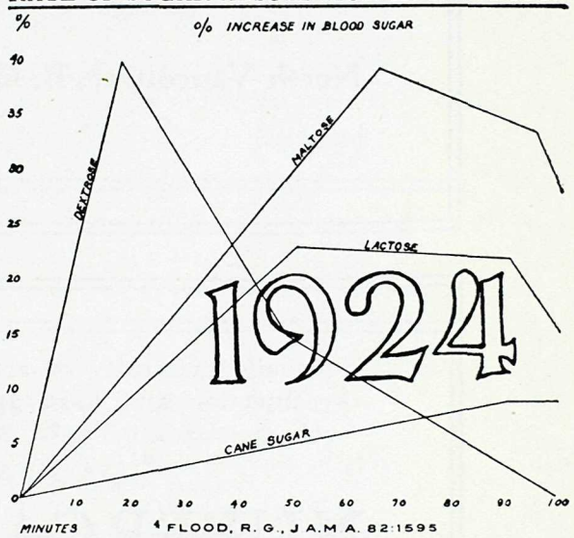
RELATIVE ASSIMILATION VALUES OF VARIOUS CARBOHYDRATES[1]

		Average per 100 gms. body weight
1	MALTOSE	1.50
2	DEXTRIN + MALTOSE	1.32
3	Glucose + dextrin	1.32
4	Glucose + sucrose	1.32
5	Glucose	1.04
6	Sucrose + maltose	0.98
7	Fructose + glucose	0.98
8	Sucrose + dextrin	0.76
9	Sucrose	0.76
10	Fructose	0.5
11	Glucose + lactose	0.26
12	Lactose	0.16
13	Galactose	0.1

These authors have also stated: "Maltose, fructose, glucose, starch and dextrin *lead* in nutritive value, *followed by* galactose, mannose, arabinose, xylose, lactose, sucrose and glycogen.[2]

[1] H. Ariyama and K. Takahasi: *Biochem. Z.*, **216**:269 (1929) and [2] *J. Agr. Chem. Soc.*, Japan 5; 674 (1929).

RATE OF SUGAR ABSORPTION IN NEWBORN[4]



[4] FLOOD, R. G., J A.M A. 82:1595

MALTOSE OR LACTOSE IN INFANT FEEDING[5]

Answer—The superiority of one form of carbohydrate over another in artificial feeding of infants has been much discussed during recent years. It is generally accepted that cow's milk without modification is not a satisfactory infant food. So far as the carbohydrate is concerned, about one-fifth to one-eighth ounce per pound of infant's body weight is required daily. To supply this amount it is necessary to add carbohydrates in some form. Admitting that lactose is the sugar supplied in human milk, it does not follow that it is the sugar best tolerated in another medium, such as cow's milk. It is generally believed that lactose is more laxative than sucrose—that it must be fed with a certain amount of caution, as fermentative upsets are likely to follow if amounts approximating that found in human milk are fed. There is cause for disagreement among clinicians, as it is important to consider the other food elements; i.e., the amounts of fat and protein fed as well as the medium in which they are fed. For example, when lactic acid milk is used, more added carbohydrate seems to be tolerated than when sweet milk mixtures are fed. Sucrose has the advantage of being much cheaper and is always available. Evidence has not been presented that it should not be used in infant feeding. With its general use in large infant welfare clinics where supervision is a matter of routine, there is less to be said against it as far as clinical results are concerned. The complaint that it is too sweet is not often encountered when the usual amounts are fed. The dextrin-maltose preparations possess certain advantages. When they are added to cow's milk mixtures, we have a combination of three forms of carbohydrates, lactose, dextrin and maltose, all having different reactions in the intestinal tract and different absorption rates. Because of the relatively slower conversion of dextrins to maltose and then to dextrose, fermentative processes are less likely to develop. Those preparations containing relatively more maltose are more laxative than those containing a higher percentage of dextrin (unless alkali salts such as potassium salts are added). It is common experience clinically that larger amounts of dextrin-maltose preparations may be fed as compared with the simple sugars. Obviously, when there is a lessened sugar tolerance such as occurs in many digestive disturbances, dextrin-maltose compounds may be used to advantage. [5] *Queries and Minor Notes, J. A. M. A.*, 88:266.

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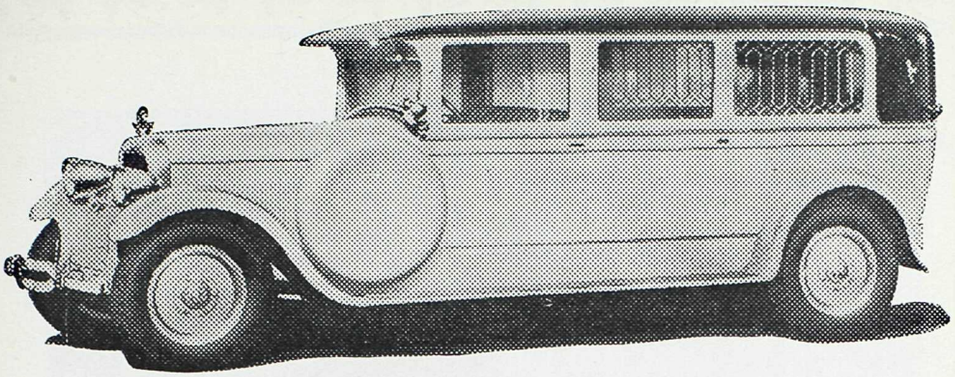

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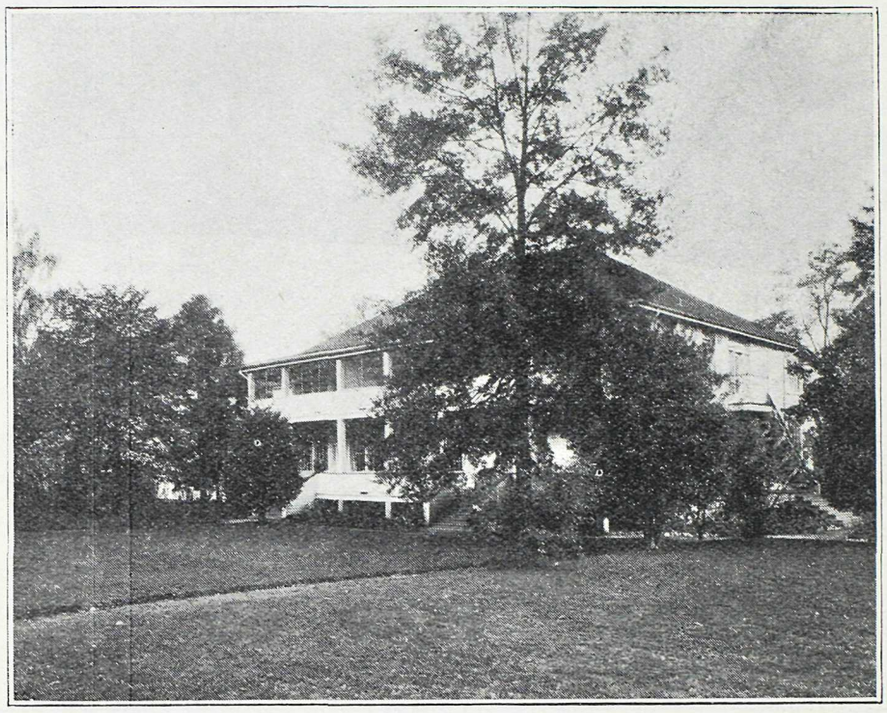

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