

**JOHN HARVEY KELLOGG (1852-1943)**

**PRINTED WORKS BY JOHN H. KELLOGG OR  
BATTLE CREEK SANITARIUM DOCTORS,  
CA. 1890-1940**

**GENERAL**

178 615.904

# GOOD HEALTH

*A Journal of Hygiene.*

VOL. XXXV.

MARCH, 1900.

No. 3.

## PROFESSOR ATWATER'S EXPERIMENTS.<sup>1</sup>

BY J. H. KELLOGG, M. D.

IT is interesting to note how general and unanimous has been the protest against the statements published by Professor Atwater, recommending alcohol as a food. Professor Atwater claims to have proved that alcohol is oxidized in the body, and that on this account it must be regarded as a food. This bald statement was at first received with respectful silence, as the details of the experiments made by the professor had not yet appeared. Science bases its conclusions upon actual facts, and as the facts had not yet been presented, scientific men could do naught else but wait until the facts and details of the experiments were published, so that the conclusions drawn from them might be critically reviewed, and their correctness verified or disputed.

Bulletin No. 69, of the United States Department of Agriculture, contains an official account of the experiments which Professor Atwater claims to be proof of the nutritive value of alcohol. Since the publication of this Bulletin, which appeared under date of Nov. 6, 1899, various men of recognized scientific standing have carefully reviewed his findings, and we feel sure that our readers will be interested in the following statements from men whose right to speak upon this subject can not be questioned.

The first is from Professor Seneca Eg-

bert, of the Medico-Chirurgical College of Philadelphia, and Professor Frank Woodbury, of the Philadelphia Polyclinic and College for Graduates:—

“Professor Atwater's own figures, as set forth in Bulletin No. 69, of the United States Department of Agriculture, do not support his claim. He states that ‘whether the body [of the man experimented on] was at rest or at work, it held its own just as well when alcohol formed a part of the diet as it did with a diet without alcohol.’ His tables, on the other hand, show at once that, when alcohol is substituted in part for carbonaceous foods, there is an increased loss of body-nitrogen. We can not therefore understand or accept his statement that alcohol protected the material of the body just as effectively as the corresponding amounts of sugar, starch, and fat.”

Winfield S. Hall, Ph. D., M. D., Professor of Physiology, Northwestern University Medical School, Chicago, says:—

“The third conclusion, that ‘the alcohol protected the material of the body from consumption just as much as the corresponding amounts of sugar, starch, and fat, is far from being a justifiable conclusion from data given in Bulletin 69. The experiments there given, in which alcohol was used, show an actual loss of nitrogen, showing a consumption of body-proteid during the period. Pro-

<sup>1</sup>From the *Medical Temperance Bulletin*.

fessor Atwater can draw but one tenable conclusion from Bulletin 69; namely, alcohol is oxidized in the system, but is not food."

In full accord with these statements is this from C. A. Hertzner, M. D., Professor of Pathological Chemistry, University and Bellevue Hospital Medical School, New York:—

"One fails to find any support for the view that alcohol, like corresponding amounts of sugar, starch, and fat, protects the body against proteid waste, in Dr. Atwater's own figures. Thus in experiment 7, where 417 grams of proteid were given in four days, there was a loss of nitrogen equivalent to 48.2 grams of proteid. In the other alcohol experiment (No. 10), there is a similar though somewhat smaller loss of nitrogen. One is therefore compelled to admit that these experimental data do not support this third conclusion of Dr. Atwater.

"Indeed, if persons on a diet adapted to keep them in nitrogenous equilibrium regularly showed such losses of nitrogen while using alcohol as are shown in Dr. Atwater's tables, we should have very satisfactory evidence that the alcohol was acting as a poison to the cells of the body; that is, as a protoplasmic poison.

"The two Atwater experiments with alcohol (in Bulletin No. 69) were carried on for so short a period that they throw no light whatever on the food value of alcohol when used continuously. Even if these experiments demonstrated that alcohol can replace a portion of ordinary non-nitrogenous food during four days in a healthy man, this fact would afford no scientific basis for the view that such a replacement can be indefinitely carried on without detriment to the organism. It is difficult to believe that an investigator occupying an important government position should be so unintelligent as to give utterance to views favorable to the use of

alcoholic drinks on the strength of experiments of such limited scope as those published in Bulletin 69."

Professor Atwater has taken upon himself a heavy task,—to establish the food value of a substance which, for a generation at least, has been recognized by all scientific authorities as a poison. Alcohol is named as a poison in all the leading medical dictionaries (Quain, Gould, Dunglison, etc.). In the classical works on toxicology and medical jurisprudence, alcohol has never been recognized as a food, and has never been called a food except by those who have desired to bolster up its habitual use.

Dr. Adolf Fick, Professor of Physiology in the University of Würzburg, a man of world-wide fame as an experimental physiologist, and who has made a special study of the subject of foods, after defining poisons, remarks:—

"That alcohol is such a substance can not be doubted. . . . Very appropriately has the English language named the disturbance caused by alcoholic beverages *intoxication*, which by derivation means 'poisoning.'"

Professor Koppe, M. D., an eminent German authority, referring to the pretended food value of alcohol, in an address before the International Medical Congress in Moscow in 1897, remarked:—

"The opinion that ethyl alcohol is a useful source of heat energy in the human organism in consequence of its combustibility, is not scientifically justified.

"The consideration alone that a substance is oxidized in the body in no wise justifies its use as an energy-furnishing food. Morphine, as is well known, burns in our bodies into oxydimorphine. Happily, however, it has not occurred to anyone to proclaim morphine for this reason a proper source of energy (a food) for the human organism, as is unfortunately done in the case of ethyl alcohol."

Dr. Bienfait, of Liege, Belgium, speaks very forcibly and radically upon this question as follows:—

“In order to be a food, it is not sufficient that a substance be decomposed or oxidized in the tissues. Under these conditions many harmful substances would be considered foods. Ether is decomposed in part; chloroform is partially destroyed. But do we consider these substances foods?—Certainly not. Other things than decomposition are necessary to nutrition. It is necessary that the decomposition be made in a way that will not injure the vitality of the cells. A part of the alcohol that is destroyed in the body undergoes this decomposition in a way that is injurious. Observe that whereas true foods, such as sugar and fat, are destroyed slowly, easily, without provoking too lively a combustion, alcohol is burnt too rapidly, provoking a veritable explosion. Suppose that a locomotive has to run a certain number of kilometers; in order to do this, it must be given fuel. This is the coal, which it burns slowly and methodically. If in the place of coal we throw naphtha on the fire, the combustion of this may furnish as much heat as the coal, but it is burnt instantaneously, in the form of an explosion. The heat thus produced is not utilized in the machine. What naphtha is for the locomotive, alcohol is to our bodies; it is an explosive, but not a food.”

The *Deutsche Medicinische Wochenschrift*, one of the most authoritative medical periodicals, published editorially the following statement in its issue of Dec. 8, 1898:—

“The views concerning the action of alcohol upon human metabolism have essentially changed within a short time. In the year 1888, at the Congress for Internal Medicine, Binz, as the first reporter on the subject of alcohol, said that in the whole question only one fact

remained without contradiction; namely, that alcohol by its oxidation spares albumin. But precisely this view is contradicted by more recent experiments. These experiments have shown that alcohol does not spare albumin. Therefore it is reasonable to bring together with this deviating conduct of alcohol, opposite to the effect of carbohydrates and fat, a poisonous action of the same upon the albumen of the cells.”

A large number of additional statements from eminent scientific men might be presented in contradiction of the hasty assertions of Professor Atwater, which, as shown by Drs. Woodbury, Hall, and others, are actually disproved by his own experiments. It is interesting to note that Professor Atwater's associate in the experiments referred to, Prof. H. W. Conn, at a very early date in the discussion, took care to place himself before the public in an attitude by no means supporting the position of Professor Atwater. This is clearly shown by the following paragraphs, for which he is responsible:—

“Alcohol is not used as a food. It is used always for its influence upon the nervous system, and one of the well-known results is, that, at least among the Americans, the use of alcohol in small amounts is almost sure to pass speedily into its use in larger quantities.”

“To state that alcohol in any quantity is safe is a woeful misinterpretation. No one can yet state at what point the secondary injurious effects begin, and no one can state what is a small and what is a large dose.”

“A physicist could experiment with gunpowder, and prove that it is easily oxidized and gives rise to a large amount of heat and energy. From this it might be argued that gunpowder is a most useful kind of fuel for cooking-stoves. Such a conclusion would be hardly less logical than the conclusions that have been drawn

from these experiments with alcohol, and which regard it as a useful food for the body. Gunpowder is a very unsafe fuel because of its secondary effects, and in the same way the food value of alcohol can not be determined by its power of being oxidized, but must include the consideration of its secondary effects as well."

We are indebted for the foregoing extracts to a summary of scientific facts and statements from various authorities, and published by various committees interested in the suppression of alcoholic intemperance, under the title of "An Appeal to Truth." New York, 3 and 5 West 18th Street.

---

## FASHIONS IN HYGIENE.

BY F. L. OSWALD, M. D.

### II.

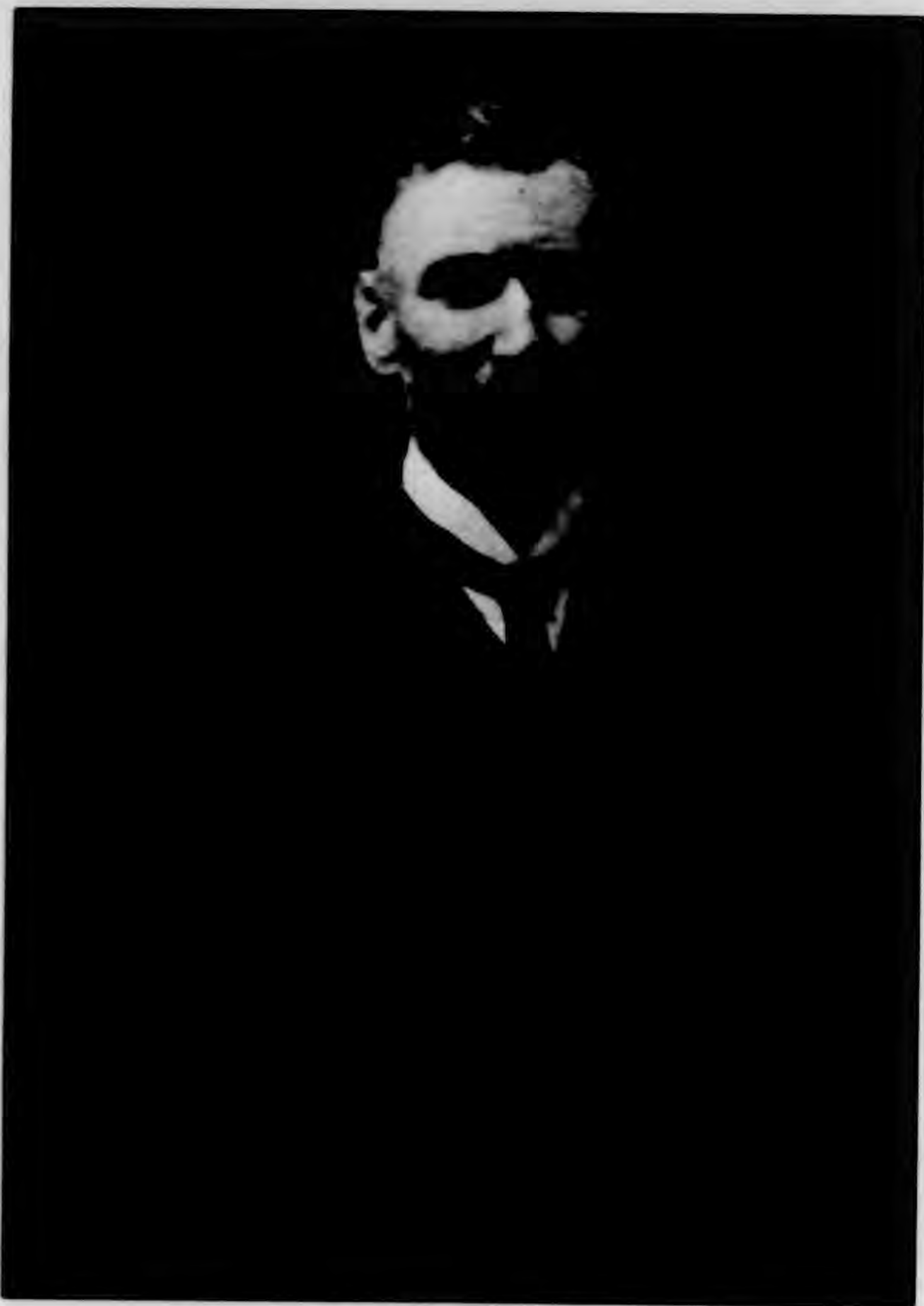
IF it is true that faith-cure epidemics should be included among the disorders that can be more easily prevented than cured, the Relief Committee ought to publish a pamphlet-form history of Dr. Elisha Perkins's "Tractor" swindle.

The ingenious doctor was a New Englander, and like his countryman, Brigham Young, combined business talents with the gift of inspiration. In the rear of his consultation-room at Plainfield, Conn., he had a private laboratory with various electric and chemical contrivances, and one day "felt a premonition" that galvanism would be recognized as an important remedial agency. The study of its phenomena had become the hobby of the scientific world, and the doctor conceived the idea of utilizing the fad for commercial purposes. A short circular, with an assortment of long words, paved the way for the memorable invention, and one day newspapers and wall posters announced tidings of great joy to a suffering generation. "No more drugs; no lancets and sweat-boxes; diseases curable by nature's own remedy, potential galvanism. To introduce the discovery, sample packages, with full directions, will be mailed to any address, upon receipt of one shilling. Address or apply to," etc., etc.

The local sensation did not exceed the

limits of ordinary neighborhood gossip, but the Plainfield postmaster soon had to engage an assistant. The demand for Dr. Perkins's trial packages assumed the magnitude of an international boom, and the mail from England alone made the carrier's pony stagger. It takes transmarine distance to lend enchantment to the public's view of such fashions, and our cousins of Great Britain reveled in remedial galvanism as they afterward reveled in Beecher Stowe sentiments and Walt Whitman's poetry.

Blank verse could not have exceeded the blank astonishment of some rationalists who opened a sample package only to find two small bits of metal, supposed to generate a galvanic current potent enough to insure the victory of nature's remedial tendencies against all comers. The descriptive circular was at once vague and verbose. Judging from the verdict of unprejudiced experimenters, the "current" was too feeble to be appreciable to ordinary human nerves; but such trifles could not outweigh the fact that the invention had been indorsed in Europe. Dr. Perkins's "Metallic Tractors" became fashionable. They were advertised by druggists and notion-dealers, hardware stores and peddlers' supply concerns, and by a moderate estimate half a million



*Sir Horace Plunkett*

## Sir Horace Plunkett

### A Most Enthusiastic Supporter of Biologic Living

THE recent death of Sir Horace Plunkett (March 26), the well-known Irish statesman, at the age of seventy-seven years, finishes the career of one of the most useful men and one of the finest characters of our generation.

He was a member of a well-known Irish family of ancient and noble descent. He was educated at Eton and Oxford. While an owner of extensive coal mines in England, his interests were for many years chiefly agricultural. When a young man he came to this country, and like Theodore Roosevelt went West and for some years engaged extensively in the cattle business, owning large herds in the Great Plains country, and became an extensive owner of real estate in Omaha and other Western cities.

On returning to Ireland, he became a member of Parliament for Dublin, where he served from 1892 to 1900. He became Minister of Agriculture, was made a member of the King's Privy Council, was knighted in 1903 and made a Fellow of the Royal Society and honored by many institutions of learning in recognition of his great public services.

Sir Horace, while a man of very decided opinions and a staunch defender of the causes and interests with

which he was associated, was a man of such modest demeanor and such gentleness of spirit and manners, so unselfish in his human relations, so generous in public service and so honorable and tactful in his dealings with individual men and groups of men that he was loved and trusted even by those whom he opposed politically. He was during the most heated periods of the civil contests in Ireland the only man whom all parties trusted. The bloody

contests in Ireland would have been prevented if his counsel had been followed. He told the writer that on one occasion when he had gotten the contending parties to the point of agreement and ready to join in a resolution which would have settled all difficulties and would have prevented the bloodshed which followed, the only thing which prevented this happy ending of the national conference was the machinations of Lloyd George, whom he regarded as a most unsafe leader though a shrewd politician.

No other man ever did so much for Ireland as did Sir Horace. When he filled the place of Secretary of Agriculture for Ireland, he established facilities and other economic helps to farmers in Ireland which put them on their feet. Sir Horace put wood floors into the humble homes of Ireland. Before his work in behalf of the agriculturists of Ireland was undertaken, almost the entire farming population of the country lived on the ground. The writer recalls meeting in Belfast a farm woman who was a type of her class, dressed in the peasant woman's simple garb, short skirts, knickers, boots and neckerchief. She was exuberant because she had a letter which

had brought her two hundred pounds from the estate of a brother who had died in America. "And now," she said, "I shall have a wood floor. I have lived on the ground all my life, and how I have longed for a wood floor and thank God it has come at last. But I must hurry home to milk my cows." And now, thanks to Sir Horace, the farm woman of Ireland doesn't have to wait for a brother in America to die to get her wood floor.

Sir Horace was so modest and retiring a man, besides being so generous and unassuming in his relations with his associates, that it is more than probable that many thousands of his countrymen were not aware of the great debt they owed him. Probably very few Americans know that to Sir Horace more than to anyone else do we owe the great changes in the rural life of this country through the Rural Life Commission, for it was he who suggested to President Roosevelt the need of such a commission and urged its appointment. This the writer learned from Sir Horace himself, although the fact has so far as we know never before been made public.

Sir Horace more than twenty years ago visited the Battle Creek Sanitarium by advice of his home physician, the famous Lord Dawson of Penn, under whose care he had been for more than a year, suffering from an incurable giddiness which confined him to his bed almost constantly and from which he was seldom wholly free even for a short period. By the adoption of a strictly biologic regimen and after a few weeks of health training and physiologic treatment, he was so completely restored to health that he became a most enthusiastic supporter of Battle Creek ideas and methods. Wherever he went, he proclaimed the gospel of health by biologic living.

On returning to his home in Ireland, Sir Horace was asked to make the annual address for the Royal Society of Dublin. So great was his appreciation of the benefits he had derived from his contact with Battle Creek and the new philosophy of which he had made the acquaintance, he made the subject of his address,

its weight consequently in a great measure supported by it, the face will remain above the water quite free for breathing, will rise an inch higher every inspiration, and sink as much every expiration, but never so low as that the water may come over the mouth.

"7. If therefore a person, unacquainted with swimming and falling accidentally into the water, could have presence of mind sufficient to avoid struggling and plunging, and to let the body take this natural, he might continue long safe from drowning till perhaps help would come. For as to the clothes, their additional weight while immersed is very inconsiderable, the water supporting it, though when he comes out of the water, he would find them very heavy indeed.

"But, as I said before, I would not advise you or anyone to depend upon having this presence of mind on such an occasion, but learn fairly to swim; as I wish all men were taught to do in their youth. They would, on many occurrences, be the safer for having that skill, and on many more the happier, as freer from painful apprehensions of danger, to say nothing of the enjoyment in so delightful and wholesome an exercise."

### Switzerland Sunshine

VARIOUS writers on the sunshine treatment of tuberculosis, and especially bone tuberculosis, have noted the fact that the results obtained by Rollier at his clinic in Leysin, Switzerland, appear to be far better than those which have been secured at any other clinic. The explanation has been that the sunshine of Alpine regions must be superior in quality to that of other regions. It is true, of course, that the proportion of ultraviolet rays in the sunlight is greater in elevated regions.

In the writer's opinion the explanation is not the difference in the sunshine but in the diet, a matter upon which Rollier lays almost as much stress as upon sunshine and fresh air. Rollier is a firm believer in the advantages of the simple biologic dietary. He discourages the use of meat and advises all his patients against its use, although ordinarily he does not absolutely forbid its use. Rollier's regimen is very plain and simple. It supplies plenty of vitamins and as much protein as is absolutely required, but little other than milk of animal origin.

# Hygiene in Japan

By Dr. H. K. Arita



Dr. H. K. Arita

I AM glad to write you again on the question of health. As I have already written, the health of our nation is declining year by year, especially among people of the cities, or so-called "civilized." Cases of men and women with a deficient number of teeth are not rare. Boys and girls, particularly, of this class, nearly all have decayed teeth. They have so few canine teeth that we can imagine that in the next generation boys and girls will have no canine teeth at all. About eighty-five to ninety-two per cent of those in the primary and grammar schools of cities need the attention of a dentist, and about seventy-five per cent of those living in the country.

So-called "civilized" young men and women are generally weaker than those who have not much education. The number of young women who have no children after marriage, is increasing. Such miserable conditions exist that children are very often deprived of mother's milk.

According to the official statistics for the year 1930, the mortality was about one million two thousand deaths (per thousand) occurring from the following diseases:

Stomach and intestines	124.3
Pneumonia and bronchitis	96.1
Apoplexy	85.6
Lung tuberculosis	70.1
Decrepitude	62.8
Congenital infirmity	54.3
Kidney disease	51.8
Meningitis	42.9
Carcinoma and other malignant tumors	34.7
Heart disease	25.0

Apoplexy, which comes third in the list, and tuberculosis of the lungs occur mostly in boys and girls, or very young men and women who have not yet become established in good positions. It usually attacks men and women over forty years of age, who are parents, with good positions, responsibility and influence in the community, so that there is need of their services.

If the person survives an attack of apoplexy, he may exist but half alive for five or ten years, experiencing bitter trials. The use of alcohol, tobacco, meat, too much sugar, spices, etc., is increasing the prevalence of this disease.

In recent years, it is not rare to see the words high blood pressure, arteriosclerosis, angina pectoris, erythema and similar terms, in the newspaper. Not only the old and very young, but those in middle life are also affected. The official statistics show that deaths from apoplexy are increasing remarkably year by year:

1907	65,798
1917	85,995
1922	94,466
1923	102,666
1924	96,156
1925	98,516
1926	101,502

The mortality from apoplexy increased about ten thousand during five years. If it continues to increase at the present rate, there will be over sixty thousand more deaths after thirty years. There are one hundred thousand deaths from apoplexy a year, about one death in ten patients. We can suppose that there are affected over one million every year in Japan. If

(Continued on page 30)

before a great body of eminent scientists, his experience at Battle Creek and suggestions based thereon, and afterwards published it under the title, "Some Tendencies of Modern Medicine from a Lay Point of View." Although Sir Horace eulogized the Battle Creek system and severely criticized the current practices of medical practitioners in Great Britain, his criticisms were made with such fine humor and tact that his address was well received and widely discussed and there is reason to believe that a substantial and lasting impression was made in the interest of needed reforms in medical practice.

A few paragraphs from this very remarkable address may interest the reader:

"The purpose of this address will be to suggest a saner attitude on the part of the better educated lay public toward the science of medicine, and to appeal to the medical profession, mainly in the interests of national health, to make their practice more educational.

"I must here confess that the thoughts upon health which are embodied in this address came to me, as have many of the thoughts I have inflicted on my fellow-countrymen, in America and from Americans. In the winter of 1910-11, a friend of mine who works in the United States upon the same economic and social problems which happen to be my hobby, asked me to come and see him in an institution where he was resting from overwork, and, as he expressed it, was storing his batteries. It was the Battle Creek Sanitarium, in the State of Michigan, about one hundred and sixty miles on this side of Chicago. I had heard of the institution, and had a strong prejudice against it. Its alleged connection with a religious sect, its extreme vegetarianism, the fortunes which had been made in the manufacture of health foods, the first of which had been invented in the Sanitarium, had made a bad impression on my mind.

"In the first days of the Sanitarium my apprehensions were intensified. My fellow guests—for they do not call them patients—seemed too fond of discussing their own and each other's symptoms, and were quite ready to take an interest in mine. I noticed, however, that they had far more medical knowledge than our doctors usually consider it prudent to impart. But I soon found that the doctors

were thoroughly justified by this part, to my mind the most important part, of their procedure—the education of the patient, so as to secure his intelligent cooperation. Of this I shall speak presently, but I must say here that, so far from inducing morbid introspection and chronic hypochondriasis, the system seemed to be productive of the most salutary optimism. The moral atmosphere of the institution was wholly healthy, and calculated to engender a fine outlook to life. All the guests with whom I struck up an acquaintance exhibited the same attitude—a characteristically American attitude I may add—towards the treatment they were receiving. Among them were business men with large responsibilities, ministers of religion, university professors, judges, journalists and others engaged in literary work, doctors and professional men of various occupations. Many of both sexes were engaged in social service. Every one of this miscellaneous company of health-seekers talked as if he had been given his first real chance to understand himself and to increase his efficiency. They were all convinced that they had entered upon a new epoch in their lives, which opened with a promise of better things for themselves and greater usefulness to others. Faddists, indeed! I wish there were more like them.

"You will not be surprised that I became intensely interested in the institution. I determined to study it in what seemed to me the only really satisfactory way, by submitting myself to the general physical examinations which precede treatment. My engagements did not permit of a lengthened stay, but I decided to start a course so as to have a general understanding of the system of therapeutics which seemed to be producing such excellent results upon the bodies, and still more upon the minds, of my fellow guests.

"The first step was to go to the receiving physician, who, after asking me a few routine questions—one of them, the name and address of my nearest relative, so that they might not have my remains left on their hands, supplying a little grim humor—proceeded to explain to me the general character of the treatment I was to receive. 'You understand, of course,' he said in effect, 'we do not pretend to cure people. Nature does that. If they are not well, unless some infection or accidental injury is the

cause, they have offended against the laws of Nature. What we propose to do for you is to determine, by every means known to medical science, the character and degree of your departure from the normal. We will explain to you everything that we find out about your case. We shall assume that you wish to know the absolute truth, and will do our best to make you understand it. It will be up to you to follow the road back to normal, which we think we will be able to point out.' I was then assigned to the physician who was to watch over me while I was at the Sanitarium. Dr. Kellogg, himself, was kind enough to undertake my case, an arrangement which, as my object was rather one of inquiry into the system than a course of treatment, was agreeable to me.

"To describe the diagnosis in detail is wholly unnecessary, but an indication of its thoroughness may be given. I was asked to tell everything I could remember about my family and personal history, my past ailments, treatments and so forth. I was then examined externally from head to foot, note being taken of the reflex actions which indicate nervous conditions. Everything capable of chemical or bacteriological analysis was analyzed by the proper specialists in their several laboratories. My blood pressure was taken. Innutrition being obvious, the test meal was resorted to. A few months previously a London physician had diagnosed in my case, by a process of reasoning from external evidence beyond the lay comprehension, a deficiency of hydrochloric acid. He prescribed five drops of the drug (which I carried in my pocket with much fear that it might break and burn me badly) in a tumbler of water at each meal. Met, I suppose, by a double dose of original sin, the medicine rather aggravated my complaint. At Battle Creek they demonstrated to me that I suffered from an excess of natural hydrochloric acid, and I was put upon their hyper-hydrochloria dietary with excellent results.

"A careful observation of the actual working of my internal economy at intervals during some forty-eight hours was carried out in the X-ray department, which I am told by competent medical authority has earned a considerable reputation in Europe as well as American clinics. The strength of each principal muscle group in the body was recorded. In the pigeonholes of the record office



of the Sanitarium is filed away every material fact about my vile body, from such simple facts as my weight and strength, which I could not find out myself, to my opsonic index and blood count, which only excite my curiosity. I got them to give me a copy of my complete diagnosis. I do not understand a tenth part of it—I suppose any doctor would understand it—but what strikes me chiefly about it is that every determination of a condition or fact—and of these there are some hundreds—by the numerous specialists who are engaged in the several departments of the institution, is committed to writing, and capable of verification by any outside adviser I choose to consult. Such is my personal feeling about the Battle Creek procedure in arriving at any understanding of a case that, if I were in need of medical advice, and out of reach of my own professional adviser, I would far rather consult a fresh physician by post, enclosing my Battle Creek documents, than present myself for diagnosis and treatment in the conventional way.

"I come now to the distinctive feature of the Battle Creek system—its educational work. I have already sketched the beginning of the patient's education in the office of the receiving physician. He sees daily the physician in charge of his case, whose advice is designedly and systematically educational, with the constant aim of enabling the patient to minister intelligently to himself. The evening lectures by Dr. Kellogg or some other physician are intensely interesting and illuminating. They are, of course, of a popular nature, and they consist of a simple explanation of the causes of chronic disease, particularly the causes of such diseases as constipation, arteriosclerosis, Bright's disease, neurasthenia, and other chronic maladies which are the result of wrong habits of life. Lectures are also given on the simple life, the outdoor life, exercise, breathing, digestion, the functions of the liver, brain and nerves, and other physiologic subjects. Lectures of this sort are given three times a week. On two or three afternoons a school of health is held. In this, definite instruction is given about the properties and values of different foods and making bills of fare. A cooking school is held for the benefit of the ladies, many of whom avail themselves of the opportunity of getting instruction in rational cookery.

The purpose of all this education appears to be two-fold—firstly, to cultivate a healthy and avoid a morbid interest in personal hygiene; secondly, to give the widest possible understanding and publicity to a system of rational therapeutics, lovingly and compendiously called by its devotees the Battle Creek idea. There are, of course, cases—a very small percentage—where the receiving physician thinks it wiser to be reticent upon the patient's condition and simply to prescribe. But the vast majority of the health-seekers like the frankness of which my interview is a good illustration. I know the result in my case was to make me treat my own machinery almost as rationally as I treat that of my motor car. The opinion of the Battle Creek physicians is that, while it is quite true that young people living active and largely open-air lives, and enjoying the best of all evidences of health—a full working efficiency—need give little thought or care to their health, those of us who are getting on in life, or are engaged in sedentary occupations, if we wish to get the best work out of ourselves and be good citizens must substitute for our atavistic superstition in the miracles of the bottle a sound elementary knowledge of physiological law.

"And this brings me to what I regard as by far the most important feature of the Battle Creek idea—namely, that which relates to diet. This is the respect in which the ordinary medical practice seems to me to compare most unfavorably with the institutional method which I am describing. It is here, too, that the education of the patient is the only hopeful—indeed the only rational—therapeutic method. Let us do a little thinking on this question of our food.

"We often hear it said by doctors that more people die of overeating than of overdrinking, which is no doubt true. But for one Abernethy who will tell Dives to 'live on 6d. a day (the equivalent, I suppose, of over 1s. now), and earn it,' there are hundreds of practitioners who will stimulate our languid stomachs with drugs or supplement our digestive juices with those of swine. I think we might fairly ask our medical advisers two plain questions upon this issue. Are not the quantity and the quality of the food we take fundamentally important in relation to the cultivation and preservation of health?

And is it not a first principle of dietetics that our food should be proportioned to the physical exercise we take, and the temperature of the air in which we spend our days? I observe that where our business or our amusements are concerned, we eagerly resort to the teachings of science, and at any necessary cost follow its dictates. A draft horse, race horse, or prize fighter is scientifically fed. The quantity of his food is calculated, as is the fuel of locomotives or automobiles. In the feeding of the sedentary worker, including, I am afraid, too often the doctor himself, the cook and confectioner are much more our guides than the dietitian. The very word 'gastronomy,' which I believe means the science of the stomach, has come to mean the art of the palate. The culinary artist has defeated Nature's benevolent design in giving us an appetite to regulate our meals.

"When all is said, men and women of mature age must decide this question of diet for themselves. My own conclusion is that the eating of dead animals, even cooked, is unnecessary; and that if we give ourselves the benefit of the doubt with eggs, milk and milk products (which are included in the Sanitarium bills of fare), we might well avoid unnaturally increasing the ills that flesh is heir to by the addition of those of which flesh is the cause. To me the fine physique of the large staff of doctors, nurses and assistants, male and female, at the Battle Creek Sanitarium, and the marked difference in the health of the incoming and outgoing stream of patients, were in themselves impressive arguments.

"The time at my disposal forbids any further description of the Battle Creek idea and its practical working. The chief impression it created in my mind was the immense advantage of the institutional over the private practice method in the diagnosis, treatment and prevention of disease, and in the education of the patient in rational self-management. Before I went to Battle Creek, I had formed some opinions about modern medicine which I discreetly kept to myself. These opinions resulted from memories of half a century of a busy life interrupted by frequent periods of ill health which brought me in contact with many doctors. My views have now been broadened and I feel more charitably towards them, for I see

how both their science and their practice have been and are handicapped by the prejudices and superstitions of even the better half and better educated members of society.

"I suggested at the outset that, tested by its application to the needs and conditions of modern life—a matter which depends as much upon the public as upon the profession—medical science is not in line with the progress of the age. Its history, in comparatively modern times, which is not cheerful reading, will illustrate my point. I am speaking, I admit at once, only from the most general impression. I have read but one medical work in my life. It was written at the time that the Royal Society was formed, by the Court Physician of Charles II, and is therefore a little out of date. Having an abiding faith in *vis naturae medicatrix*, I can understand how people could get very ill in those days and get quite well. But when I put down that book, which I read from cover to cover with absorbing interest, I was left wondering how anyone who ever called in a physician rose from his sick bed. The diagnosis, which was commonly concerned to determine whether the patient was suffering from a rheum or a vapor, took into account the constellation under which he was born and his social position. A clown and a duke exhibiting the same symptoms would receive wholly different treatment, though that bestowed upon the aristocrat would endanger the life of a modern horse. And it is not the quantity or potency of the drugs administered which most shocks the reader; the ingredients were often unmentionably disgusting. From a standard medical work published in London after Isaac Newton had made his historic contributions to human knowledge, we still find the following prescription (from which I have omitted the most disgusting ingredient [urine]), described as a 'sovereign remedy' for 'colic': Wolf's guts, dried and powdered, two drachms; sheep's excrements, two drachms. For quinsy the milder remedy of powdered and burnt owls, burnt swallows, cat's brains, and the dried and powdered blood of white puppy dogs is recommended.

"The unsavory tastes of our ancestors were not altogether out of date in the medical practice of times I can myself remember. When I was a child, medicine was considered by our parents to be effective in proportion

as it was nauseous. We did not agree with them. My father, a sailor, left over half a century ago with seven children, treated us according to the lights of his day to a spring and autumn cleaning. When the black days in the calendar came round everyone of us was disturbed in our innocent sleep and given heavy doses of calomel concealed in raspberry jam. This was followed next morning by one or more of the sovereign remedies of that time—black draft, castor oil, Glauber salts, or Gregory's powder. In a book published in London in 1907, with the unforgivable title of 'Healthology,' the author, who is, I believe a qualified physician, tells us that less than twenty years ago calomel was in constant use as a sovereign remedy for every kind of indisposition. He adds: 'This destructive delusion was not discarded until it had filled the world with hopeless, boneless and toothless wrecks.'

"Now, it was unreasonable to blame the medical profession of a past generation for doing things which the doctor of today, with the assistance of X-rays, bacteriology and numerous other discoveries which came from the researches in other branches of science—often in response to commercial demand which does not exist in the case of medicine—is in a position to condemn. But I am told by my medical friends that much of the medicine which they have now to prescribe—I should say seventy-five per cent of it—is rendered necessary by the insistence of the public upon having a bottle, which is so much easier to take than advice. If the belief in the bottle survived the nauseous days it will, no doubt, be hard to kill, when it is generally pleasing to the taste, and contains a nice little fillip in the shape of some diffusible stimulant. Nevertheless, I think there is a growing feeling that the time has come when this mischievous subordination of physiology to psychology, which has shattered many of our constitutions, should be ended.

"I recognize that the position of a doctor doing a general practice among, let us say, this audience, is rendered extremely difficult by the unreasonableness of the attitude of most of us—of myself I frankly confess until quite recently—toward the profession. We equally expect a prescription whether we have a ridiculous faith or an utter disbelief in its efficacy. Even when we are highly intelligent in other things we are not always ra-

tional on these occasions. Here is an extract from Carlyle's Reminiscences:

"I had ridden to Edinburgh, there to consult a doctor, having at least reduced my complexities to a single question. Is this disease curable by medicine, or is it chronic, incurable except by regimen, if even so? This question I earnestly put; got response, 'It is all tobacco, sir; give up tobacco.' Gave it instantly and strictly up. Found, after long months, that I might as well have ridden sixty miles in the opposite direction, and poured my sorrow into the long, hairy ear of the first packass I came upon, as into this select medical man's, whose name I will not mention.'

"I have contrasted the general procedure, in the matter of diagnosis and treatment, at a remarkable American institution, which with many others in this audience, I have experienced at the hands of the general practitioner. Making all due allowance for the necessary difference between institutional and individual treatment, I have suggested that the whole attitude of this particular institution towards health is physiologically and psychologically worthy of consideration. In two aspects—the education of the patient and the insistence upon a rational dietary—I have claimed a fundamental superiority for the Battle Creek system over any other medical practice I happen to know."

For some years Sir Horace made an annual visit to America, spending a month at the Battle Creek Sanitarium.

Sir Horace, like many another great humanitarian leader who has devoted his life to service to his fellows, suffered keenly at the hands of fanatical ingrates who burned his beautiful home at Kilteragh near Dublin, where he had installed a very complete outfit for continuing at home the regimen and physical treatment received at Battle Creek, including an ingenious fresh-air sleeping place and study on the roof of his castle which could be turned so as to face the sun at all hours of the day. The fire destroyed not only a lovely home but a choice collection of ancient Irish manuscripts, works of art, antiques, porcelains and other priceless treasures.

On one of his visits to America during the war, when he brought a secret message from King George to President Wilson, he was pounced upon by newspaper reporters in New York so violently that he

(Continued on page 29)

---

# FROM THE EDITOR'S PEN

---

## Science Condemns Alcohol

**I**N every scientific test to which alcohol has been subjected, this ancient deceiver has failed to make good. It promises great good, enormous help to the weak, comfort to the sick, rejuvenation to the aging, but its glowing goal is an *igneus fatuus*. It is a deceiver, betrayer of confidence, an enemy in disguise.

Recent experiments conducted by able scientists at Yale University have shown that alcohol produces a change in the blood that converts this vital stream into a distributor of disease. One of the best established facts in physiology is that the blood must be alkaline and that its alkalinity must be constantly maintained at a definite standard. Any lowering of the blood alkalinity means lessening of the power to resist disease and is an invitation to germ enemies to enter the body and spread infection in every direction in the vital domain.

Dr. Heinwich and his associates have shown that alcohol lessens the alkalinity of the blood to a notable degree. In so doing, it strikes at the very foundation of all the life activities of the body. Every bodily function depends upon the maintenance of the normal alkaline condition of the blood and tissue fluids. A change so slight as the difference between distilled water and ordinary pipe water would result in instant death. Evidently, this is the explanation of the depressing effects of alcohol which have been fully recognized within the last quarter of a century. Who can estimate the enormous amount of harm done by the use of alcohol as a stimulant. Not until recently has this delusion begun to lose its hold upon the world. Probably the majority of men and women still regard alcohol as a stimulant. Some physicians, even, still prescribe it as a supporting agent. This error concerning the properties of alcohol is probably one of the most destructive delusions that has ever dominated the human mind.

Dr. Heinwich was assisted in his experiments by Drs. Nahum, Rakieton and Fasiakas. They employed as subjects both dogs and human beings. The alcoholic solution they employed

contained nineteen per cent, about the same as sherry wine. The dose administered was equivalent to about one and a half pints of sherry wine for a man weighing one hundred and fifty-four pounds.

In both the dogs and the men, the blood sugar rose and the lactic acid accumulated in the blood, showing that the oxidation processes of the body were interfered with. That is, the alcohol had the effect to smother the vital fires instead of increasing their volume or intensity.

Another very significant effect was observed. The carbonic acid gas, carbon dioxide, was retained in the blood because of the depression, or benumbing, of the respiratory center. This center, located at the base of the brain, carefully watches the composition of the blood. The moment it finds the carbonic acid increasing, it notifies the lungs and sets them to working harder, so as to let the poisonous acid gas out and get more oxygen into the blood, to burn up the lactic acid that is being poured into the blood continually from the muscles and all other active tissues.

The sugar and starch which we eat, part of the protein, and probably also a portion of the fat, is in the body converted into a substance resembling starch, which is known as glycogen, or animal starch. This is stored in the body cells, chiefly in the liver and the muscles. Dr. Heinwich said in his paper, "Alcohol breaks down the glycogen of the liver, causing rise in blood sugar. In similar fashion the glycogen of the muscle is broken down to lactic acid, causing an increase in blood lactic acid."

Another highly important observation made by Dr. Heinwich was the following: "Alcohol is a narcotic and depresses the activity of the brain."

Here is the final proof that alcohol is not a stimulant, a vital booster that may be called upon to help a weak heart or a weak brain, a feeble stomach or a failing muscle, to do its work better, or to tide it over an emergency, a service for which it has been depended upon by countless millions during more than fifty centuries.

The verdict of science as announced by four eminent scientists, backed by the prestige of a great university of

world-wide fame, is that alcohol possesses no power to brighten the flame of life when it is burning low, but that it quenches the flame.

Let the reader try to form in his mind a picture of the appalling mischief which this drug has done during the ages that it has been looked upon as a "good creature of God," as the pious but deluded monks called it as they pressed the grapes of their vineyards and bottled their costly wines; *elixir vitae*, as that mischievous old quack, Paracelsus, shouted as he distilled it in his laboratory. What a terrible deceiver this drug has been!

A feeble defense of alcohol was attempted by a doctor from Ohio State University who thought that his experiments showed that alcohol might be used as fuel by the muscles, the same as sugar is used. Dr. T. M. Carpenter, one of the greatest metabolism experts in the world, whose notable researches at the Carnegie Nutrition Laboratory of Boston, in association with Dr. F. G. Benedict, have made him internationally known, was fortunately present and promptly met this attempt to bolster up the falling reputation of a discredited drug by stating plainly that in the very extended studies of the subject which he has made, he "had not been able to obtain similar results."

An untold number of lives have been extinguished by this delusive poison. Countless times the doctor, the nurse, some fond relative, a mother, perhaps, caring for a loved child, has pressed to the lips of a feeble sick one a portion of wine or brandy, a so-called cordial, with no other effect than to smother and extinguish the flickering flame of life!

Isn't it about time to stop this slaughter of innocents, this giving of a deadly poison draught whenever a call for help comes from one battling against overwhelming enemies of life?

Physicians who continue to prescribe alcohol as a remedy for disease, as a stimulant or a curative agent, are guilty either of ignorance, or of malpractice, or of both offenses.

## Uric Acid

**U**RIC acid is a product of cell activity. It is normally derived from the nuclei of cells and hence is

## Engine Trouble

(Continued from page 6)

### "SURGEON-GENERAL IS DEAD"

The false notion that so-called moderate indulgence in harmful practices is safe, is carrying thousands of good and useful men to untimely graves. There is no such thing as moderation in the use of a poison or any purely harmful practice. Moderation relates only to things which in themselves are intrinsically wholesome and which supply a physiologic need, and become unwholesome only when intemperately used. Food, water, exercise, a thousand sources of normal and biologic satisfactions have their moderate and wholesome use and their immoderate and destructive use. But poisons and unphysiologic practices of all sorts are intrinsically hostile to the body and are hence injurious in all doses. This is the essential, almost the sole, difference between a food and a poison. Tobacco meets no vital bodily requirement. One who had never used tobacco would not die or suffer any sense of loss if he never used it.

The late Dr. Lauder Brunton many years ago called attention to the necessity for complete abstention in cases of disease of the heart and blood vessels.

The late Dr. Osler cited the cases of three of his friends, apparently strong, healthy men, incessant smokers, all of whom died suddenly from the effects of tobacco on the nerves of the heart.

Dr. J. Rochard, an eminent French physician, says of the effects of inhaling smoke-laden air: "I have met cases of angina pectoris chiefly among persons living in an atmosphere of tobacco smoke."

That there is such a thing as an anti-hypertension regimen by the conscientious following of which hypertension may be lowered by elimination of pressure-raising factors and life expectancy thereby increased, has been abundantly demonstrated by numerous eminent clinicians. Hundreds, indeed some thousands of lives, have been prolonged. Among the two hundred and fifty thousand persons who have entered the Battle Creek Sanitarium as patients within the last fifty years, there has been a large percentage of hypertension cases. Many of these persons are living today because they have recognized the advan-

tages of the biologic, anti-hypertension regimen and are following it conscientiously. It is true these persons are walking on thin ice. But one may go far on thin ice if, like the Hebrew poet-king, he takes care to "walk carefully before the Lord." Benjamin Franklin "walked back" four years. The writer has known hundreds who have thus defied the Old Man with the Sickle, and disappointed the sexton and the undertaker by "walking back," not four years only, but half a score of years, and even more.

Life expectancy is a purchasable commodity. The price is high, but the terms of payment are very reasonable and within reach of every person who is willing to exercise self-control and to make maximum physical and mental health and efficiency and length of days the constant and major aims of his life.

### Sir Horace Plunkett

(Continued from page 17)

fled precipitately and, escaping from them by strategy, came on to Battle Creek. The reporters for revenge published that he had died suddenly. While chatting with him in my office, a cablegram was handed me which was signed by the manager of his London office giving me instruction about shipping the remains. I handed the cablegram to him. He laughed heartily in his peculiar fashion and, recalling a similar experience by a famous humorist, sent a similar reply, "Report of my death greatly exaggerated. Am in usual health."

Sir Horace to the last maintained to a remarkable degree the marvelous intellectual keenness which was one of his very striking characteristics in spite of a very troublesome insomnia from which he found relief at last in aviation. When past seventy-five years of age, he learned to fly and made solo flights at an aviation pageant. In a letter received from him by the writer a few weeks before his death, he stated that he found flying a remarkable sleep-producer, and that after flying for half an hour he was able to sleep soundly all night.

In the death of Sir Horace, truth has lost a valiant defender. Ireland has lost its noblest son, the world one of its most lovable and exemplary characters and a citizen whose public service entitles him to perpetual remembrance.

# LIFE EXTENSION AND HEALTH ASSURANCE BONDS

•

Good Health  
Extended Life  
Fixed Income for  
Life  
Perpetual  
Memorial

•

"A GOOD INVESTMENT"

•

For particulars, address,  
Race Betterment Foundation  
Battle Creek, Michigan

## Interesting for DIABETICS

### Reported Cures

Insulin does not cure diabetes. It only supplies a hormone which is needed to enable the body to utilize sugar. Funk, Schenborn, Collazo, Lelesz and Rathery report the complete disappearance of urinary sugar under the use of a special yeast grown in Munich, Germany.

This remarkable yeast (known in the United States as SAVITA Yeast), is the richest of all known sources of vitamin B, the wonderful composite which promotes growth, prevents and cures pellagra, and promotes the vital activities of plants and animals in a most wonderful manner. This imported German product has been shown to be more than six times as potent as ordinary compressed or bread yeast.

Savita yeast is available in the form of a dry powder with an agreeable mushroom flavor.

**Price per package (5 oz.)  
60 cents**

Send for sample and further information.

**THE BATTLE CREEK  
FOOD COMPANY  
BATTLE CREEK, MICHIGAN**

## The Cabbage Cousins

(Continued from page 23)

known such widespread cultivation. It is only comparatively recently that it has become popular in the United States. At the present time eighty-two per cent of the entire supply of the country is grown in California, in the region of San Francisco Bay. The plant is very similar to the cauliflower, and its growth and culture are very much the same, with the notable difference that it takes the broccoli full six months to grow to maturity. Since warm weather is very injurious to its proper development, it can only be grown in those parts of the country where a long cool, but not too cold, growing season can be expected. In California the seed is sown in July or August and the plants set in the field as soon as they are large enough. Most of the crop is harvested from November to March. The edible parts of the plant are the stems, bud clusters and young leaves. The plant branches freely and the main stem and each branch terminates in a cluster of flower buds. Harvesting is done when the buds are well developed but before they appear yellow or white, due to the unfolding of the petals. As side branches appear when the main stem has been cut, a number of cuttings may be made from each plant. The cut branches are gathered into field crates and carried to a central packing shed, where they are tied into bunches and shipped in the same manner as cauliflower.

An interesting bit of selective work has been done with the broccoli. By a careful selection of seed from resistant strains, varieties have been developed that will withstand both high and low temperatures to a remarkable degree. Moreover, strains have been developed that will mature in the bay region of California, and similar climates, in the month, the name of which they bear.

Brussels sprouts may be called a parvenu in the ancient and honorable cabbage family, with a family history in lowland Europe which one authority estimates at not more than one hundred and fifty years. Another claims a thirteenth century origin, but very little proof of its early cultivation is offered. However, in the seventeenth century sprouts were actually grown near Brussels, Belgium. You know them as the miniature cabbage heads that you buy in the market, but you may have been surprised

when looking at their picture to see that they grow on a plant that is really a cabbage with an elongated stalk bearing groups of leaf buds—the sprouts—in the axils of the leaves. Such a growth frequently occurs as a monstrosity in early cabbages after the true head is removed. The origin of the present varieties was probably some such sport from whose seedlings plants of this character were propagated in the latter part of the seventeenth century.

Brussels sprouts is mainly a fall, winter and early spring crop. The two principal areas of commercial growing in the United States are on Long Island, and on the Pacific Coast between Half-Moon Bay and Watsonville, California. A very rich soil and a cool, moist climate are the major demands of this crop. Heat prevents the sprouts from becoming hard, but the plant will stand considerable freezing without injury. The sprouts are picked when hard, placed in baskets and carried to the packing house, where machines separate them into graded sizes. Then they are packed and iced and hurried on their way to you in their original fresh, green and attractive condition.

In severe climates, as freezing weather sets in, the plants are pulled up, stacked in some sheltered place, and lightly covered with marsh hay or seaweed. After the plants are stacked, the sprouts may be picked at any time during the winter.

Altogether an interesting family, these cabbages, well worthy of a bit more appreciation than we are wont to accord them.

## Hygiene in Japan

(Continued from page 13)

we can change our mode of living and leave off the unnatural customs, especially in regard to the use of alcohol, tobacco, flesh food, tea and coffee, etc., stomach and intestinal disorders, as well as other troubles, will be less numerous.

From the statistics mentioned above, it will be seen that the number of cases of apoplexy was suddenly increased in 1923, the year of the great earthquake in Japan. We may thus conclude that there is a relation between an affliction of the mind and apoplexy. For this reason, we ought always to follow the rules of Nature, and keep our minds as peaceful and hopeful as possible.

Magazine Digest  
March, 1935

## Our Sick Ancestors

Condensed from *Le Mois*, Paris (March, 1935)

**T**HE theory prevailed for a long time that our prehistoric ancestors, who must have led a hard and savage life in close communion with nature, were a sturdy race of man, proof against all disease. More recent research has questioned the truth of this statement.

It was hoped in the beginning that the study of the surviving primitive races, whose development stopped at a precocious phase of the evolution of man, would furnish some evidence on the above question, but these hopes were soon shattered. Even the backward races have undergone an evolution, although a slow one. It is very hazardous to make comparisons between prehistoric man and the present-day primitives. Moreover, it is not impossible that one or the other of the surviving primitive tribes represents a step backward in evolution. Charles Nicolle, the great scientist, defends the theory that human civilization has had several Middle Ages and that every time a human agglomeration becomes isolated and must lead a precarious existence, it regresses. This theory would apply to the Australian aborigines.

For this reason the research on the physical condition of prehistoric man may be based only upon the records they have handed down to

us, namely the skeletons and other remains that are hundreds of thousands of years old. By studying these bones and teeth, and such lesions as they show, we may draw some conclusions on the ailments which must have afflicted their owners, although it is of course impossible to detect their internal diseases. This research has given birth to a new branch of science: paleopathology.

In 1856, when they found the remains of the Neanderthal man, the peculiar shape of the skull, so different from that of the *Homo sapiens* species, led at first to the idea that it was caused by idiocy or rickets. Eminent scientists, including Rudolph Virchow, refused to attribute that "sickly" skull to a special race of fossil man and the question then arose whether the Neanderthal man had or had not been rachitic.

Modern research has established however that this disease was unknown in the Paleolithic Age, and was comparatively rare also in the Neolithic Bronze and Iron Ages. No trace of it was ever discovered on Egyptian and Peruvian mummies. According to Professor Vallois, author of a brief but most substantial treatise on the ailments of prehistoric man, rickets appeared

at a much more recent period of human evolution.

In this respect our first ancestors must have been in a privileged position compared with ourselves. We know that rickets is the result of defective nutrition, more exactly of the lack of vitamin D or the growth vitamin. The disease begins its ravages on individuals of a tender age but becomes apparent only much later and is characterized by alterations of the bones. We may therefore infer that the paleolithic and neolithic babies had enough vitamins in their food.

Traces of traumatic lesions have been found in many fossil remains, not so much of the Paleolithic as of the Mesolithic and Neolithic ages, mostly on skulls, ribs, vertebrae and especially on the limbs. Stone arrows have been found imbedded in the bones, proving that even in that age men used to fight amongst themselves. Another interesting feature is the frequent occurrence of well set and healed fractures, proving that the neolithic man must have possessed considerable knowledge of surgery, which is also confirmed by traces of skull trepanations, undoubtedly performed upon living subjects.

Chronic osteo-arthritis, which belongs in the category of rheumatic diseases and affects particularly the joints, is not so very common with us, but it seems to have been pretty nearly general among the prehistoric races of the most remote geological past. What is more, it hit younger people than today and its seat was

the spine rather than the limbs. Arthritic traces were found in the remains of the Neanderthal, Cro-Magnon, Aurignacian, Solutrean man etc. It seems to have been more frequent however in the later ages, in Europe, Africa and America. Traces of it are apparent on almost every Egyptian mummy of the first epoch and on the skeletons of pre-Columbian Indians as well.

Osteo-arthritis is therefore believed to be the most ancient disease in the world, so that the theory of the perfect health and robust constitution of our first ancestors appears somewhat questionable. There seems to have been no paleolithic race that has not paid its tribute to rheumatism, even in the Old Stone Age.

A parallel process must have taken place with the mammals. Osteo-arthritis is, practically speaking, unknown among the wild animals, while it is a frequent phenomenon in our zoos and menageries. The disease was common however among the paleolithic mammals, the cave lion, the reindeer, the hyena and especially the cave bear. This induced a scientist to evolve the audacious theory that the great mammals of the quaternary period must have lived under conditions similar to those of our zoo borders, or that they were domesticated by paleolithic man. And since lesions produced by chronic rheumatism have been traced on the remains of a crocodile from the Miocene, the same scientist went so far as to con-

clude that the world must have seen the emergence of man long before the Miocene and that in this latter period he domesticated the crocodile for religious purposes.

Osteo-arthritis is the product of defective nutrition and cold and damp climate. It is therefore natural that it should have occurred both amongst humans and animals, since in those days they must have lived more or less under analogous conditions.

Dental caries is due in part to the nature of the soil and partly to nutrition. It is more frequent in granitic countries and with vegetarians. But even in this respect conditions vary greatly from one ethnical group to the other. The differences must have been greater still between the various prehistoric races. While the paleolithic European presents no traces of dental caries, it existed among his African contemporaries. In Europe caries appears only in the Neolithic Age, and the same applies to Egypt. From that time on, however, it has steadily progressed, parallel with the progress of civilization and for two reasons: the wider utilization of vegetable, especially starchy foods, and the adoption of the method of cooking food, which destroys many of the vitamins indispensable for the assimilation of calcium.

Tuberculosis and syphilis are diseases very common with us. No traces of tuberculosis were discovered in the bones of paleolithic man. The first signs appear in the Neo-

lithic Age, thereby proving the relative old age of this disease. Conflicting theories exist as regards the origin of the disease. Some hold that it was unknown in the prehistoric ages, while others, like Léon Pales, maintain that it did exist even then in certain regions although only exceptionally, especially bone tuberculosis. It was traced on many mummies of the Egyptian pre-dynastic epoch, which probably coincided with our Bronze Age, that is toward the middle of the second millennium B.C. The pre-Columbian Indians on the other hand probably did not know the disease until it was imported from Europe. It is certain that it became more frequent with the spreading of white man's civilization.

The question whether prehistoric man knew the scourge of syphilis is a much debated but as yet unsolved one.

Two theories exist on the European origin of the disease. A great number of scientists are of the opinion that it was unknown in Europe before the discovery of America and was imported from there by Columbus's sailors, while the opposing school maintains that it existed in Europe long before 1492.

A third theory holds that, although it did exist in Europe before the discovery of America, it became much more frequent and even assumed an epidemic character right after the return of the Columbus expedition, because of the excitation of the European germ at the



contact with the exotic virus.

In 1866, Joseph Jones discovered unmistakable signs of syphilitic ravages in the prehistoric records of Tennessee, but then the difficulty of establishing the exact age of all human fossils of America has not been solved yet. However, several very eminent scientists, including Charles Nicolle, are firm in the belief that the disease was imported into Europe from America.

After the careful elimination of all doubtful material there remain a few fossil pieces which allow the diagnosis of syphilis. However, they hail from a more recent one than the paleolithic Age. These remains were found in France, Nubia, and Siberia. One case of pre-Columbian syphilis has been ascertained also in the Ladoga district of Russia. This skull, however, dates not from a prehistoric epoch but from the twelfth century.

According to Vallois, paleopathological research offers a solution of the problem of the origin of syphilis, although this solution does not quite correspond to the older theories. The nearest to truth seems to be the idea that the malady was endogenous in Europe, though confined to a few small localized hearths and only exceptionally affecting the bones, but that it became much more virulent

after 1493, under the influence of exogenous agents.

All seems to indicate that sickness is as old as life itself and that our predecessors were harassed by it just as we are. There were microbes and bacteria in the first geological period and even the plants of those times were afflicted by parasitic diseases, as proved by paleo-phytopathological research. Congenital or acquired muscular and skin deficiencies, traumatic, infectious, humoral lesions etc., all the pathological processes which occur in the bone structure, have been traced on all species and all races of all epochs.

However, these diseases manifested themselves in forms less virulent and different from the present ones, varying from age to age. Paleolithic man knew no rickets, tuberculosis, syphilis and dental caries, but he did know rheumatism. In the later ages rheumatic affections were no less frequent, but in addition they had tuberculosis, rickets and syphilis.

In spite of their sturdy, massive and brutal appearance, our prehistoric ancestors suffered as we do, although not always from the same causes. It is the merit of paleopathology to have shed light on the problem.



## Keeping Pace With Science



Sovfoto

Prof. Ivan Petrovich Pavlov, "the one free man in Russia"

### World of Medicine

**Record-Maker:** The odds were ten to one against fourteen-year-old Harold Pfleger when he entered New York Hospital eight months ago with osteomyelitis and complications. Infection spread; he lost a leg. Eighty-five blood-transfusions kept life in his body.

He returned home triumphantly last fortnight in a wheel-chair. His father, an unemployed cellist, smiled joyfully; his mother choked up with emotion. Neighbors cheered, showered him with presents, gazed with admiration at the boy who had established a new record for blood-transfusions, courage, and cheerfulness.

Harold greeted them all gravely, viewed his gifts, breathed deeply of the Bronx air, lifted his face to look at the sun, exclaimed ecstatically: "Whee!"

Last week he celebrated his fifteenth birthday, on the way to health again.

\* \* \*

**Neurologists in London:** Eighty-six-year-old Prof. Ivan Petrovich Pavlov, bushy-whiskered, irascible, wiry, has been called "the one free man in Russia." Some scientists have ranked him among the foremost living physiologists. His great contribution was the "conditioned reflex," the stimulus-and-response pattern which he believes fundamental to the psychological and physiological activity of all animals and persons.

Before the International Neurological Congress, meeting in London, he declared that sixty years of experimenting with dogs had convinced him that they possess "the same four fundamental temperaments" as human beings.

Some dogs, like men, are of the choleric type; they have too little inhibition. Some are phlegmatic; in them stimulation and inhibition offset each other. Some are

sanguine, and can make adjustment quickly to stimulation and inhibition; some are melancholic—overinhibited and little able to adapt themselves.

Experienced animal-raisers could have told Professor Pavlov that most animals—the domesticated ones, at least—may be subdivided into these groups. However, such classifications are out of favor among modern psychologists; they obscure the fact that individuals do not fall into such neat divisions, but may have varying degrees of choleric, phlegmatic, sanguine, or melancholic personality.

More to the point was the Russian scientist's statement that dogs tend to have the same higher nervous disorders as man. He had been able to reproduce claustrophobia (fear of closed spaces), and other familiar mental maladies, by working patiently with dogs. Experimental insanities, produced in high-strung animals, might lead to formulation of preventive measures for human insanity.

Hundreds of other scientists, including many Americans, offered reports before the Congress.

Raynaud's disease, in which the hands or feet become white and cold, then congested, sometimes, finally, gangrenous, can be cleared up by cutting the sympathetic nerves leading to the affected parts, reported Dr. Alfred W. Adson of the Mayo Clinic, Rochester, Minnesota. Thousands of children and young adults suffer from this malady, the cause of which is unknown.

Drs. Dean Clarke, Heloise Huff, and Harold G. Wolff, of Cornell University Medical College, New York City, told how they had given themselves experimental headaches by injecting the powerful drug histamine to study the causes of headache pain. These laboratory headaches, they

found, were caused by dilation and distortion of the intracranial blood-vessels. The site of nervous impulses felt as pain is not the brain, as headache sufferers often believe, but the walls of the blood-vessels and surrounding tissues.

On the final day of the Congress, August 2, the delegates discussed the functions of two important parts of the brain: the thalamus, or midbrain, and the frontal lobes. The thalamus, it was agreed, sends pain impulses to the body; also is responsible for circulatory changes causing paleness in fright, flushing in anger or embarrassment.

The frontal lobes are headquarters for the complex synthetizations and adaptations needed for civilized life.

\* \* \*

**Parrot Martyr:** For twenty-six years Dr. E. H. Hasseltine, Senior Surgeon of the United States Public Health Service, has carried on laboratory war against the world's most vicious, unpredictable contagious diseases: bubonic plague, leprosy, and psittacosis, daring these diseases to attack him. For four years he worked in a leper-colony in Hawaii; came out unscathed.

In 1931, in Washington, the fever which is transmitted by parrots struck; sent him to the hospital for weeks. One attack of psittacosis is supposed to give permanent immunity; Doctor Hasseltine went back to his studies of it. Two weeks ago, while he was experimenting with psittacosis serums, it struck again. Last week, the scientist was fighting for life against pneumonia, aftermath of the fever, at the Marine Hospital in San Francisco.

This disease, which annually takes toll of lives, is one which could be wiped out in this country overnight. It is maintained only by the unaccountable desire of some persons to keep parrots as pets.

### Printing From Rubber

Many a compositor, confronted with a line too long to fit the prescribed space, has wished for compressible rubber type. A new process of printing from rubber plates, announced last week by the B. F. Goodrich Company, will not relieve this situation, but has other advantages over metal.

Printers who experimented with the new "elastotypes" reported them particularly adapted to printing on fragile or brittle materials such as tissue paper, celluloid, wood, metal, fiber, or glass. Bond and other hard papers print better from rubber because it conforms to irregularities of surface. The rubber is said to spread ink more thinly, thereby saving as high as 40 per cent. of this often expensive commodity.

There are disadvantages, too. Rubber swells when oil-inks are used; therefore, special inks must be employed. As yet, half-tones, except those of very coarse screen, can not be printed successfully.

The first book printed by the new method, a detective mystery-story, called "The Emerald Murder Trap," has just been published.

# The Increase in the National Income

**1934 Gain Over Total for Previous Year Exceeds Five Billion Dollars, Government Official Estimates; Labor's Share Is Greater, With Work-Relief Payments Included**

The national income paid out last year increased by more than \$5,000,000,000 over that of 1933, according to Robert R. Nathan, Chief of the Bureau of Economic Research of the Department of Commerce. Labor's share of the total national income, Mr. Nathan finds, was greater in 1934 than in 1929, while the property income was smaller.

Writing in *The Survey of Current Business*, published by the Department of Commerce, Mr. Nathan points out that the total labor income for 1929 was 65 per cent. of the total income; in 1934 it was 67.5 per cent. of the total. Property income for 1934 was 14.4 per cent., as compared with 14.8 per cent. in 1929.

## 11 Per Cent. Increase

Preliminary estimates of the national income are given by Mr. Nathan as \$49,440,000,000 for 1934 and \$44,431,000,000 for 1933, an increase of 11 per cent. last year. These are compared with the following estimates for previous years: 1932, \$47,964,000,000; 1931, \$61,433,000,000; 1930, \$72,973,000,000, and 1929, \$78,576,000,000.

The estimates, says the article, include income payments in the form of "wages, salaries and other labor income, interest, dividends, entrepreneurial withdrawals (income withdrawn by partners in unincorporated establishments, professional workers and others self-employed) and net rents and royalties to individuals for economic services rendered."

The 1933 and 1934 estimates include also "work-relief payments, including pay-rolls and maintenance received by members of the Civilian Conservation Corps, pay-rolls on Civil Works Administration and Federal

Emergency Relief Administration work-projects, and administrative pay-rolls of State, county and other local public relief administrative agencies." More than doubling, these payments increased from \$637,000,000 in 1933 to \$1,394,000,000 in 1934. Mr. Nathan adds that if they are excluded, the national income paid out in 1934 exceeded the 1933 outgo by 4.2 billion dollars or 10 per cent. Pay-rolls on projects financed by the PWA are estimated in the report at \$33,000,000 in 1933 and \$302,000,000 in 1934.

## Scope of Estimates

Income paid out is defined by Mr. Nathan "as the compensation paid to or received by individuals for their productive services, whether labor, management or the furnishing of capital."

The scope of the estimates he presents is "largely limited to those economic services which enter into the market place of our economy. This limited scope leads to the exclusion of services of housewives and other members of the family in the home, and services of durable goods owned and possessed for personal use, such as dwellings, furniture and automobiles."

Other payments not included are earnings from odd jobs, changes in the value of assets, direct relief, charity, and earnings from illegal pursuits.

Mr. Nathan includes work-relief wages in his total "on the presumption that the workers have performed an economic service, that the results are economically beneficial, and that wages are in accordance with the value of services rendered."

"It should be noted," he goes on, "that the relative increase in odd jobs during the

depression may result in an overstatement of the decline in income paid out. The probable expansion of services in the home, which were formerly purchased in the markets, results in a decrease in the estimates, whereas the yield of these services may have increased."

## Significant Feature

One of the most significant features of Mr. Nathan's report is the indication he sees of "a marked decline" in business losses in both 1933 and 1934, which, in 1932, were estimated at \$10,000,000,000. These were estimated at \$5,000,000,000 in 1933, and about \$2,500,000,000 in 1934.

"Since the national income produced is estimated by adding business earnings to, or deducting losses from, income paid out," writes Mr. Nathan, "the above evidence indicates an increase in the national income produced of approximately \$6,000,000,000 to \$7,000,000,000 from 1933 to 1934, bringing the income-produced total to a level about \$2,000,000,000 below the income paid out."

"Indexes of prices shed considerable light on the effect of price movements on fluctuations of the national income, but they are not sufficiently representative to warrant their use in deflating the income figures in order to determine the drop in real income," continued Mr. Nathan. "The substantially greater decline of income payments as compared with prices does, however, indicate a marked decline in real income during the depression."

"While income paid out declined 43 per cent. from 1929 to 1933, the Bureau of Labor statistics indexes of the cost of living and wholesale prices decreased 23 per cent. and 41 per cent., respectively. The net decline from 1929 to 1934 income paid out was 37 per cent., as compared with a decrease of 20 per cent. in the cost of living and 21 per cent. in the level of wholesale prices."

## Agricultural Income

Agricultural income was estimated at \$3,299,000,000 in 1934, an increase of about 10 per cent. from \$2,993,000,000 in 1933. These figures are much below those for other years, except 1932, and compare with an income of \$6,157,000,000 in 1929.

However, Mr. Nathan finds that "there is evidence of a much larger increase in the total income produced than in the income paid out in this industry in 1934. The marked improvement in the price of agricultural commodities, and the disbursement of over one-half a billion dollars in rental and benefit-payments by the Agricultural Adjustment Administration, which are included in these estimates as an item in the gross scheme of farmers, led to a substantial gain in the net income available for the return on the farm operators' labor, management and capital."

## National Income, Paid Out From 1929 to 1934

The following table, prepared by Robert R. Nathan, Chief of the Bureau of Economic Research of the Department of Commerce, appeared in the *New York Times*. It shows the national income paid out, by types of payment.

Type of Payment	(In millions of dollars)					
	1929	1930	1931	1932	1933	1934
Total income paid out.....	\$78,576	\$72,973	\$61,433	\$47,964	\$44,431	\$49,440
Labor income.....	51,088	46,844	39,444	30,643	29,121	33,109
Salaries (selected industries)						
(a).....	5,664	5,551	4,606	3,387	2,997	3,196
Wages (selected industries)						
(a).....	17,197	14,251	10,608	7,017	7,189	8,944
Salaries and wages (all other industries).....	27,291	26,052	23,148	19,141	17,325	18,675
Work relief wages (b).....					637	1,394
Other labor income.....	936	990	1,082	1,098	973	900
Property income (c).....	11,632	11,719	10,076	8,189	6,995	7,143
Dividends.....	5,963	5,794	4,312	2,749	2,042	2,307
Interest.....	5,104	5,310	5,228	5,048	4,569	4,509
Net rents and royalties....	3,432	2,763	1,847	1,153	950	1,085
Entrepreneurial withdrawals	12,424	11,647	10,066	7,979	7,365	8,103

(a) Includes mining, manufacturing, construction, steam railroads, Pullman, railway express and water transportation.

(b) Includes pay-rolls and maintenance of Civilian Conservation Corps enrollees and pay-rolls of Civil Works Administration and Federal Emergency Relief Administration work projects plus administrative pay-rolls outside of Washington.

(c) Includes net balance of international flow of property incomes.



*Roger Babson, another comebacker*

# “Getting Well Is a Business!”

*Says Roger W. Babson . . . and he made a business while getting well*

by BERNIECE PICKERING STUART

ANYONE with the right spirit can successfully fight tuberculosis,” declared Roger W. Babson who, in excellent health and spirits on the threshold of sixty, directs the financial advisory service bearing his name. “If you want to get well,” he added, “make it your business, and you will succeed.”

Babson should know. He not only

made it his business to get well, but made a business while getting well.

It was on July 6, 1875 that Roger first yodled long and lustily by way of showing the world that he was entering it with “the right spirit.” A few years later he stirred wonder in the minds of his school friends by scorning an active part in their baseball games and spending his vacations at work. Because

Roger was the son of a successful Gloucester, Massachusetts, merchant, the boys wondered even more at his self-imposed labor. Years later, Babson told Mary B. Mullett:

“Thanks to my father, I early learned to enjoy business. Even when I was only a boy, he used to talk to me about his store. It is a great pity that more fathers do not interest their boys in

are receiving far more careful supervision than ever before.

This is the background for the preventorium program developed in the school. For more than a year the emphasis in this school, as in all schools in Hawaii, has been on gain in weight rather than upon variation from a so-called normal. Prompt remedial measures were brought to bear upon these children. Cod liver oil was furnished by the Bureau of Public Health Nursing of the Territorial Board of Health, although at present this activity is being sponsored by the local tuberculosis committee.

Play periods were most carefully supervised by the teacher. Rest became one of the major activities of the day. The normal school day was lengthened in order to insure that each child receive the maximum amount of rest.

Supervision was also given to the children's diet. A nourishing hot lunch was served to all children daily. The food and milk were furnished regularly without cost by the Puuwaawaa Ranch, employer of the majority of the children's parents. The duties of dietitian and chef were performed by the teacher.

That these added duties were considered well worth the teacher's effort is shown by the fact that the school is continuing on the program. Complete physical examinations of each child, made by the physician in October 1934, lent support to the value of the program. One year after the initiation of the program all but two of the children were considered normal. Six children, however, were chosen for special observation because of the general background of the family.

Although weight by itself may be of little value as an indication of health, substantial gains should indicate some closer approximation to normal, and probably support the belief that many of the children have developed a greater capacity for resistance. During the one year the average gain in weight for the boys was 10.9 pounds, and for the girls 9.5 pounds.

Of greater interest are the gains made by some of the children whose families have contributed heavily to Puuanahulu's tuberculosis mortality. Take the case of Sam. He it was who lost a brother in December 1932, a sister in September 1933, another sister in October 1933, and another brother in November 1933. The teacher, the nurse and the physician were going to do

their part to help Sam avoid the same fate. And Sam helped mightily. In one year this fourteen year old boy gained nineteen pounds.

Thirteen year old Julian, who lost a brother in 1929, gained 20 pounds in one year.

Mary and Caroline, sisters of 15 and 13 years of age, had lost a mother and a sister in 1932, and their father, too, and many other relatives. They gained 15 and 17 pounds.

In the space of one short year this little isolated community of Puuanahulu, where the tuberculosis mortality has been enormous, has shown that much good can be done. The education is spreading into the homes. Puuanahulu is doing what modern science has shown can be done in preventing tuberculosis. What is more, from behind Puuwaawaa and Puuanahulu has come a demand for X-ray facilities for the entire Kona district; a district 75 miles long, stretching from the seacoast many miles to the top of a 14,000 foot mountain. From their experience an entire district will profit.

The outlook for the future in Puuanahulu is not as drab as it has been. No longer is this community resigned to the grief that has been theirs. Puuanahulu can be translated from the Hawaiian, but in plain every-day English in 1935 Puuanahulu stands for progress against an ancient foe.

And what is being done to bring

health to the children of this little town is typical of the enthusiastic help people throughout Hawaii are giving to the control of tuberculosis.

In spite of the fact that 1934 was a hard year for the sugar industry in Hawaii many of the great sugar plantations have generously financed a program of tuberculin testing and X-raying of school children. They believe it is a good investment for their respective communities.

The Waialua Agricultural Company on the island of Oahu provided a truck and driver to take all the children into Honolulu (32 miles) and gave the services of its plantation physician.

This doctor not only administers medical service to 2500 employees and their families, caring for anything from injuries to childbirth, but also has to run his own hospital. In addition he is the practicing physician for the non-plantation population in a community ten or fifteen miles long by five miles wide. To him, too, falls the task of registering all births and deaths for the district. At the time the sugar mill was in the midst of the grinding season, and minor injuries were more frequent than at other times. Since the new P.P.D. tuberculin was being used in the city, he wanted to use it too. And he, with the public health nurse, would follow up all contacts and finish the task.

*(Continued on page 196)*



*A laborer's home on one of the forty sugar plantations in Hawaii. For the children the management provides tuberculin tests and X-ray examinations*

business by discussing it with them. . . . Many of the things which I now recognize as fundamental business principles I can go back and find expressed by my father in those early talks.\*

So that his boy might take practical advantage of his advice, Mr. Babson gave him a horse and wagon. "With this gift," Babson now recalls, "I started my first business venture. After I loaded the wagon with vegetables from my father's store, I drove over a daily route to sell them to our town's housewives. I loved it. Show me the boy, even in this day of machines, who doesn't like to drive a horse! To me, it wasn't work; it was adventure and great fun. And, at the end of the season I pocketed my modest profits and felt like—well, today, the term is 'Big Shot,' I think."

When he was twenty-three years old, Babson received his degree of Bachelor of Science from the Massachusetts Institute of Technology. His studies in civil engineering quickly brought him a position with a Boston bank which held the securities of a number of traction companies. Babson's job of examining the companies' properties took him West. In St. Paul he met Grace Margaret Knight whom he married in the dawn of the twentieth century—and without whose devotion during the anxious years that followed, he could not have survived.

In the autumn of 1902, Babson contracted a cold. It sent him to bed in the little cottage at Wellesley Hills where he and his bride had spent two short years of uninterrupted happiness. In time, the vicious tenacity of what he was repeatedly told was "just a cold that has settled on the lungs," aroused his suspicions. By February he had stood enough. All during the long, freezing winter he had asked for the truth—now he demanded it.

"You want me to fight for my health," he argued; "but how am I to fight an opponent I am not permitted to face?"

So, they told him, his wife and his doctor, as gently as they could. What they had to tell him was not that he was threatened with tuberculosis, but that he already had an advanced case of bilateral Tb.; that he must spend months, maybe years, at rest in the open air, and that even then they could not guarantee that he would win his fight. While they talked, they watched in

dread for the invalid's face to reveal the utter despair they feared the truth must strike in his heart. Instead, vast relief and renewed spirit enlivened the thin face and the man who had begged to fight his enemy on fair ground answered:

"All right, now that I know what is the matter with me, I can go to work and cure it!"

The first thing the Babsons did was to go West. But the West didn't work a miracle of recovery; it added another problem. He found that open air work meant exercise. Exercise meant death. He realized that his job and his friends were left in the East and that he needed both—desperately. He was told that to return to the East meant death, too; but he decided he would rather face zero weather than the wolf at his door. He and his wife could return to the little cottage at Wellesley Hills where their lease was still good for two more years. And so, Mrs. Babson packed again. They were going—*home*.

Meanwhile, new tenants were about to move into the cottage. When the Babsons suddenly appeared demanding an explanation, the landlord wasn't prepared with a tactful answer. "Why, I understood you were as good as dead," he blurted. "I never expected to see you again. At any rate, they said you could never return to this climate."

But, the Babsons had returned, and back in the little cottage, they renewed their grim fight against death.

"I spent almost all of my time in bed," Babson tells me. "We kept the bedroom windows open summer and winter—even when the thermometer dropped below zero. When my wife came in and read to me each afternoon she wrapped herself in blankets. I took no special treatment, but my wife fed me milk and eggs every few hours. If I may say so, without being misunderstood, my recovery was due largely to the great help of faith in God and the aid of a good wife."

But while he was holding his own against tuberculosis, the sick man was losing ground in his fight for a livelihood. Ready-made jobs for the tuberculous were not to be had in the East any more than in the West. His former job had required the detailed analyzing and tabulating of monthly bank reports. These Babson still read. Statistics intrigued and challenged his active mind, and one day that challenge was answered. Babson wrote to a group of bankers and told them they had been

wasting money by hiring a separate statistician for each bank. Such duplication was unnecessary. One man, demanding only one salary, instead of eight, could do the work for all. Babson proposed that he be that man. Furthermore, he told them that he could do the work in his bedroom as well as in an office. It was a revolutionary idea, but it sounded logical to the bankers. Eight of them promised to let Babson try it at a salary of \$12.50 a month.

With an adequate monthly income to check the money-worry, Babson's health began to improve more rapidly. As his strength increased, so did his vision of a greater business service. Today, that \$100 a month business of "collecting and selling" business statistics represents over a million dollars in investments. The cottage bedroom "office" has given way to a modern structure of several stories with branch offices in many cities.

Meteoric as the growth of the business looks in retrospect, it had its growing pains. Babson could at first afford only two assistants: one, an inexperienced girl stenographer who, huddled in blankets, worked in the cold sick-room for six dollars a week; the other, a high school boy hired by the afternoon. As the soundness of his idea proved itself, a neighboring house was rented and turned into offices. Soon the move to a Wellesley Hills business block was necessitated and here Babson elaborated his original idea. Financial reports at that time failed to include thousands of bond issues. Consequently, the same bonds were being sold at all kinds of prices. Babson announced that he would list those bonds. Men laughed loudly at him; but they stopped when a four-story building was erected to take care of increased business. In 1919, Mrs. Babson "turned the first sod preparatory to the erection of another and larger building." The city men who had laughed were now depending upon those charts made by a quiet villager who knew better than they how to keep a finger on the world's business pulse. The six-dollar-a-week stenographer had become Babson's private secretary with a salary running into five figures a year. The wolf fled to the woods.

Tuberculosis, however, still stalked. Babson remained vigilant. His own office, far less comfortable than those of his employees, was a one-room frame structure elevated on short brick columns. Windows were kept open on

\*"As Good as Dead"—American Magazine, February 1920.

three sides. The blanket bundling was improved upon by a heavy woolen garment resembling a sleeping bag with an attached hood. Babson's garment had an electric heating pad in the back. The secretary wore thick mittens and struck her typewriter keys with rubber hammers.

"You would not dream, if you saw him," wrote Mary B. Mullett in 1920, "that he had been forced to fight his way to health. He is clear skinned, clear eyed, strong voiced; the very embodiment of energy, physical and mental.

"Seventeen years of open-air living have given him a perfect passion for the great outdoors. He has bought sixty acres of land at Wellesley Hills and built a house whose windows open into a stretch of fresh air that reaches to Mount Wachusett, forty miles away. Most of his time is spent working on this place, cleaning underbrush, packing apples, cultivating his garden.

"The upper porch, where he sleeps winter and summer, was built to his special order. He found that when beds are in the open all through a winter day they afford a chilly welcome at night. So he had one end of the porch enclosed to form what he calls a heated garage. The beds stay in this warm haven during the day. At night the folding doors are opened, the beds rolled out, and they are warm and comfortable, no matter if the mercury has gone down to the sub-basement of the thermometer."\*

During the war, Babson served the government in connection with the Department of Labor. When he returned to Wellesley Hills, he took with him an idea inspired by the government assign-

\* Ibid.

ment. It resulted in "The Babson Institute," for the training of business executives.

In addition to originating and building up a world-famous organization, Babson has averaged the writing of almost a book a year on business, religion or social welfare; he has met the increasing demand for his appearance on the lecture platform; he has served a long list of boards and committees and in 1927 received a degree of LL.D. from the University of Florida. Yet, on looking back upon his crowded career, Babson writes in his book, *Storing Up Triple Reserves*: "If I were to live my life over again, I would even decline directorships of banks and corporations outside of my own. We are tempted by these honors and succumb, but they all detract from the fullest attention to business and thus reduce our efficiency. . . .

"When it comes to a pinch in the struggle between competitors who are fairly well matched, financially and mentally, the man with the greatest store of physical reserve to draw upon is often the one who wins."

Thirty-two years after being pronounced "as good as dead," Babson reviews the seventeen long years during which he fought his stalking foe. His faith in what can be accomplished by the tuberculous sick is neither empty optimism, nor untested theory. He recently expressed this faith to me:

"I am glad to give my testimony to the fact that anyone with the right spirit can successfully fight tuberculosis. You can hold out the greatest hope to all who are suffering from it. These people, however, must do their part. You cannot do it all. You can simply show what to do, and it rests with

them, whether they will store up the physical, spiritual and mental reserves to make the grade.

"Today, I am enjoying good health and carrying a heavy business load, but keep well by a sensible diet, drinking lots of water, walking to and from my office, going to bed early, and sleeping with the windows open. In addition, I go home and take a nap every day after lunch, followed by a quiet period of Bible reading."

Business statistics and the Bible are not usually coupled. Yet, Mr. Babson says he first became seriously interested in the Bible through his study of statistics. He has never permitted his business to absorb him completely. He has always maintained a keen and active interest in religious and health problems. I have yet to see a book or an article written by him that does not have some reference to both health and religion. He sometimes apologizes for what he fears others will term "preaching." He doesn't need to, for he believes and lives what he "preaches." He writes because of his desire to serve. "True success comes only through service," he has written. And because there is no better writing than sincere writing, librarians say his books are in constant demand.

The idea of storing up physical reserves interested me particularly. While the idea itself isn't a new one, comments on it will have greater significance to JOURNAL readers being made by a man who has fought their own fight. In answer to my questioning Babson replied:

"Basically, we must obey the fundamental laws of action and reaction. We must consider that there will be a defi-  
(Concluded on page 199)

## Memory of Spring

by MARY TERESA BARTO

SPRINGTIME made a lovely sight  
All blue and gold and pink and white!  
There were crocuses in blue bedight,  
Elizabethan aconite  
In yellow gowns of courtly sheen,

With ruffs of green!  
Oh, the woodland paths had mossy-pillows,  
And teachers' desks had pussy-willows,  
'Til catkins shrieking gray and brown  
Dying took the Springtime's crown!

# Getting Well a Business

(Concluded from page 184)

nite reaction to our every act. We spend a tremendous amount of time and money attempting to cure tuberculosis when a fraction of that same amount of time and money would suffice to prevent the disease and the heartbreaking relapses that far too frequently follow our 'cures.' Every year I have my doctor go over me thoroughly and have been very successful in preventing avoidable relapses."

In his book, *Storing Up Triple Reserves*, Babson wrote:

"An individual can get along without being sick if he will govern himself in accordance with the basic laws of health. . . .

"Physicians now recognize Newton's law of action and reaction in its relation to sleep, breathing, eating, exercise. . . . For instance, every man has a certain normal line of sleep; that is, he requires a certain amount of sleep, which varies with different individuals at different ages, but which for a given individual at a given age, is a constant factor. As a man departs from this normal line of required sleep in one direction he must compensate by varying a corresponding amount the other side of the line. Whenever a man performs an abnormal amount of labor, causing him to lose sleep, it then becomes necessary for him to rest and make up a corresponding amount. If he attempts to ignore the law of action and reaction and continues his excesses, he becomes ill, and is forced to go to bed and make up his required amount of rest. This law

culous physicians.

**Uniform Fee, \$100.00**

*includes tuition for the Supplementary Course*  
**Scholarships Available**

**Research Fellowships of the Trudeau Foundation**  
**Support Qualified Tuberculous Physicians**

**For New Booklet address Secretary, Trudeau School,**

**Saranac Lake, N. Y.**

of action and reaction applies in the same way to man's breathing, eating and exercising."

"But sleep alone is not sufficient," Babson has replied to me. "Sleep must have quality. If you cannot avail yourself of an open-air bedroom, try to have your own room and *keep your windows wide open*. If you must spend many hours a day indoors, see that the rooms are well ventilated and make it a point to take your recreation out of doors. Avoid crowds and especially people who have coughs and colds. Furthermore, when you yourself have a cold, have the decency to stay away from others and use every precaution to keep from spreading it. And don't forget," Babson added, "that worry is the primary sin and cheerfulness the best cure for all ills."

Babson is deeply interested in public welfare. He gives freely, not only of his advice, but of his time and money, to stimulate disease prevention. His own office buildings are models of cleanliness, light and fresh air. His employees regularly receive printed, timely advice on health care. Babson served on the 1933 Christmas Seal Sponsoring Committee of the National Tuberculosis Association.



# 'PITMAN' HEALTH FOODS

Have stood the test of over forty-five years for

## **PURITY, PALATABILITY, AND PRICE**

They emerged from the last war more popular than before.

This war, while seriously curtailing their wide range and abundance, still finds them an indispensable factor in the

### **VEGETARIAN AND FOOD REFORMER'S DIET.**

We thank all our regular clients for their past and present favours and assure them of our closest attention to their reasonable requirements.

To newcomers wishing to enjoy 'Pitman' products, we tender an apology for any disappointments they may suffer through unavoidable limitations of supplies.

THE FACTORY IN A GARDEN  
**VITALAND, FOUR OAKS**  
PITMAN HEALTH FOODS Ltd.

# **"Vegetarianism for Beginners"**

## **Food Reform for Slender Purses**

BY MAUD BAINES

Co-Author of "Complete Guide to Attractive Food Reform."

**110 Recipes.            24 Salad Combinations**

WHY FLESH MEAT IS NOT DESIRABLE,  
SIMPLE RULES FOR HEALTH,  
A SALAD A DAY,  
HOW TO COOK VEGETABLES CONSERVATIVELY.  
ETC., ETC.

**SIXTH EDITION**

Over 80,000 copies already sold.

- "It will sell, not in hundreds, but in hundreds of thousands."—E. J. S. in *Healthy Life*.  
"One of the most constructive and informative books that has yet been written on the subject."—*Health for All*.  
"Will be found of the greatest value to housewives who are learning the principles and practice of vegetarian cookery."—*Good Health*.

**PRICE 6d.    POST FREE 7d.**

**THE VEGETARIAN SOCIETY, BANK SQUARE, WILMSLOW, MANCHESTER.**

*When communicating with Advertisers kindly mention the "Vegetarian Messenger"*

**HEALTH HYDROS, LIMITED**

**THE NATURE CURE HOME & HEALTH HYDRO  
INVERESK (6 Miles from Edinburgh) SCOTLAND**

Scientific  
Fasting  
  
Dietetics  
  
Colonic  
Irrigation  
  
Bergonic  
Therapy  
  
Baths of every  
description  
  
Open Air  
Chalets



Alpine Sun  
Rays  
  
Homœopathy  
  
Inhalation  
Therapy  
  
Electrical  
Massage  
  
Radiant Light  
and Heat  
  
Sun Bathing  
Enclosure

**FULLY QUALIFIED PHYSICIAN IN ATTENDANCE**

*Illustrated Brochure No. 10 from THE MANAGERESS:—*

THE NATURE CURE HOME AND HEALTH HYDRO, INVERESK HOUSE, INVERESK, MIDLOTHIAN



**Y**EASTREL is a highly concentrated extract of finest British yeast. This yeast extract has been scientifically debittered—which means no necessity to add either flavouring or vegetable matter. Yeastrel being the purest form of extract of yeast available, is therefore one of the richest sources of Vitamin B.

You can invigorate nerves and digestion by vitalising sandwiches, soups, and stews, etc., with Yeastrel. The flavour is most appetising. It is sold in glass jars at all Health Food Stores. If supplies prove "short," please remember that Yeastrel is called up to "Vitaminise" Emergency Foods. •

**YEASTREL**  
THE *Savory* VITALISER

"FIX UPON THAT COURSE OF LIFE WHICH IS BEST:  
CUSTOM WILL RENDER IT MOST DELIGHTFUL."

---

---

# THE VEGETARIAN MESSENGER and Health Review

Official Organ of THE VEGETARIAN SOCIETY (Established 1847)  
Bank Square, Wilmslow, Manchester. Supported by voluntary  
contributions of those who sympathize with its aims

---

---

VEGETARIANISM (V.E.M.)—That is, the practice of living on the  
products of the VEGETABLE kingdom, with or without the addition  
of EGGS and of MILK and its products (butter and cheese), to the  
exclusion of fish, flesh and fowl.

---

---

VOL. 41. No. 1 (8th Series). 96th Year. JANUARY, 1944

---

---

**Qualifying Period for Rationing Concessions.** The Ministry of Food inform us that instructions have now been sent to local Food Offices that the condition that the Ration Book must contain unused meat and bacon coupons for a period of three months will no longer apply. In future, the special cheese ration and the vegetarian margarine ration will be granted to vegetarian "converts" on production of a signed declaration of vegetarian principles—Form R.G.6, obtainable from any Food Office. This declaration will have to be countersigned by the Secretary of The Vegetarian Society, the London Vegetarian Society, or the Scottish Vegetarian Society, or by "some responsible person" named on the form.

The two national societies, over a considerable time, joined in appeals that the qualifying period should be at least reduced, and it was gratifying that, prior to leaving the Ministry of Food, Lord Woolton said: "I recognize that to ask vegetarian converts to surrender thirteen unused meat and bacon coupons may cause hardship and I am arranging for the condition to be withdrawn."

**The Use of Dairy Produce.** Recent correspondence on the subject of the use or non-use of dairy produce has aroused considerable interest among members of The Vegetarian Society, and in subsequent issues we propose to print further contributions on this

very important aspect of vegetarianism. So far, the ethical side of the question of using dairy produce has not been seriously disputed—it has been freely admitted that the supply of the products of the dairy is more or less linked up with the supply of flesh-meat, and the issue has been reduced to one of expediency versus ethics.

Many vegetarians contend that by abstaining from, and advocating the disuse of flesh, fish and fowl (whilst still partaking of the dairy produce) they are, nevertheless, striking at the very foundations of an undesirable industry, and that with a diminution of demand for flesh products there will automatically be a reduction in the supply of what, until comparatively recently, were regarded as by-products of the industry. The great stress which has, of late, been laid on an increased consumption of milk has brought the dairy herds into more prominence—their numbers have increased and, at the present time, at any rate, instead of surplus milk being sold to manufacturers (for making buttons, combs, etc.) at about 1d. per gallon, practically all the output is absorbed in domestic consumption.

Other vegetarians, impelled by a strong desire to discard all animal products, feel that, despite the undoubtedly great social difficulties entailed, they must aim at a diet completely independent of the animal, on the grounds of ethics, logic, and health.

Many more vegetarians would no doubt be willing to discontinue using dairy produce if they could obtain, for example, adequate supplies of a vegetable milk. This can be produced on a commercial scale from the soya bean and from nuts, but the extent of the demand determines whether this and other vegetable products shall be manufactured or not. For this practical reason alone it is of the utmost importance that all vegetarians should link themselves up with one or other of the vegetarian societies. The rationing concessions granted to vegetarians at the present time would hardly have materialized had there not been an organized movement from which representations to the Ministry of Food were made possible.

**Truth in Advertizing.** Despite numerous prosecutions arising out of misleading and inaccurate descriptions of articles of food exposed for sale, there are still some glaring instances, notably of stimulants, which people are led to believe are body-builders, which come within this category. The following press notice, issued by the Ministry of Food, is indicative of the seriousness of a state of affairs which appears to be fairly widespread :—

The Ministry of Food wishes to direct the attention of all food manufacturers to Regulation 1 of the Defence (Sale of Foods) Regulations, 1943, under which it will become an offence, after January 1st, 1944, to publish or to be a party to the publication of an advertisement which falsely describes any food or is otherwise calculated to mislead as to its nature, substance or quality, or, in particular, as to its nutritional or dietary value.

The Ministry is anxious that the prohibition of advertisements misleading as to the nutritional and dietary claims should be fully appreciated, and it looks with confidence for the co-operation of food manufacturers and advertisers in securing that the purpose of the Regulations is achieved. The Ministry, therefore, invites all advertisers, between now and the close of the year, to scrutinize most carefully their advertisements for foods, so that any current statements which might infringe the Defence (Sale of Food) Regulations may be deleted or amended.

**Food Distribution Costs.** Few people realize the large proportion of the cost of foodstuffs which is accounted for by distributive expenses. When the Linlithgow Committee investigated the methods of fruit and vegetable distribution some years ago, it was obvious from their report that despite the perishable nature of many of these foodstuffs, far too many commission agents were exacting their toll from the consumer. Perishable commodities require quick removal from grower to consumer, and a limited number of links in the distributive chain (in a free market) was economical, but if the number of links exceeded the necessary minimum, the consumer suffered. Unfortunately there are no accurate comparative figures of food distribution costs for 1939 and the war years available. This information would have been very interesting. In reply to a question on this subject, Lord Woolton said, last year, that the estimated retail costs of foodstuffs for 1942 (excluding chocolate, sugar confectionery, alcoholic beverages and mineral waters) was approximately £1,350,000,000, and as the value at which they entered the chain of distribution was £900,000,000, the distributive costs would be in the region of £400,000,000.

**The London Vegetarian Society's New Secretary.** Our readers will be interested to know that Mr. Leslie Severs, the newly appointed secretary of the London Vegetarian Society, takes up his duties on the 1st of January. He has been a vegetarian for thirty years and he and his wife have been connected with The Theosophical Publishing House, London, since 1919. Mr. Severs became manager in 1926, when he established The Theosophical Bookshop and Publishing House, now at 68 Great Russell Street, London, W.C.1, and, in addition, he has frequently lectured on ethical and theosophical subjects. Mr. Severs spent five years in Canada and the United States, where he was in touch with the vegetarian and theosophical movements.

It will be no light task to follow Mr. Frank Wyatt in carrying on the work of the London Vegetarian Society, and Mr. Severs will be encouraged by the knowledge that he has the sincere good wishes of vegetarians throughout the country. The close co-operation of the secretaries of the two national societies has been of benefit to the societies and to the movement, and we look forward with confidence to a continued co-operation and equally good results.

## THE SKIN IN HEALTH AND DISEASE \*

By Dr. ANDREW GOLD.

**T**HE skin is the largest organ of the human body. It has been estimated that a person weighing 10 stones has a skin surface of something like 2,800 square inches, and a person weighing 14 stones has a skin surface around 4,000 square inches. If the skin of such a person were gathered into a solid mass, it would measure 16 cubic inches.

It is a popular fallacy that we have seven skins. From the anatomical point of view the skin may be divided into two parts, the outer horny layer, called the epidermis, and the inner or true skin, called the dermis. The epidermis is composed of flattened, stratified cells, loosely held together and through which pass the sweat ducts and hair follicles. The dermis is very vascular, containing a veritable network of fine capillary blood vessels. These blood vessels have the ability to hold from one-half to two-thirds of the total blood of the body. A practical demonstration of this fact is found when a person faints during a very hot or prolonged bath—too much blood has been drawn from the interior of the body into the blood vessels in the dermis. There is also a network of nerves in the dermis, as well as two types of glands—the sebaceous and the sweat glands. If the epidermis is scratched or cut, there is neither pain nor bleeding, as there are neither blood vessels nor nerves in it. Should the cut or scratch cause pain or bleeding, we know that the dermis must have been reached.

It has been estimated that there are 650,000 sebaceous glands in the skin. They are usually associated with the hair follicles and secrete a natural oil, called sebum. It is the sebaceous glands which lubricate the skin and render it pliable, and they are present all over the body except on the palms of the hands and soles of the feet, and also the back of the distal phalanges of the fingers. The sweat glands are more numerous, there being between 2 and 3 million of them. In a square inch of skin on the palm of the hand there are something like 2,500 sweat glands, and if all the ducts of the sweat glands were joined together, they would form a tube about three miles long. The sweat is usually faintly acid, and contains sodium chloride and urea. On an ordinary day, without any visible perspiration, a healthy person will give off about two pounds of sweat, but in a state of ill health as much as about two gallons might be given off.

Having very briefly reviewed the anatomy of the skin, we will consider the properties of a normal skin. In a state of health the skin should be free from spots, stains, blemishes, pimples and scars. It should be so elastic that when it is pulled up from the body and let go it should quickly return to normal. On the other hand it

\* Based on a Lecture delivered before the Scottish Vegetarian Society, at Glasgow, on the 12th December, 1943.

must not be loose, and it should have few lines or wrinkles. In appearance it should be more or less glossy, and it should be velvety, warm and smooth to the touch, being neither rough nor moist nor too dry. It should perspire easily in a warm room or after exercise, and there should be no odour. It should respond quickly to heat and cold—in contact with cold it should produce a thrill. It should be sufficiently tough and resilient not to scratch or bruise easily. After injury the skin should heal up rapidly.

Any deviation from the above characteristics is abnormal. A harsh, dry, burning heat in the skin is indicative of fever or inflammation, or if the skin is too moist and sweating there may be general debility. The colour of the skin often gives a valuable clue. A pale skin indicates anaemia; lemon yellow, pernicious anaemia; while a definite yellow colour is a sign that all is not well with the liver or gall bladder. A bluish tint indicates usually a structural disease of the heart; and when the cheeks are red with surrounding pale parts, a disease of the lungs or an irritable condition of the nervous system may be expected. If the elasticity is diminished or lost there is almost certainly either a tubercular infection, general poor health, or old age behind it.

The skin is not simply a protective covering for the body. It is an organ of sensation as well as of respiration. It gives off only a very small amount of carbon dioxide as compared with the lungs— $1/200$ th—and it absorbs a corresponding quantity of oxygen, and yet it is most important that the skin should be free to breathe unhindered. Many years ago, at a ceremonial, a child was painted with gold, and very soon afterwards the child died. An experiment has been carried out in which a man was sealed airtight into a barrel, with only his head projecting out, but he soon showed signs of distress, and had to be liberated.

I have already mentioned about the sebaceous glands, making the skin soft and pliable. The secretion and excretion of water by the sweat glands is the mechanism through which the heat regulation is conducted. The sweat of course carries off dead cells, dust, debris, as well as acids and toxins. The sweat glands are very easily influenced by pain, joy or anxiety, and they play a great part in maintaining the water balance of the body. The skin is permeable, and has the power of absorption—as much as 10 ounces of olive oil may be absorbed in one day. It is proved that the skin can absorb chemicals, for if iodine be painted on it, very soon iodine may be detected in the urine or in the saliva.

What are the causes of an unhealthy skin? Children are sometimes born with a fine delicate skin which is liable to develop all manner of eruptions. Heredity is said to play a part, and certainly the hereditary influence can be seen in many cases of psoriasis, cancer and ichthyosis. Persons with a rheumatic tendency often develop skin eruptions, due to the fact that the acid condition of the blood

prevents the proper nutrition of the skin. Should there be an excess of albumen in the blood, this excess may be got rid of through the kidneys in the form of albuminuria, or through such skin eruptions as eczema or impetigo, the discharges of which are loaded with albumen. The mental and emotional states have a great influence upon the skin. Pallor, blushing or sweating may be brought on by nervousness; fright and terror can easily produce cold sweat (goose-skin), and cause the hair to stand on end. The face may become pale with anxiety, pink with shame, red with anger, or grey with worry. It is not surprising that there should be a definite correspondence between the condition of the skin and the state of the mind and nervous system. The daily occupation and the use of drugs internally or externally often play a part in producing abnormal conditions of the skin.

The skin should be naturally stimulated, and this can be done best by allowing it to come in contact with the natural elements, namely, the sun's rays, the air, the wind, rain, heat and cold, and Mother Earth. A defensive mechanism in the skin enables the body to contact these natural elements, so that the body can respond to the varying climatic conditions. On a hot day the blood vessels in the skin become dilated and engorged, the sweat glands become very active, and they extract the hot fluid from the blood and pour it on to the surface of the body. The loss of this hot fluid and its evaporation from the skin keeps the body at a normal temperature. On a cold day the small muscles in the skin contract, producing the so-called goose-skin and this causes the outer loosely held cells of the epidermis to contract also. The glands with their ducts and their pores are also at once affected and they stop secreting, and the blanching, which appears on first contacting cold, shows that the blood vessels also have become contracted and the whole skin becomes turgid. Messages sent from the skin to the respiratory centre in the brain cause the lungs to breathe more deeply and so there is an increased intake of oxygen. This leads up to a quickened and intensified action of the heart. The superficial blood vessels dilate, but the skin cells are now condensed and so prevent the loss of heat. The increased intake of oxygen has a beneficial influence on all the glands of the body—the digestion is improved and cell debris and body waste is burned up.

When the skin does not contact its natural stimuli there is a diminished intake of oxygen and a retention of carbon dioxide within the system. The skin functions fail, the circulation is slowed down and the glandular secretions are reduced—in one word: all the functions of the body tend to become passive instead of active.

How can this skin of ours be kept vitally active? It is so important to our whole well-being that the skin should be properly looked after. The clothing should be loose and free and not airtight, as otherwise the systemic poison will be re-absorbed into the



body and lead up to that very common condition—auto-intoxication. Plants and animals must have light and air, or they will wither, and human beings respond in the same way.

Hot baths may be cleansing and comforting, but hot water may prove to be enervating, and have a weakening effect on the system and so reduce the efficiency of the body. The application of cold water, however, is a powerful stimulus to the system and is vitalizing. In the case of an unconscious person or of a newly-born child which does not breathe, cold water applied to the skin will restore the person to consciousness or start the baby breathing. We must learn to prefer cold water to the hot, as it produces an increase in the life energy and wakens up the healing power of the body which may have been dormant because of some toxic condition. The whole body should be sponged down with cold water first thing in the morning, and the skin rubbed first of all with the bare hands and then with a coarse towel, so that it glows. This promotes the proper nutrition of the skin and induces a feeling of well-being which lasts throughout the whole day. If one feels chilly after the application of cold, then the time of exposure to the cold has been too long or the body has not been sufficiently rubbed, and so the proper reaction has not yet been produced.

In the past most people have neglected many of the elementary principles of healthy living. Skin hygiene is one of these, and if we aim at laying the foundation for a higher standard of physical fitness and vitality it must receive the attention which it rightly demands.

---

## WISDOM IN EATING

By DUGALD SEMPLE.

The more it is studied the more it is recognized that the food problem lies at the root of our health questions.

—Sir BRUCE PORTER, K.B.E., M.D.

**F**OOD reform is not, as some people imagine, a mere matter of leaving out all flesh food, and drinking say, as much tea and coffee as usual, not forgetting eating white bread, white sugar, boiled potatoes, etc. Nor does it mean becoming faddy about food and weighing carefully each quantity for a meal and following implicitly some expert's dietetic regimen. To become a food reformer means taking an intelligent interest in diet, and realizing that there is a very close connexion between food and health. It may be objected here that there are so many theories about diet that it seems almost impossible for the average person to know what to believe. True, but at the same time most dieticians are agreed about the main principles of food reform, much to the credit of the vegetarian movement which has been in existence for almost a century.

What we really know to-day about diet is that the body is composed of some twenty building stones or elements, such as sodium, iron, nitrogen, sulphur, silicon, etc., and that if there is a lack of any one of these something is bound to be wrong with the health of the body. A lack of iron will lead to anaemia, lack of lime to rickets, lack of sodium to acidosis, as in rheumatism, etc. Particulars of these elements and their uses will be found elsewhere.\*

### Foods to Choose.

Is it not extraordinary that whilst most people eat at least three meals per day, scarcely anyone has the slightest knowledge of diet? Some confess that they can eat almost everything set before them, and, like the pig, have become omnivorous in their habits. But even the pig in its wild state is very particular as to its food, and those animals which are diseased are chiefly those which man has domesticated. Now man is by nature a frugivorous or fruit-eating animal according to Darwin, Owen, Sir Arthur Keith, and others. He had at his command the most liberal choice of sweet nuts, juicy fruits, golden cereals and luscious vegetables, without having to dine off the dead and decomposing flesh of animals. Many of these delicious foods can be grown in our gardens and orchards, and to these we may add the various foods which come from abroad.

The war is forcing us to grow more foods at home, and it is a fact that as a nation with less meat and sugar we are much healthier. But the wise person chooses his food carefully, and soon discovers the cause of all this constipation, anaemia, rheumatism, asthma, swollen glands, and cancer which killed over 96,000 persons last year. He knows, too, that not all the aspirins, nerve tonics, liver pills, bromides, etc. will ever cure any disease. They may suppress the mere symptoms, which, lo and behold! are the warning sign-posts of disease.

### Natural Living.

We must eat for health and vitality, and get our medicine from dining largely upon sun-cooked fruits and vegetables. Get away from too much cooking and highly-flavoured foods, and you will not require to get vitamins out of bottles or worthless powders.

The worst foods are tea, white sugar, jam, jellies, custard powders, pickles, sloppy puddings, vinegar, sausages, bacon, fish pastes, and all kinds of refined starchy foods. Live rather on what fresh fruit you can get, dried fruits, salad vegetables, wholemeal bread, oatmeal, pot barley, baked potatoes in their skins, and with the addition of nuts, cheese, or lentils you will live both long and well. Drink about half an hour before each meal, and preferably nothing but pure soft water. Remember, too, that good health is the result of living an all-round healthy life, in conformity with the laws of our physical, mental, moral, and spiritual well-being.

---

\* See *Diet and Health*, by Dugald Semple.

## SEAWEED AND ITS USES.

**I**T is not unnatural to expect that seaweed, so abundant in every quarter of the globe, and so varied in its species, should have been used at different periods for many purposes. These uses have included foods, medicines, fertilizers, and numerous commercial products such as paper and packing materials and artificial silk.

### Food and Medicine.

Few people in the British Isles use seaweed now for food. It has never been popular in England, but in South Wales, Scotland and Ireland many varieties have been, and are still used, e.g., laver (*Porphyra laciniata*) and green laver or sea lettuce (*Ulva latissima*), dulse (*Rhodomenia*), tangle (*Alaria esculenta*) and carrageen or Irish Moss (*Chondrus crispus* or *Gigartina mamillosa*). Irish Moss is very widely distributed around the British Isles and has numerous varieties. The Japanese, as well as the coastal population of China, have long used seaweed for food. To a much smaller extent it is also used for this purpose in parts of north and north-western Europe. Complete analyses of seaweeds do not appear to be available but their nature would suggest high mineral values with an emphasis on their iodide contents.

Kelp is the ash left after drying and burning of the larger brown seaweeds such as those of the *Laminariaceæ*. Iodine which is obtained from this source varies in yield very considerably—from three to four lbs. per ton from weed of poor quality up to from ten to fifteen lbs. in better qualities.

Agar-agar was, up to the outbreak of the war, almost a monopoly of the Japanese, but California was also manufacturing this product.



LETTUCE LAVER (*Ulva lactuca*)

Its use, as a vegetable gelatine, and for medicinal purposes, was becoming very extensive. With the chief source of supply having been cut off, recent investigations have shown that many types of seaweed capable of producing agar are available around the coasts of Ceylon, North America, Russia and the British Isles as well as in South Africa and New Zealand. Agar has actually been obtained from some of these hitherto unexploited sources, including British seaweeds.

### In Agriculture.



TANGLE OR BADDERLOCKS (*Alaria esculenta*)

Seaweeds are used in agriculture both for feeding stuffs and as fertilizers. *Laminaria saccharina* has been widely used, with reasonable success, for the feeding of farm animals, including horses. When dried it shows about 52 per cent. carbohydrates, 17 per cent. nitrogen, 11 per cent. fibre, and nearly 4 per cent. mineral matter.

The manuring of soils with seaweed is a common practice in areas bordering the sea coasts. In some regions, such as the Channel Islands and parts of the southwest coast, it forms

the staple manure. *Fucus* and *laminaria* are the principal seaweeds collected for this purpose, and although their average composition is variable, in their wet condition they are as rich as farmyard manure, and the *fucus* is usually much richer. The weed is generally collected after a spell of heavy weather and stacked in heaps to dry and decompose. Where the soils are very heavy the fresh seaweed is frequently ploughed in at once. This is an excellent source of fertilizer which may well be used to a much greater extent by all who reside within reasonable "transport" distance of the seashore.

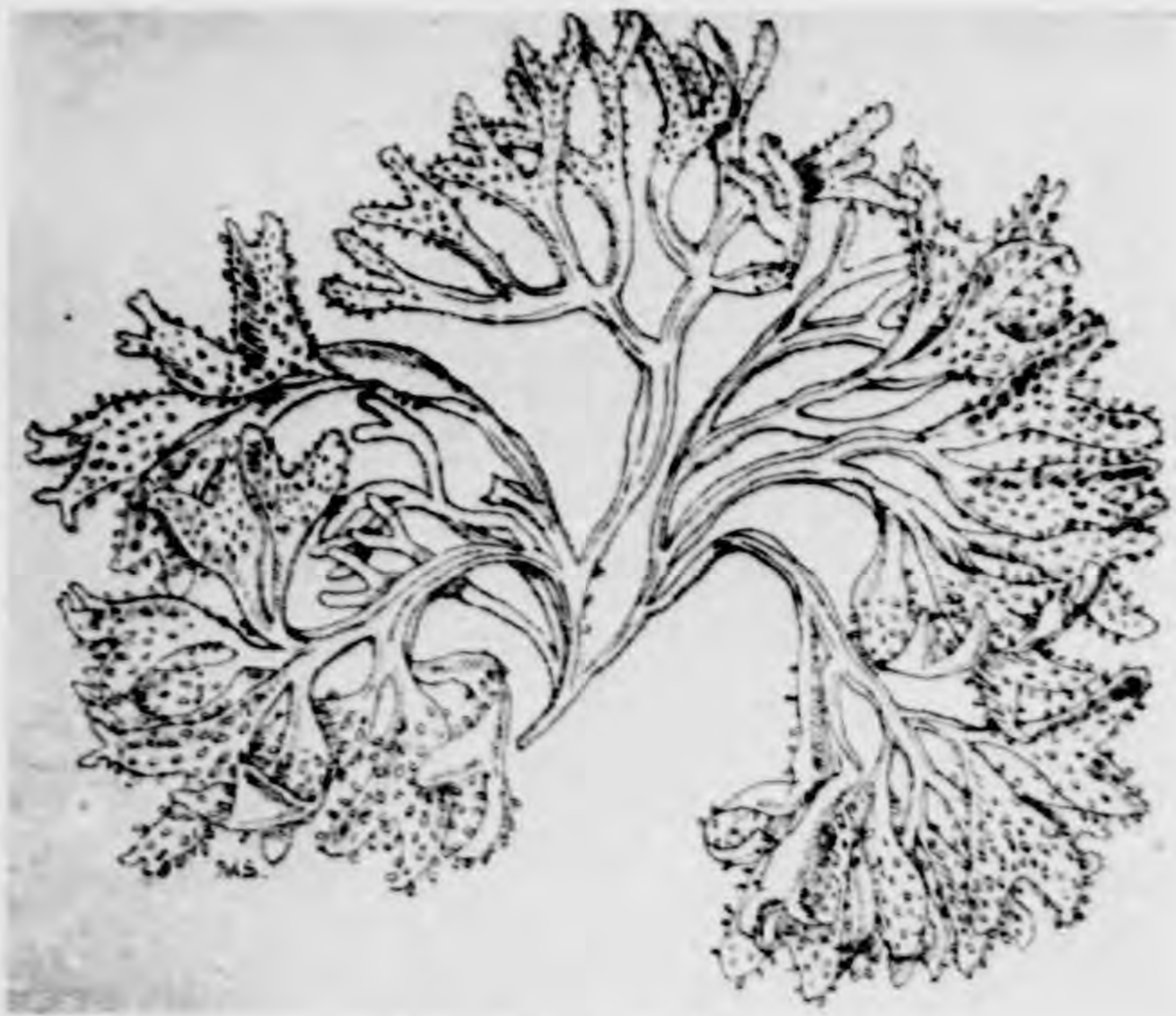
Analyses of Seaweed (compared with Farmyard Manure)  
for Manurial Purposes.

	Fucus	Laminaria	Farmyard Manure
Water	30.5	52.8	66.17
Nitrogen	1.56	.7	.54
Phosphoric Acid	.5	.43	.318
Potash	4.5	3.7	.673
Organic Matter	51.3	30.0	21.6

**General.**

On account of the extremely valuable chemical constituents of the exceptionally wide range of seaweeds (the British Museum *Handbook of Seaweeds* records about 750 British species) the possibilities of useful research for industrial purposes are almost inexhaustible.

At one time potash was made from seaweed but when the cheaper mineral deposits were discovered seaweed was no longer used for this purpose.



*Gigartina mamillosa.*

Algin and its derivatives, obtainable from the brown algae, are used in the manufacture of size for textiles, paper-making, and rope and twine manufacture. Rollers for typewriters have been made by treating algin with some such substance as carbon disulphide or carbon-tetrachloride so as to form a rubbery mass.

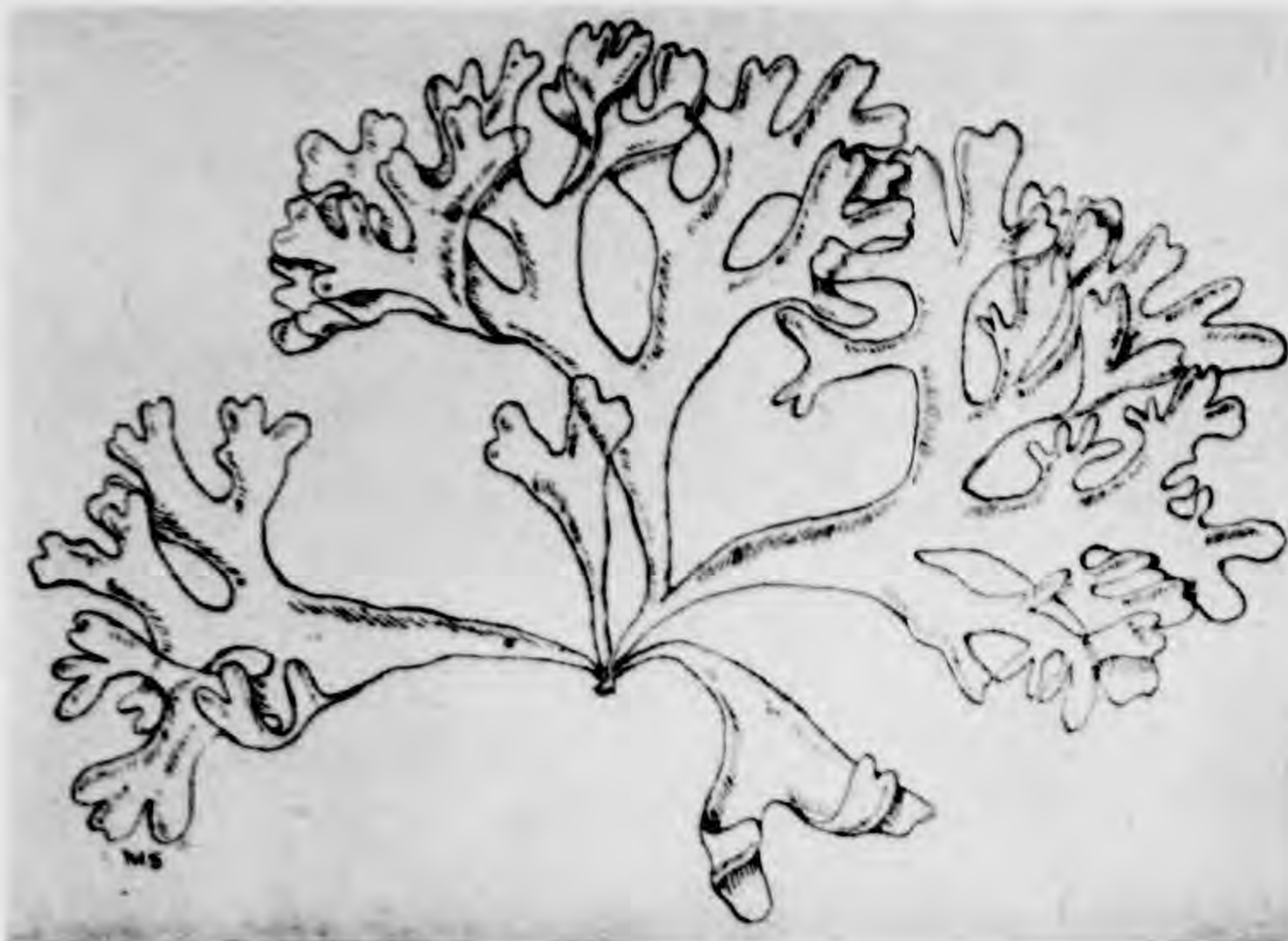
Considerable advances have been made during recent years in the production of a synthetic fibre in the nature of seaweed rayon. This has been found to resist fire and to be cheaper to produce than other types of rayon. Although at first the fibre could not resist the

action of soaps and soda, and therefore was not washable, this difficulty now appears to have been overcome, and the finished article is apparently capable of being used in a similar manner to that of other rayon products for dress materials, stockings, etc.

An artificial wool is believed to have been produced in Japan from gulfweed (*Sargassum*).

By means of a process of emulsification an alkaline solution of alginates may be used to produce transparent wrappings somewhat similar to cellophane, and which is almost non-inflammable.

Although seaweed is not used in the preparation of our present dried milk, a solution of alginates, if added to milk prior to its manufacture as a powder, will eliminate any sediment when water is added. This same quality is made use of in the manufacture of car polishes and creaming agents in order to get rid of an undesirable sediment.



*Chondrus crispus.* Medium form from fairly calm water.

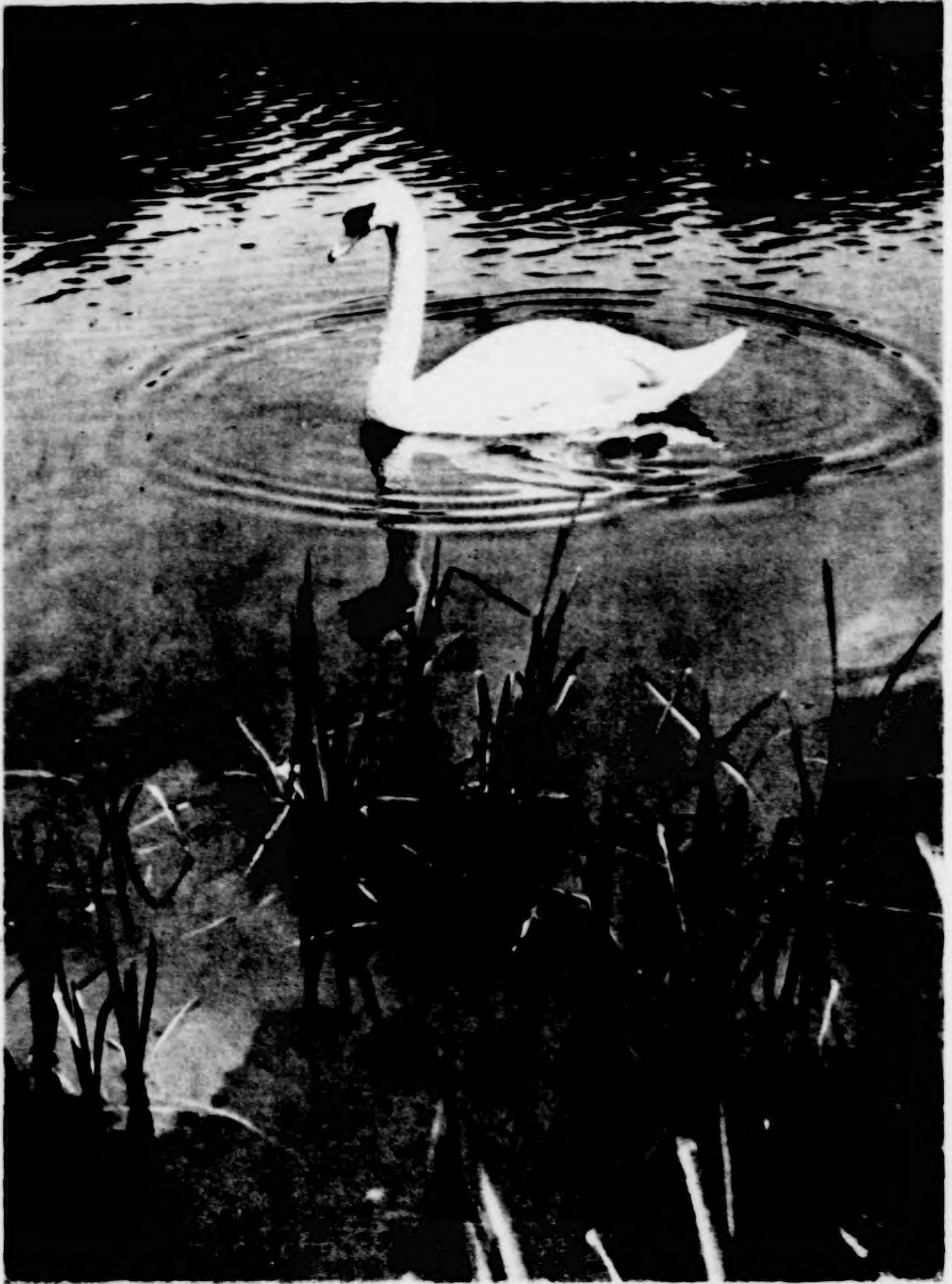
It will be seen from the above that the avenues of seaweed utilization are exceedingly wide. Manufacturers and other users, however, would do well to bear in mind the fact that supplies of seaweeds, though prolific in some areas, are not inexhaustible, and their exploitation, if carried out haphazardly, might easily lead to the complete extermination of certain species. In order to avoid such an occurrence, the researches of the botanist and the ecologist should be consulted so that the correct harvesting periods may be observed, and that the natural processes of propagation be interfered with as little as possible.



Photo by

Gathering Seaweed (chiefly *Fucus* and *Laminaria*) for use as Fertilizer—off St. Michael's Mount, Penzance.

H.H.L.



Like some full-breasted swan  
That, fleeing a wild carol ere her death,  
Ruffles her pure, cold plume, and takes the flood  
With swarthy webs.

— *The Passing of Arthur.*

TENNYSON.



## OATMEAL RECIPES

By CHRISTINA MATHIESON.

(Secretary, Scottish Vegetarian Society.)

Now that the winter is here, we ought to include more oatmeal in our diet, and, as everyone cannot take porridge, the following recipes will show how many different ways we can take oatmeal, which is an excellent food.

### Oatmeal Soup.

2 tablespoons fine oatmeal	1 leek.
1 grated raw potato.	1 oz. margarine or Nutter.
1 grated apple or stalk of rhubarb.	$\frac{1}{2}$ pint. of milk.
	Seasoning, as desired.

Melt fat, add ingredients and two pints of water, add milk when nearly ready. When about to serve sprinkle with chopped parsley.

### Cheese and Oatmeal Frizzles.

2 tablespoons oatmeal.	1 tablespoon flour.
2 tablespoons grated cheese.	1 tablespoon baking powder.
Little dried egg.	

Mix to a stiff batter with cold water, roll in flour, fry in smoking hot fat in small cakes until golden brown. They must be fried immediately they are prepared. These are very tasty for supper, with potatoes, or for quick lunch meal.

### Oatmeal Savoury.

2 cups oatmeal.	Grated onion or 2 teek tops.
Small carrot (grated).	Small piece turnip (grated).
Chopped parsley.	Large teaspoon Marmite or Yeastrel melted in hot water.

Mix all together and steam for two-and-a-half hours. This is delicious served with mashed turnip and potato. Left overs can be fried next day.

### Digestive Biscuits.

$1\frac{1}{2}$ teacups wheaten flour.	1 tablespoon flour.
1 tablespoon fine oatmeal.	2 dessertspoons sugar or syrup.
Pinch salt.	$\frac{1}{2}$ teaspoon baking soda.
1 teaspoon cream of tartar.	3 ozs. fat.
Little milk.	

Mix all dry ingredients and rub in fat. Mix to a stiff dough with very little milk, turn on to a floured board, knead well, and roll out thinly. Prick with fork, cut into rounds and bake in moderate oven from fifteen to twenty minutes or till crisp and lightly browned.

### Almond Cakes.

Melt 1 oz. margarine with 2 tablespoons oats and 1 dried egg (reconstituted), 1 teaspoon baking powder and almond essence to taste.

Make shortcrust pastry, line patty tins, put little raspberry jam in bottom, and put a teaspoonful of mixture in each tin and bake in a moderate oven.

The following does not contain oatmeal, but is a novel "after-dinner" sweet called

### Pinwheels.

8 ozs. flour.	1 tablespoon sugar or syrup.
1 tablespoon fat.	$\frac{1}{2}$ teacup raisins.
1 teaspoon spice.	1 teaspoon baking powder.
1 teacup milk.	Little salt.

Rub fat into flour, add ingredients and mix with milk, leaving out fruit and spice. Roll out as if for Roly-Poly. Mix fruit with spice and lay all over dough, roll up, seal edges, cut into eight pieces. Lay on tin, cut side up, sprinkle sugar on top and spot of margarine. Pour one teacup boiling water into tin and bake in fairly hot oven for about thirty minutes. Serve in deep dish surrounded with custard.

The roll can also be cut into smaller pieces, put into tin dry or baked into cakes for tea—a novel sweetmeat.

## VEGETARIAN PROPAGANDA THROUGHOUT THE COUNTRY

**T**HE Vegetarian Society has twenty-two affiliated societies whose activities are confined to a particular locality in England, Scotland, Wales and Northern Ireland. Three of the societies have each over two hundred members and associates and three other societies over one hundred. Each society aims at making vegetarians and endeavours so to gain their interest that they will eventually become active supporters of the movement. In days of peace the societies reach the general public by lectures, through the press, and by cookery demonstrations. Social assemblies, reading and discussion circles, and country rambles serve to keep together workers and to introduce new members. In reviewing the work of the societies over the past year there is evidence of increasing activity after a period of forced quietness. The reports received indicate, however, that war conditions continue to hamper their efforts, one of the strongest and most active of the societies deploring the fact that: "The war is making increasing demands on many of our officers, and it is becoming increasingly difficult to maintain active propaganda work."

The event of the year in connection with the affiliated societies was the Scottish Society's Jubilee Celebrations. Another highly interesting feature of the year's work was the issue by the societies at Croydon, Leeds and Leicester of "News Bulletins," which had a circulation far outside their own boundaries. The first "Ernest C. Clifford Memorial Lecture" was given by Dr. B. P. Allinson, under the auspices of the Croydon Society and the lecture, "The Diet of the Future," issued in pamphlet form. The Leeds Society was responsible for reprints of three leaflets by Mrs. Sadie G. Stave, of Brooklyn, New York, all of which have been in steady demand. The Leicester Society published the second edition of an eight-page pamphlet containing recipes for war-time, nearly 3,000 of which have been sold.

The Friends' Vegetarian Society recently formed a London Group, and it is encouraging to note that there are 22 vegetarians at Ackworth School, one of the large public schools run by the Society of Friends.

Resolutions have been passed by a number of societies in connection with the proposals in the Beveridge Report for a "comprehensive national health service," urging that each individual should have the right under the scheme to choose the kind of medical adviser and medical treatment he prefers.

It is a definite gain to a society to have a young people's section, and the activities of the Youth Group of the Liverpool Society are being watched with special interest. This society ran a successful propaganda campaign, renting a shop for three weeks and during that time taking over £5 for recipe books and general vegetarian literature, in addition to dealing with the inquiries of many visitors.

Not the least encouraging of the reports is the news that at least two societies that have been dormant are making an effort to begin anew with meetings during the present winter session.

There is much talk of special reconstruction work to follow the war. The aim of all vegetarian societies should be to intensify and widen their previous work, basing their appeals on the "good and sufficient" proved reasons for vegetarianism, stressing, above all, the humanitarian argument. The progress of the vegetarian movement depends not only upon the work of the national societies, but in no less degree upon that of their affiliated societies.

The following societies are affiliated to The Vegetarian Society—Brighton, Bristol, Cardiff, Coventry, Croydon, Edinburgh, Friends, Huddersfield, Leeds, Leicester, Liverpool, V.S. and A.C. (Manchester), Newport (Mon.), Northampton, Northern Ireland, Pontypool, Saltcoats, Scottish, Sidmouth, Stockton-on-Tees, Swansea, York.

## OBITUARY.

### Dr. John Harvey Kellogg.

**V**EGETARIANS throughout the world will regret to hear of the passing, last month, of Dr. John Harvey Kellogg, in his 92nd year.

Dr. Kellogg had been a vegetarian for nearly 80 years, and editor of *Good Health* for more than 70 years.

Few outstanding names in progressive medical science have been so widely known, and under Dr. Kellogg's able guidance the Battle Creek Sanitarium—probably the largest curative establishment in the world—has achieved a success which it is impossible to estimate.

Dr. Kellogg took two meals a day—at ten in the morning and a combined dinner-supper at five or six p.m. He placed much stress on colonic hygiene, contending that many of our physical and mental ills were due to a sluggish and putrefactive colon. Although he had been in active medical practice for over seventy years and had performed more than 22,000 major surgical operations, he placed the main emphasis on the maintenance of health rather than on the curing of disease. "Find Nature's way," he said, "and follow her."

Dr. Kellogg had paid several visits to Europe, and had spoken at meetings of The Vegetarian Society. In June, 1899, he was the guest of the Society at a reception in Manchester, and at the crowded meeting which followed gave an address on Temperance and Vegetarianism. Those who heard him on that occasion still remember the vigour of his address. One of The Vegetarian Society's delegation to America, in 1893, after a visit to Battle Creek, said of Dr. Kellogg, "that he was one of the most modest and agreeable of men, and combined superior, scientific, and general culture with high moral purpose."



Dr. JOHN HARVEY KELLOGG

**SHIPWAY.**—We regret to have to record the passing, on the 15th December, of Gertrude M. Shipway, of 6 Cockington Lane, Paignton, at the age of 70. Mrs. Shipway, along with her husband, was a keen vegetarian; she had travelled widely, and was interested in most progressive movements. Her many friends in the Manchester area will be sorry to hear of her decease. We extend to Mr. Shipway and the members of the family our sympathy in their bereavement.

WOOD.—It is with much regret that we learn, on going to press, of the death, on the 22nd December, of Mrs. Sarah Wood, of Monton, near Manchester. Mrs. Wood had been a vegetarian for a considerable number of years, and was a member of the Bible Christian (Vegetarian) Church, Salford. She attended many of the Summer Holiday Centres organized by The Vegetarian Society, and will be remembered by all who were present on those occasions.

## SPECIAL RATIONS FOR VEGETARIANS SERVING IN H.M. FORCES

The arrangements to meet the food requirements of vegetarians in His Majesty's Forces are appreciated by our members although the concessions differ in the three Services. The following replies have been received by the Secretary of The Vegetarian Society in response to requests for up-to-date information stating what vegetarians are entitled to and the method to follow to secure the foods supplied in lieu of meat and bacon :—

### THE ARMY.

The War Office,  
13th November, 1943.

- 1.—I am directed to refer to your letter of the 9th November, 1943, regarding the arrangements made for the subsistence of vegetarians serving in the Army, and to inform you that bona fide vegetarians who are fed in mess in the United Kingdom may receive the following substitutes for the meat and bacon included in the normal ration scale :—

Bread... ..	4 ozs.	} In lieu of the daily meat ration.
Margarine... ..	1 oz.	
Cheese ... ..	1 oz.	

Dried skimmed milk powder... 1 oz. In lieu of bacon.

The powder is reconstituted, and issued to the individual in the form of a beverage.

- 2.—Vegetarians not fed in mess and receiving a cash allowance in lieu of rations are provided with ration cards. Holders of such cards are afforded the same facilities to purchase substitutes for meat and bacon as the civilian population.
- 3.—Application to be treated as a vegetarian as in paragraphs 1 and 2 above should be made by the person concerned to the Officer commanding his unit.

(Director of Supplies and Transport.)

### THE ROYAL AIR FORCE.

Air Ministry,  
27th November, 1943.

I am directed to refer to your letter of the 9th November, 1943, and to inform you that the following is a summary of the arrangements covering the special requirements of vegetarians serving in the Royal Air Force in the United Kingdom :—

- 1.—**Vegetarians in Messes.** The undermentioned quantities of food-stuffs may be drawn daily for vegetarians in addition to the maximum quantities of those commodities normally permissible :—

Bread...	4 ozs.	} In lieu of the daily meat ration.
Margarine...	1 oz.	
Cheese ...	1 oz.	

Alternative non-rationed commodities are provided by the Messes as a substitute for bacon when the latter is issued to the Mess generally.

2.—**Vegetarians not fed in Mess.** These are provided with ration cards which afford the same facilities for the purchase of substitutes for meat and bacon as those given to civilians.

Applications by personnel to be treated as vegetarians are required to be made in writing to the Officer commanding the individual's unit, and such applications should include a certificate to the effect that the applicant is a true vegetarian and as such has abstained from the flesh of all animals for not less than three months, and will not eat any such flesh as long as he or she is certified as being a vegetarian.

(Director General of Equipment.)

## THE ROYAL NAVY.

Admiralty,

15th December, 1943.

With reference to your letter of the 23rd ultimo on the subject of the dietary of vegetarians in the Services, I beg to inform you that men of the Fleet are not given fixed rations of particular articles of food, but are either provided with suitable meals under arrangements made by the Accountant Officer of the Ship or Establishment in which they are serving, or are paid a money allowance out of which they provide themselves with food. The latter arrangement is generally confined to small vessels. No representations have been received of vegetarians in the Fleet having any difficulty in obtaining a satisfactory dietary under these arrangements.

(Director of Victualling.)

## ALLOWANCES FOR EXPECTANT MOTHERS.

Ministry of Food (Rationing Division),

9th December, 1943.

Expectant mothers who are in receipt of the special cheese and vegetarian margarine rations are entitled to receive a Child's Ration Book, R.B.2, entitling them to the following extra allowances on production of a doctor's certificate at the local Food Office. These extra allowances are in addition to the ordinary vegetarian rations which are already available on Ration Book R.B.1.

**CHEESE**—One special ration (in addition to the special cheese ration available on R.B.1).

**MILK**.—Seven pints of milk a week on R.B.2 (in addition to the ordinary domestic consumer's allowance available on R.B.1).

**EGGS**.—One shell egg per allowance on R.B.2 (in addition to one on R.B.1, making a total of two shell eggs per allocation).

**DRIED EGG**.—Two packets of dried egg per allocation on R.B.2, and one on R.B. 1, making a total of three packets of dried egg at each allocation.

**ORANGE JUICE**.—Supplies of concentrated orange juice are available on the Ration Book R. B.2.

Expectant mothers do not receive extra rations of fats on the Ration Book R.B.2. They are only entitled to the ordinary domestic consumer's weekly rations of butter, margarine and cooking fat. The vegetarian expectant mother will, therefore, only receive 2 ozs. butter, 6 ozs. vegetarian margarine, and 2 ozs. vegetarian/kosher cooking fat a week.

## ANNOUNCEMENTS.

- Jan. 2—Leeds V.S. "With Vegetarian Boys in many Lands" (with lantern illustrations), Mr. W. A. Sibly, M.A., J.P. Theosophical Hall, Queen Square, Leeds, 3-15 p.m.
- 8—Leeds V.S. Grand New Year Social, Theosophical Hall, Queen Square, Leeds. 3-30 to 8-30 p.m.  
Lecture-Recital at 6 p.m. by Mr. Edward R. Broadhead, on "Famous Figures of Fiction."
- 9—Manchester V.S. & A.C. Ramble in the Styal District. Parker Street 9-30 a.m. Bus (No. 64) to Moss Nook. Leader: Mr. W. Watkin.
- 11—Saltcoats and District V.S. "Common Sense and Medical Science," Mr. Herbert Brown, in Barclay's Hotel, Saltcoats. 7 p.m.
- 11—Leicester V.S. "The Story of Honey." By Mr. J. N. Caws, at the Grey Friars Cafe. 7 p.m.
- 15—Presentation to Mr. W. M. Farrington, Hon. Secretary of The Vegetarian Society, on the occasion of his 80th birthday. 3-0 to 5-0, at Smallman's Restaurant, 17 High Street, Manchester. A charge of 2/6 will be made and, because of catering difficulties, it is necessary that friends who intend to be present should inform the Secretary, The Vegetarian Society, Bank Square, Wilmslow, Manchester.  
TEA, MUSIC, ELOCUTION.
- 15—Croydon V.S. Annual General Meeting, 3 p.m. in the Guild Room.
- 16—Rochdale. "Man's Natural Diet." By Mr. H. H. Jones, at the Central Girls' Club, 6 Hunters Lane. 2-45 p.m.
- 23—Friends' V.S. (London Branch). "Why I am a Quaker and a Vegetarian," by Mr. M. C. Butler, 3-30 p.m. Picnic Tea at 5 p.m. followed by meeting for worship at 7 p.m. at Westminster Friends' Meeting House, 32 St. Martin's Lane.
- 23—Manchester V.S. & A.C. Ramble, Higher Poynton. Train 9-50 a.m., London Road Station. Leader: Miss B. Winstanley.
- 29—Croydon V.S. New Year Social at Rolleston Hall, Rolleston Road, near Red Deer, South Croydon. Entertainment, Games, Dancing. —3-30 to 9 p.m.
- Manchester V.S. & A.C. Week-end at Flagg, Derbyshire (February 21st). Full details from Miss L. M. Davidson, 147 Abbey Hills Road, Oldham.

## LEGACIES.

A useful way in which members and friends may help on the work of The Vegetarian Society is, by Will or Codicil, to bequeath a sum of money to the Society.

It is of great importance to describe accurately the title of this Society, namely, "The Vegetarian Society, Established 1847," otherwise the benevolent intentions of the Donor may be contested in a Court of Law, with consequent expenses, and the following Form of Bequest is recommended for use by those members and friends who wish by their Will (or a Codicil thereto which refers to the Will) to bequeath legacies to the Society:—

"I give and bequeath to the Treasurer for the time being of The Vegetarian Society, Established 1847, of Bank Square, Wilmslow, and 39 Wilmslow Road, Rusholme, Manchester, the sum of £                      to be applied for the purposes of the said Society as may be decided from time to time by its Executive Committee for the time being and I direct that the same be paid free of legacy duty."

Care should be taken that the usual formalities such as having two witnesses to the disposition are observed.

## SUBSCRIPTIONS AND DONATIONS.

Cheques and P.O.'s should be made payable to **THE VEGETARIAN SOCIETY**  
and crossed Barclays Bank Ltd.

Subscribers whose names are followed by (C.) have entered into a Covenant with the  
Society, and the figure given represents the **gross** amount of the  
subscription (including tax which the Society will receive).

	£ s. d.		£ s. d.		£ s. d.
A. E. Foster	0 5 0	Mr. & Mrs.		Wentworth H. Price	1 1 0
Mrs. E. D. Horne	0 7 0	Howell Ritson	1 0 0	Cardiff Vegetarian	
Ernest Cooper	1 1 0	H. Rycroft (C.)	1 0 0	Society	
H. B. Hancock	0 5 0	Miss J. R. Himsworth	0 4 0	(Affiliation Fee)	0 5 0
Mrs. M. M. Davie	0 5 0	Miss A. E. Newcombe	0 10 0	Samuel Lewis	0 2 6
J. C. S. Elliott	0 5 0	Mrs. James Allen	2 0 0	Mrs. Benzie	0 4 0
Mrs. M. Zealer	0 5 0	Mrs. H. W. Simpson	0 5 0	Miss J. Harris	0 10 0
Mrs. D. Suart	0 5 0	Dr. S. M. Whitaker	0 5 0	Miss M. E. Elmore	1 1 0
T. Lowson	0 4 0	Mrs. M. Adkin	0 5 0	Misses A. & N. Baker	0 15 0
Mrs. S. M. Dixon	0 5 0	Mrs. M. Dyer	0 5 0	Mrs. M. Harries	0 10 6
Mrs. L. John Finzi	0 10 6	H. Wagstaff	0 10 0	Miss W. A. Bliss	0 5 0
Mr. & Mrs. Steele	0 10 0	Miss F. V. Peart	0 5 0	W. Owen	0 5 0
Mr. & Mrs.		Mr. & Mrs. H. Barker	0 10 0	Miss M. B. Lardge	0 5 0
F. E. Bruckshaw	0 10 0	Miss Hall	0 5 0	Miss J. G. Martin	0 5 0
Gilbert Whiteside	0 5 0	Mr. & Mrs. Coates	0 10 0	Miss B. K. Pugh	0 5 0
		Miss J. R. Himsworth	0 5 0		

Should any inaccuracies appear in this list, will friends please communicate with the Scrutineers, Bank Square, Wilmslow, Manchester. If subscriptions fail to be acknowledged here, please inform the Secretary of The Vegetarian Society, Bank Square, Wilmslow, Manchester.

## MISCELLANEOUS ADVERTISEMENTS.

*Rate of charges for advertisements under this heading are: 1/- per line—minimum charge 2/-. Series discount: 10% for six insertions, 20% for twelve insertions.*

**PERFECT SIGHT** has been gained by thousands through Dr. Bate's natural eye treatment. Why not end your eye troubles permanently by this simple treatment? Stamp brings details of perfect vision without glasses. Oscar Flegg, N.D.H., Queniborough, Leics.

**BREATHING TREATMENT** improves health and prevents colds and lung disease. Special 10 - course. Simple home treatment. Recommendations from doctors and headmasters. Fred French, Duston, Northampton.

**WALLASEY, Cheshire.** Health Food Store, 52 Liscard Road. 14 Bus from Seacombe Ferry, first stage.

**WIDOWED** gentlewoman, with daughter in government employ being transferred, requires sunny furnished, self-contained flatlet, or flat with small garden or balcony, or partly-furnished detached bungalow, or modern cottage in quiet country (Bucks., Berks., Herts. or Midx.). convenient early morning service Holborn (not tube). Please state rent, which must be reasonable, aspect, etc. Campbell, 141 Cambridge Road, Southport.

**BOURNEMOUTH VEGETARIANS** can obtain their supplies of Nuts and all pure Vegetarian Foods from Vie-Tex Foods Co., The Health Centre, 2 Fisherman's Walk, Southbourne. Grove. Tel. 954. Post your orders with remittance.

**THE VEGETARIAN HOME FOR CHILDREN.** Orchard Dene, View Road, Rainhill, Lancs. is in a position to receive a few orphan children. Apply the Hon. Sec., Gordon H. Perry, 47 Stairhaven Road, Liverpool, 19.

**VACCINATION** is unnatural. Vaccine lymph, prepared from the poisoned skin of suffering calves and rabbits, may cause encephalitis. Vaccination does not protect from smallpox. Join the National Anti-Vaccination League and help in the fight for pure blood and freedom in health matters. Address: 25 Denison House, 296 Vauxhall Bridge Road, London, S.W.1. Subscription for membership, 5 - per annum, "Vaccination Inquirer," bi-monthly, 2 - per annum, postage included.

**VEGETARIANS** unable to procure supplies of Cashews, etc., etc. (plus postage) apply J. P. Harvey and Co. Ltd., Health Food Store, Kidderminster.

**REQUIRED,** an experienced cook for Food Reform Hotel, with knowledge of preparing meatless dishes. Good prospects to capable applicant. Mrs. H. Massingham, Benares Hotel, 17 Norfolk Terrace, Brighton.

**FOR SALE.** Health Food Stores (middle-class neighbourhood). Takings about £100 weekly. House attached. Good prospects if under personal control of proprietor. Apply H.F.S., c/o The Vegetarian Society, Bank Square, Wilmslow, Manchester.

**HOUSEKEEPER** to elderly couple, in most pleasantly situated detached house. Other daily help provided. Give references and salary. Mrs. Mitchell, Quarry Field, Hensleigh Road, Tiverton, Devon.

**VEGETARIAN Shoes** (a few pairs still in stock). Dawson & Owen, 3 Nelson Street, Hertford. All-humane and non-slaughter goods as available. "Wisdom" Nylon Tooth Brushes, 2 - ; Fibre do. 1/6 Fibre Clothes Brushes, 3/6. Ladies' Brown Pouchette Purses, 2/11. Fabric Gloves non animal materials.

**FARMHOUSE** (224 years old) in heart of Marple Dale, has private furnished bed-sitting rooms to let for holidays, or longer. No modern conveniences; attendance impossible. 35 - weekly, including fires. Riverside cafe adjoining. Box No. C 167 c/o The Vegetarian Society, Bank Square, Wilmslow, Manchester.



## MISCELLANEOUS ADVERTISEMENTS (cont.)

**HOUSEKEEPER** required for next six months, or permanent. £2 a week plus board and lodging. Heys Farm Guest House, West Bradford in Ribblesdale, near Clitheroe, Yorks.

**GLASGOW.** The Scottish Vegetarian Society resumed Lectures on 10th October. Please write for Lecture Programme, etc. Everyone welcome. Donations gratefully received. Secretary: Miss Christina Mathieson, 26 Morgan Street, Glasgow, S2.

**FOR SALE**, in Cornwall. General business with good Health Food connection. Average turnover £52 weekly (open four days). Good prospects of increase. Run by proprietor and wife. Price £475. S.A.V., Box No. W176, c/o The Vegetarian Society, Bank Square, Wilmslow, Manchester.

**REFINED** bright young help to live in with vegetarian family of three; non-smoker. Small modern house, congenial surroundings (Yorkshire). Full particulars to Box C178 c/o The Vegetarian Society, Bank Square, Wilmslow, Manchester.

**RETIRED** Business Man interested in Psychology and Power of Thought on Health, will gladly correspond (free) with any seekers after Religion more in harmony with Nature and all things beautiful. Crapp, 116 Albert Road, Stechford, Birmingham, 9.

**WANTED**, by elderly male refugee (German), light work—indoors or outside. Highest references. Apply Box R179 c/o The Vegetarian Society, Bank Square, Wilmslow, Manchester.

**DOMESTIC** Assistant required for Food Reform Rest Home in the Cotswolds. Good salary and outings. Address: Pebworth House, Pebworth, near Stratford-on-Avon.

**KINDERGARTEN** Teacher required to start small class 5 year-olds. Live as family. Private Bed-Sit. Alien welcome. Theosophical outlook appreciated. Worcestershire for winter—London later. State experience, age, and salary. Box No. H180, c/o The Vegetarian Society, Bank Square, Wilmslow, Manchester.

**LADY** moving into delightful small house, Cornish moors by sea (end January) seeks 2 or 3 permanent paying guests, or would take charge children or elderly people. Food Reform. Central heating, modern sanitation, brick fireplaces, small garden with stream, bus passes door, 6 miles town. Own son (9 years) during holidays. Box No. GC 182 c/o The Vegetarian Society, Bank Square, Wilmslow, Manchester.

**WANTED** Housekeeper (must be vegetarian). Child welcome. Sewell, Ashcroft Millford, Sidmouth.

**MATERNITY** Nurse wanted at once for country branch of Stonefield Maternity Home, Wookey House, near Wells, Somerset. C.M.B. preferred. Vegetarian food.

**SUPREME** Well-being, physical, mental, spiritual, can only be achieved and enjoyed by planned co-ordination and sympathetic inspiration. Use intelligently the long experience of the pioneers, avoiding many pitfalls and discouraging failures. Send 5/- with frank details of your aims and problems to Raymond K. Doorne, Psychologist, The Health Centre, 2 Fishermen's Walk, Bournemouth.

**WELBANK BOILERETTE** for sale, size 1½, oval, 4-6 persons. New condition. Nearest offer to £2/5/0. Nainby, Park Road South, Newton-le-Willows, Lancs.

**WANTED**, companion-housekeeper to semi-invalid elderly lady. All duties. Good Salary, liberal outings. Simple, pure diet. Pleasant flat, Surrey. Box C 183 c/o The Vegetarian Society, Bank Square, Wilmslow, Manchester.

**WANTED** for Nature Cure Home and Guest House to be opened shortly near Bath, staff to share duties among themselves by mutual arrangement changing duties periodically if they so desire—Simple vegetarian cooking, light nursing, housekeeping and reception, general domestic. Also under-gardener. Might suit married couple or friends. Lodge available. Previous professional experience not necessary. Capable, trustworthy, all-round interested helpers desired. Full particulars to and from Miss J. Harris, 16 Springfield Road, Leicester.

**LADY VEGETARIAN** requires accommodation in a Vegetarian Home, or bed-sitting room with use of kitchen and bath-room any district within easy reach of the City of London. Non-Smoker. Musical and domesticated, apply 53 Shaw Road, Loughborough, Leicestershire.

**VEGETARIAN** Food Reform Guest House opening shortly in beautiful Somerset village. Large gardens. Convalescence or post-maternity cases welcome. Special diets arranged. Write for terms, Box No. T 184 c/o The Vegetarian Society, Bank Square, Wilmslow, Manchester.

**NUT MILL** for sale. What offers? Mrs. Swain, Cedar Cottage, Whitwell, Hitchin, Herts.

**FOR SALE.** If unable to buy locally—we offer Shelled Walnuts 2/- lb., Broken Cashews 1/8 lb., Soya Flour 5d. lb. and a small quantity of Peanuts 5d. lb. The above are exclusively for vegetarians. Terms—Cash with order. Please print your name and address. The Imperial Health Centre, 14 & 15 High Street, High Wycombe, Bucks.

**WANTED.** Health Food Stores. Reasonable Price. Neglected would suit. South of England preferred. A. C. Burrow, 37 Gordon Hill, Enfield, Middlesex.

**G. WALTER SHIPWAY**, of 6, Cockington Lane, Paignton, South Devon, following the loss of his wife, is anxious to find tenants for part of furnished house. Must be strict vegetarians.

# GUEST HOUSES, HOTELS, HEALTH HOSTELS, APARTMENTS, Etc.

NOTE.—\*An asterisk indicates that the house in question, though not entirely vegetarian, caters for vegetarians.

## AT HOME.

\***Ashted, Surrey**—30 mins. Waterloo. A charming Guesthouse in lovely surroundings. Warmth, good food, consideration and comfort. Terms reasonable. Mrs. Sheffield, Holland House, The Marid (late "Riverside," Leatherhead).

**Blackpool**.—'Brinsea,' 192 Queen's Drive, Bispham. Vegetarian Guest House, situated on North Promenade, overlooking sea. Bedrooms, h. & c. water. Varied and tasteful cuisine. Garden. Garage. Mesdames Makin & Golder. Phone 51353

Note.—The above business has been transferred to The Manor, off Moorland Road, Poulton-le-Fylde, a beautiful residence in 20 acres of grounds, overlooking the Wyre Valley towards the Pennines. 5 mins. Poulton Station. 15 mins. by bus to Blackpool.

\***Brighton and Hove**—Benares Hotel, Est. 1910. Ideal for health. Central. Bedrooms, h. & c. water. Lift. Charming gdns., nr. sea. Mod. terms. Tariff from Mrs. H. G. Massingham, or Sec., 16 and 17 Norfolk Terrace. Tel. Hove 2165.

\***Budleigh Salterton**—The coastal gem of South Devon. "Mountway" Guest House where all rooms are tastefully furnished and all beds modern interior springs. Some bedrooms fitted with gas fires and hot and cold running water. Mr. & Mrs. Lonsdale Wormald. Phone 290.

**Cornwall**.—WOODCOTE, Lelant, St. Ives, is an ideal spot for recuperation to meet war-time demands. Purest air, golf, sea, and gardens, and all possible comforts. Mrs. M. Ward. Phone Hayle 3147.

**Cotswolds**.—Fortune's Well, Sheepscombe, Stroud, Glos. Old world charm in peaceful village. Veg. food reform. Log fires. Constant hot water. Own car. Open all year. Phone: Painswick 2386. Tariff from A. C. Rogers.

**Derbyshire Hills**.—Vegetarian Food Reform Guest House. For happy holiday or restful recuperation. Extensions and improvements. Central heating, hot and cold water in bedrooms. Mr. & Mrs. Ludlow, "The Briars," Crich, Matlock. Tel. Ambergate 44. Station: Ambergate L.M.S.

\***Edinburgh**—Kingston, Gilmerton Road, Edinburgh, 9. Phone: 79435.

**Glasgow**—Miss Robertson (late of Rockhill, Moffat) is now resident at 2 Ellisland Rd., Newlands, and can accommodate two or three guests. Phone Langside 2933.

**Ilfracombe**—Mrs. James Allen's Guest House is situated in the most beautiful part of this lovely seaside resort. For holidays, permanent residence, or "the duration." Magnificent views of land and sea. Every comfort. Library of 2,000 books. 33 Broad Park Avenue.

**Lake District**—BECK ALLANS, GRASMERE. An attractive guest house for strenuous or restful holidays amid some of England's finest scenery. Visitors welcomed for long or short periods. First class vegetarian diet. H. & C. water in all bedrooms; electric fires if desired. Write: Isabel James. Phone: Grasmere 129.

**Lake District**—Private family welcome a few guests; beautiful country four miles Grange (bus); excellent cooking, central heating, h. and c. bedrooms. Riley, Field Broughton, Grange-over-Sands. Tel. Cartmel 253.

**Lake District**.—Miss Nethwyn Wallace's Guest House, 'Mellguards,' Howtown, Ullswater. Ideal situation, absolutely quiet. Five minutes from steamer landing-place. Electric light. Two bathrooms. Excellent Vegetarian diet. Phone: Pooley Bridge, 245.

# GUEST HOUSES, HOTELS, HEALTH HOSTELS, APARTMENTS, etc.

**London**—Mercury House is still open and, as always, entirely vegetarian. Inclusive terms for two meals a day, from 45/6 per week. Write or call: 43 Lancaster Grove, London, N.W.3. Phone Primrose 6004.

**Minehead, Somerset**.—Marston Lodge, St. Michael's Rd. Exclusively vegetarian. Extensive views of moor and sea. Mr. and Mrs. Harold Tyrwhitt. Tel. No. Minehead 695.

**North Devon**—Safe area. Sea, Country. Food reform and vegetarian diet. Vegetables, salads, etc. (home grown). Expert cookery. Hot Baths. Electricity. Wireless. Garage. Sun-bathing. Particulars, Gertrude Johnson, The Barn, Georgeham.

**Norfolk**—'Libra,' for open country; electric light; hot and cold running water. Attractive and generous vegetarian catering under expert supervision. Apply Mrs. Jewson, "Libra," Dereham, Norfolk. Tel. Gressenhall 221.

**Norwich**—Harford Hills, Ipswich Road: beautiful Elizabethan manor standing in 9 acres delightful grounds, central heating, cosy bedrooms, spacious lounges, conservative cooking, strictly food reform, osteopathic treatment by arrangement. Resident proprietors. (Telephone: Eaton 656).

**Prestatyn, N. Wales**.—Vegetarians welcomed at St. Mary's, Gronant. Nice garden. Ten mins. from sea. Garage. Mrs. Meldrum. Telephone Prestatyn 9343.

\***Ribblesdale**—Heys Farm Guest House, West Bradford in Ribblesdale, near Clitheroe. 450 ft. up on the Yorkshire slopes of Ribblesdale. Tennis, croquet, bowls, river bathing. Beautiful field, river, and fell walks with fine views of Pendle Hill. Accommodation for 40 guests. Phone: Chatburn 220. Wardens: Sidney & Olive Lucas

**South Downs, Lewes**—Peaceful home. sheltered gardens, tennis. Unrivalled Downland walks. Homegrown salads, fruits, honey. Everett, Castelmer, Kingston, Nr. Lewes. Telephone: Lewes 524.

**Torquay**—NUTCOMBE (late Brantwood) Vegetarian Guest House, Rowdens Road, offers better facilities for guests who will still have the personal care and attention of the Misses Slater.

\***Torquay**.—Modern semi-bungalow. Electric light. Hot and cold running water to bedrooms. Vegetarian and Food Reform catering a speciality. Mrs. H. I. Stevens, "Coberville," Lower Audley Road.

## NATURE CURE ESTABLISHMENTS

**Bournemouth Nature Cure Home**.—Kingsclere, 64 Lansdowne Road, Bournemouth. Principal: Ivor W. Sachs, D.O., D.C., N.D. Phone: Bournemouth 1205.

**Inveresk**—Nature Cure Home and Health Hydro. See display advertisement.

\* Natural Healing and High Level Health  
A SUCCESSFUL EDINBURGH DEVELOPMENT

*Under the Personal Supervision of Mr. and Mrs. J. C. Thomson*

Particulars from the Secretary, Kingston Clinic, Edinburgh, 9

\***Uplands**, the Hereford Nature Cure establishment where natural treatments are carried out under ideal conditions: treatments include Dieting, Fasting, Sun-bathing, Artificial Sunlight, Manipulative Therapy and Hydrotherapy, etc.; Visiting physician. Illustrated prospectus from Geo. Donaldson, Ph.C., Uplands, Hereford.

## SCHOOLS

**Davington School, Usk, Monmouthshire**—Boys and Girls from 4½. Vegetarian diet. Beautiful surroundings. Mrs. E. Graham; Higher Froebel Certificate.

**Education in Community**—Vegetarian, Food-Reform. Qualified Staff. Progressive methods. Community School, Alderwood House, Greenham Common, near Newbury, Berks.

**Freemount School, Bacton, Hereford**—A progressive, co-educational home-school, from 5 years, in ideal surroundings. Exclusively vegetarian diet, modern health principles, individual care. Mrs. K. P. Young and Mr. P. S. Young, B.A. (Camb.)

**St. Catherine's, Knoll Park, Amondsbury, Glos.**—Progressive Home School, high, overlooking channel. Usual exams. Food reform. Own produce. Mod. fees.

## WYCLIFFE COLLEGE

is a recognised Public School with nearly 200 boys (aged 13—18) in the Senior School and more than 100 in the Junior and Preparatory Schools. Owing to the School's property being requisitioned by the State, since September, 1939, the Senior and Older part of the Junior School have been at Lampeter, in Cardiganshire, in a most peaceful countryside, the Preparatory School remaining in Gloucestershire. At Lampeter the School was fortunate in securing the exclusive use of St. David's College and neighbouring properties. The boys of Springfield, which has been exclusively vegetarian since 1909, have remained in a separate house, and vegetarian diet is also provided in the Junior and Preparatory Schools. Entrance Scholarships are offered for competition each June. For details apply—the Headmaster, W. A. Sibly, M.A., Springfield, Lampeter, Cards.

## What to Eat in War-Time

By **DUGALD SEMPLE**

WITH

**Meatless Recipes**

By **CATHIE SEMPLE**

**Price 1/- Postage 2d.**

**Revised and Enlarged Edition.**

Obtainable from **DUGALD SEMPLE**,  
Wheelhouse, Beith, Ayrshire, or from  
**THE VEGETARIAN SOCIETY**,  
Bank Square, Wilmslow, Manchester.

## VEGETARIANISM AND THE GROWING BOY

4th Edition (Revised)

**ELEVEN (Full Page) ILLUSTRATIONS**

An account of a  
**33 years' practical experiment**

By **W. A. SIBLY**,  
M.A. (Oxon.) J.P. (Glos.)

**SIXPENCE**

Obtainable from either of the Publishers,

**THE LONDON VEGETARIAN SOCIETY,**

9 Adam Street, Adelphi,  
LONDON, W.C. 2

and

**THE VEGETARIAN SOCIETY,**  
Bank Square, Wilmslow,  
MANCHESTER.

# THE GATHERING CALL



"The sheep follow Him, for they know His voice." John 10:4

VOL. 32

RIVERSIDE, CALIF., JAN.-FEB. 1944

NO. 1

## CONTENTS

CAN WE PAY FOR OUR SALVATION? .....	2
TRYING TO COVER UP A SORE SPOT IN THE CREED .....	4
THE RICH MAN AND LAZARUS .....	6
BABYLON THE GREAT .....	18
A GREAT MAN HAS FALLEN .....	23
ADVENT HISTORY .....	25
THE 1856 CONFERENCE .....	31
IMPORTANT LITERATURE .....	32

### THE GATHERING CALL

P. O. Box 566, Riverside, California

Published Bi-Monthly at Riverside, California

Entered as second-class matter, June 29, 1915, at the post office at Riverside, California, under Act of Congress of March 3, 1879.

Subscription price, 50 cents per year; single copy, 10 cents

E. S. BALLENGER ..... EDITOR  
WM. ROBINSON ..... ASSOCIATE EDITOR  
JOHN I. EASTERLY ..... ASSOCIATE EDITOR

## CAN WE PAY FOR OUR SALVATION?

Some of the grandest poems in our language are hardly remembered by this generation. They were quite current and loved 50 to 75 years ago. Among these grand poems are **THE WRECK OF THE HESPERUS, THE BURIAL OF SIR JOHN MOORE, THE BURIAL OF MOSES, THE CHARGE OF THE LIGHT BRIGADE,** and **CURFEW MUST NOT RING TONIGHT.**

We older people thoroly enjoy getting some of these old school-day poems and reading them afresh. We wish to consider in particular **CURFEW MUST NOT RING TONIGHT.** This represents a scene in the days of Cromwell. A young man had been tried by the courts of England, and had been sentenced to hang on a certain day at the ringing of the curfew. He was engaged to marry a young woman called Bessie, whose first effort was to try to persuade the old deaf sexton to omit ringing of the curfew bell the evening of his execution. Of course, the old man refused. She would have appealed to Cromwell; but he was out of the city, and would not be back until late at night.

She determined to save her lover. She slipped into the church without being noticed by the old sexton,

and climbed the ladder up thru the dark cobwebbed tower until she reached the belfry. She knew about what time the bell would be rung for curfew. When the rope began to stretch, she jumped and caught the clapper of the bell, and there she hung while the old sexton swung the bell back and forth, and she was thrown from one side to the other. Her hands were bruised against the side of the bell; but she hung on with a determined grip. The sexton, being deaf, did not know that the bell gave no sound. The executioner waited impatiently for the ringing of the bell; but it rang not, and, according to the order, the young man was not to be executed until the curfew rang. The next morning she interviewed Cromwell; threw herself at his feet, begging for the life of her loved one. She showed him her bruised and bleeding hands, telling him the story of her desperate undertaking. He was so touched with the devotion of the young lady that he promised her that her lover should not be executed.

You ask why I use this historical illustration? To make the following application:— Suppose that young man, when he learned how his life had been saved, had offered to pay his intended bride a liberal sum of money for his life. Any damsel in her position would have felt insulted with such an offer.

She did not risk her life for money; she wanted something better; she wanted his love, and she got it. So, when any one of us who are children of the Lord, think we can pay for our salvation by our good works, we in like manner insult our Redeemer. It was not for glory, wealth, or influence that Christ suffered on the Cross for you and me; he is not in need of our money or labor. What He wants, is our devotion, love, and appreciation of what he has done for us.

To the young man in the story above, the ringing of that curfew bell every day could not help but produce in him a quickening of his love for her who practically gave her life to save his.

Any young couple entering into the marriage relation with the love that should always attend such an engagement, need no laws or regulations to govern their relation to each other. I fell desperately in love with my wife; I did not need any regulations to direct me. My chief joy was to find out what she loved or needed, and provide it for her. And she sustained the same relation to me. This is the relation that we should sustain to the Lord Jesus Christ, and this includes our relation to the Father also. "God so loved the world." The whole plan of salvation is built on love, and love is the fulfilling of the law—not the abolishing of it.

I love all my wife's relatives with whom I come in contact. I love them because she loved them. One that is dead in love with the Lord Jesus, will love all of His children; in fact, he will love all of His creatures.

Love is the basis of salvation, and love is generated and fostered by closer acquaintance. No one can read intelligently the New Testament without admiring the character of Christ. Bob Ingersol, in his younger days, was very critical toward everything in the Bible. A friend asked for the privilege of publishing a book of his lectures; but Ingersol, before this, had read the gospels; and he changed his mind in regard to the character of the Christ; and in granting the privilege to publish his lectures, he insisted that the publishers should use nothing that he ever said against Jesus.

Get acquainted with the Master, and the first step in this acquaintance, is to read His life.

---

#### P. O. Box 566

Our printer made a mistake in giving our P. O. Box as 556 instead of 566. We did not notice the mistake till after we mailed out the list. However, it is not a serious mistake as there is no box numbered 556 in the Riverside post office. We will receive our mail from 4 to 8 hours earlier if you address us at P. O. Box 566.

# Trying to Cover Up A Sore Spot in the Creed

In the **SIGNS OF THE TIMES**, Nov. 24, 1942, Elder M. L. Andreason has a lengthy article on "The Spirit of Prophecy." He introduces this article by a statement made to one of his prospective members. We quote the first paragraph:- **"SEVENTH-DAY ADVENTISTS** have a prophet. Her name is Mrs. E. G. White. She has written many books, and all Adventists revere them as they do the Bible, some even more. She is dead now, but they still follow her, and believe that all that she has written is inspired. Better look out before you join something that you don't know much about." This introduction states the absolute truth about SDA's, and should be passed on to every prospective member of that church. This writer makes the following statement regarding the attitude of his denomination:-

"The Bible and the Bible only, is the platform of Protestants. On this platform Seventh-day Adventists also stand. They have the Bible and the Bible only, and no set of books can ever take its place. In their estimation the Bible stands supreme. Whoever holds any other view is not a true Adventist."

Every other Protestant denomination can more truthfully make the statement that they stand on "the Bible and the Bible only" than can SDA's. It is dishonest for any representative of SDA's to continue to teach that they have no creed but the Bible. Every well-informed SDA knows that is not so.

We quote again from this author: "Acceptance of the writings of Mrs. White is, therefore, not made a test of church fellowship, and is not placed on the level of belief and faith in Scripture or any of the other cardinal points of faith. In this, Seventh-day Adventists believe that they are taking the true Protestant stand, making the Bible, and the Bible only, the norm of doctrine."

It is quite a mystery to us how any man who professes to be a representative of his denomination can make such a bold statement. In contrast to this statement, we quote from the **CHURCH MANUAL**, edition of 1932, page 78, "18. Do you believe the Bible doctrine of 'spiritual gifts' in the church, and do you believe in the gift of the Spirit of prophecy which has been manifested in the remnant church through the ministry



and writings of Mrs. E. G. White?"

This is a part of 21 questions which every minister is expected to ask prospective candidates before baptism. If a minister follows the instructions of his **CHURCH MANUAL**, he must ask every candidate the above question. What is he supposed to do, should a candidate affirm that he doesn't believe that paragraph? Would he be warranted in taking him into the church?

For years the SDA's have published in their **YEAR BOOK** "The Fundamental Beliefs of SDA's. In the **CHURCH MANUAL**, pages 180-186, 22 Fundamental Beliefs are recorded. What is a creed? It is a word taken from the Latin "credere" which means to believe. Adventists have a statement of what "I believe". Is it honest for them to declare that they have no creed but the Bible?

We will introduce further evidence to prove that SDA's do not stand on the Protestant platform of "the Bible and the Bible only". They persistently deny that they have even an addition to the Bible. Listen to what their prophet has to say on this subject. **TESTIMONIES FOR THE CHURCH**, Vol. 5, p. 67:- "In these letters which I write, in the testimonies I bear, I am presenting to you that which the Lord has presented to me. I do not write one article in the paper expressing merely my

own ideas. They are what God has opened before me in vision — the precious rays of light shining from the throne."

Again we quote from Mrs. White in **SPIRITUAL GIFTS**, Vol. 2, p. 293:- "I am just as dependent upon the Spirit of the Lord in relating or writing a vision, as in having the vision. It is impossible for me to call up things which have been shown me unless the Lord brings them before me at the time that He is pleased to have me relate or write them."

We also wish to introduce the testimony of the editor of the **REVIEW** and **HERALD**, Oct. 4, 1928:- "The writings of Mrs. E. G. White were never designed to be an addition to the canon of Scripture. They are, nevertheless, the messages of God to the remnant church, and should be received as such, the same as were the messages of the prophets of old. As Samuel was a prophet to Israel in his day, as Jeremiah was a prophet to Israel in the days of the captivity, as John the Baptist came as a special messenger of the Lord to prepare the way for Christ's appearing, so we believe that Mrs. White was a prophet to the Church of Christ today. And the same as the messages of the prophets were received in olden times, so her messages should be received at the present time." (Emphasis ours)

We believe the above quotations

are sufficient to establish the attitude of the SDA church in regard to Mrs. White's writings. According to their teachings they are inspired by God himself; they come from the same source as the writings of Samuel and Jeremiah, and the denomination teaches that they should be received on the same basis as are the testimonies of the prophets in the Bible. If that does not place them on an equality with the Bible, I can't understand the English language. With this attitude of the denomination towards her writings, how dare they affirm that they stand on the platform of "the Bible and the Bible only"? Why can't SDA's be as honest as the Mormons, or as the Christian Scientists, and acknowledge that they do have an addition to the Bible; and it is a well-known fact that when a difference is discovered between the Bible and Mrs. White's writings, that the latter are generally accepted in preference to the Bible. It is not honest for people to take the position that they are true Protestants when they know that they have an addition to the Bible which they consider inspired exactly in the same manner that the writers of the Bible were inspired.

Come, brethren, it is time for you to exercise the common honesty that exists among the people of the world.

## **GOD'S INFINITE KNOWLEDGE**

God is infinite in every respect. There is no limit to his powers. His knowledge is all-comprehensive. He knows all about our words and acts. "For there is not a word in my tongue, but lo, O Lord, thou knowest it altogether." Ps. 139: 4. "The very hairs of your head are all numbered." Mt. 10: 30.

Not only does God know everything of the present stage of affairs, he also knows the coming events thousands of years beforehand. This fact we find demonstrated in the prophecies of the Bible. "He revealeth the deep secret things: he knoweth what is in the darkness, and the light dwelleth with him." Dan. 2: 22. In like manner, he has also a perfect knowledge of the past.

This is the God of the Bible, the only true God. This true God does not need to go for a hundred years through the records of men to find out whether they deserve eternal life or death. The God of the Investigative Judgment is certainly not the true God. "Thou shalt have no other gods before me." Ex. 20: 3.

—A Friend of Truth.

---

Pass this paper on when you have read it; it may help another.

# A RICH MAN AND LAZARUS

By A. F. Ballenger

We are printing this article in this length of line so as to use the type for publishing it in convenient size to fit in an ordinary envelope.

One of the most terrible scenes ever witnessed by a vast concourse of people occurred at the World's Fair at Chicago in 1893. A number of visitors were dining at the top of the Tower of Observation, one of the Exposition buildings, which overlooked the lake and city.

Suddenly a sea of faces was turned toward the Tower where a curling column of smoke with darting tongues of flame was seen climbing the tower like a monstrous serpent, toward the terror stricken souls at the top. Every way of escape was cut off, and nothing was left for them but to throw themselves down the giddy height to the roasting iron roof below, or await the fate of the furious flames. A few hurled themselves into the lake of fire, but the greater number awaited the ascending flames.

The scene below was only less terrible than that above. The hundred thousand spectators were swayed by the agonizing scene like a field of grain before the wind. Men trembled, and groaned and staggered. Women screamed, and sobbed, and fainted. Thousands with white faces covered with their hands fled blindly from the scene unable to look longer upon the agonizing sight.

But this scene, terrible as it was, is not to be compared with the agonizing sight which, according to some Bible teachers, is located in full view, and within speaking distance of the Paradise of the saved. And not for a brief half hour, but throughout the never ending cycles of eternity, they tell us, the redeemed will live in the immediate presence of this hell of the lost where they can see their frantic struggles and hear their agonizing groans. Here, we are told, parents can hear the wails and watch the writhing of their burning children: and children will gaze upon the unspeakable miseries of lost fathers and mothers, while the years of eternity roll.

A misunderstanding of the parable of the rich man and Lazarus is largely responsible for this revolting, God-dishonoring doctrine.

Of the forty parables of our Lord, this is the only one which these Bible teachers interpret literally. Now a parable should never be taken literally. On the other hand, the student should study to see what is represented by the various symbols which are used in the parable.

Of our Saviour's public teaching it is written: "All these things spake Jesus unto the multitude in parables; and without a parable spake he not unto them." Matt. 13:34.

His disciples were slow to understand that He spake in parables, and they were sometimes misled because they took His words literally. On one occasion He warned them to "beware of the leaven of the Pharisees and the Sadducees," and immediately they began to be troubled because they had brought no bread. The Lord rebuked them for taking His parable literally, in the following words:

"How is it that ye do not understand that I spake it not to you concerning bread, that ye should beware of the leaven of the Pharisees and of the Sadducees? Then understood they how that he bade them not beware of the leaven of bread, but of the doctrine of the Pharisees and of the Sadducees." Matt. 16:11, 12.

We ought not therefore, to interpret our Lord's parables literally, but study to find what is represented by the various symbols of the parable. Only a few of His parables are explained in detail, but enough are explained so we may understand His method of instruction. Let the parable of the sower suffice as an illustration. In explanation of this parable our Lord said:

"He that soweth the good seed is the Son of man;

The field is the world;

The good seed are the children of the kingdom;  
but

The tares are the children of the wicked one;

The enemy that sowed them is the devil;

The harvest is the end of the world; and

The reapers are the angels."

In like manner should we seek to find what is

represented by the different figures used in the parable of the rich man and Lazarus. We should inquire what is represented by the rich man, and what by his riches; who is represented by Lazarus, what by his begging, by his sores, by his association with dogs, and by his death. We should study to learn what is represented by Abraham's bosom, what by the death of the rich man, what by hell, or hades, what by his torments, and what by the great gulf, etc.

If the Lord had not expected us to find in His Word an explanation of the unexplained parables, He would have explained them and put that explanation in the Scriptures, but He expects us to understand His parables without a detailed explanation. This is shown by His rebuke to the disciples because they did not understand His parables until He explained them. When they asked for an explanation of the parable of the sower, before explaining it, He said: "Know ye not this parable? and how then will ye know all parables?" Mark 4:13.

Let us therefore study the parable of the rich man and Lazarus, believing that inasmuch as it is not explained, like the parable of the sower, the explanation can be found in the Word.

Who is represented by the rich man?

Evidently the Jewish nation; because in the parable the rich man calls Abraham "Father Abraham" and Abraham calls him "son."

What is represented by his riches?

It must be the great treasures of truth which were deposited with the Jewish nation for the enlightenment of the rest of the world. The whole history of the Jews bears witness to the rich gifts of divine truth given them of God. The apostle Paul sums up their riches thus:

"What advantage then hath the Jew? . . . Much every way: chiefly, because that unto them were committed the oracles of God." Rom. 3:1, 2.

"For I could wish that myself were accursed from Christ for my brethren, my kinsmen according to the flesh: who are Israelites; to whom pertaineth the adoption, and the glory, and the covenants, and the giving of the law, and the service of God, and the promises." Rom. 9:3, 4.

These are the riches of the "rich man."

**What is represented by the purple and fine linen with which the rich man was clothed?**

These are the emblems of royalty. Our Lord in His testimony concerning John said: "They which are gorgeously apparelled, and live delicately are in kings' courts." Luke 7:25. Again in applying the parable of the wicked husbandmen, He said to the Jews: "The kingdom of God shall be taken from you, and given to a nation bringing forth the fruits thereof." Matt. 21:43.

**Who are represented by Lazarus the beggar?**

Evidently Lazarus represents the Gentiles, who in themselves considered, were aliens from the commonwealth of Israel and strangers from the covenants of promise (Eph. 2:12), and who must come to the Jews for the riches of God's revelation to men. "And all the kings of the earth sought the presence of Solomon, to hear his wisdom, that God had put in his heart." 2 Chron. 9:23.

His place among the dogs, seeking the crumbs from the rich man's table, further proves him to be a representative of the Gentiles. Our Lord said to the Gentile woman of Tyre who asked healing for her daughter, "It is not meet to take the children's bread, and to cast it unto the dogs; to which the woman answered, accepting the lowly place which the Jews had given her, "Yes, Lord; yet the dogs under the table eat of the children's crumbs." Mark 7:26-28. The Lord did not wish to represent the Gentiles by dogs, and so he represented them by a beggar covered with sores, an associate of dogs.

**What is represented by Abraham's bosom?**

The father's bosom is the place of repose for the child. Listen to Moses: "Have I conceived all this people? Have I begotten them, that thou shouldst say unto me, Carry them in thy bosom as a nursing father beareth the sucking child." Num. 11:12. "No man hath seen God at any time; the only begotten Son, who is in the bosom of the Father, He hath declared Him." John 1:18. As therefore, the bosom is the rightful place of the son and heir to the father's riches, so the rich man, the Jewish nation, the heir of Abraham's riches, is represented in the parable as being separated from this place of privilege, and Lazarus the Gentile, by birth, is represented as

coming into possession of this sonship with all its privileges.

**What is represented by the death of the rich man?**

The casting off of the Jewish nation is here represented by the death of the rich man. John the Baptist said to the Jewish leaders, "And think not to say within yourselves, We have Abraham to our father: for I say unto you, that God is able of these stones to raise up children unto Abraham. And now also the axe is laid unto the root of the trees; therefore every tree that bringeth not forth good fruit is hewn down, and cast into the fire." Matt. 3:9, 10.

And this cutting down and casting into the fire is what did happen to the Jewish nation when the kingdom was taken from them and given to the Gentile. And the cutting down and casting away is what is represented by the death of the rich man. Paul speaking of this casting away represents them in this cast-away condition as **dead**.

"For if the casting away of them be the reconciling of the world, what shall the receiving of them be but life from the **dead**?" Rom. 11:15.

Again the loss of the prodigal son is represented as his **death**. "This my son was **dead**, and is alive again; he was lost, and is found." Luke 15:24.

**What is represented by the Death of Lazarus?**

The Gentiles do not inherit the place of a son except through death. It is not the Gentile in the flesh who inherits the riches of Abraham. He, too, is cut off from the wild olive and grafted into the tame olive before he becomes partaker of the root and fatness of Abraham's family tree. Rom. 11:17.

Paul, speaking to the Gentile converts, said: "For ye died and your life is hid with Christ in God." Col. 3:3, R. V. It is through this death that the Gentile becomes Christ's and therefore the seed or the son of Abraham. "If ye be Christ's, then ye are Abraham's seed, and heirs according to the promise." Gal. 3:29.

Thus the Jews (the rich man), were broken off (i.e., death), from the tame olive, representing the riches of the promises to the children of

Abraham, and the Gentiles (the beggar), were broken off (died) from the wild olive and grafted into the tame olive, thereby becoming partakers of the riches of which the children of Abraham are heirs.

**What is represented by the flame in which the rich man is tormented?**

The word "hell" in this parable is from the Greek word "hades", meaning grave, and is not from the Greek word, "Gehenna," which describes the final place of punishment where the wicked will be destroyed when the earth is cleansed with fire and brimstone. If the Lord had here desired to describe the final place of punishment He would have used Gehenna. What then is meant by the flame and torment? The Lord speaks of the afflictions of the Israelites in Egypt as an "iron furnace."

But the Lord hath taken you, and brought you out of the iron furnace, even out of Egypt." Deut. 4:20.

In the parable of the sower the Lord has explained the meaning of scorching heat when used in a parable.

"Some fell upon stony places, where they had not much earth . . . and when the sun was up they were scorched."

"But he that receiveth the seed into stony places, the same is he that heareth the word . . . yet hath he not root in himself, but endureth for a while; for when tribulation or persecution ariseth, because of the word, by and by he is offended." Matt. 13:5, 6, 20, 21.

Another strong proof that the torment of the rich man in the flames of fire is a symbol of political afflictions is found in the book of Revelation, which is a series of parables or symbolical representations of important events in the history of churches and governments. Here under the symbol of a fallen woman the apostate church is represented as being tormented with fire. Such expressions are used: "Her torment;" "the smoke of her burning;" "she shall be utterly burned with fire." This torment is explained to be something which shall be accomplished by the kings of the earth. "These (the kings), shall hate the harlot, and shall burn her utterly with



fire." Rev. 18: 9 and 17:16 R. V.

Thus it is made clear that torment in flame is a figure which the Lord uses to represent political tribulation or persecution.

How literally has this been fulfilled in the history of the Jewish nation! Beginning with the terrible siege of Jerusalem, when fathers and mothers ate their own children in the horrors of hunger, down through the dark ages, even to our own time, when they have been tormented in the flames of persecution by Russia, and Jew-hating Germany and Austria, the Jew has been in torment.

**And what is meant by the great gulf between the rich man and Abraham's bosom?**

This represents the separation from the privilege of sonship, which has resulted from Israel's casting away as a nation. Once the Gentile was "far off" and the Jew was "nigh", as regards the privileges of Abraham's bosom; but now, through the unbelief of the Jew and the faith of the Gentile, the relative position is reversed; and the Gentile is in Abraham's bosom and the Jew "far off".

And there is no possibility of the newly adopted son's going to the relief of the unbelieving Jew while he remains in unbelief. And there is no possibility of the Jew's reaching Abraham's bosom, while he continues still in his unbelief. But "if they abide not still in unbelief, shall be grafted in; (life from the dead) for God is able to graft them in again." Rom. 11:15, 23.

**What is meant by Moses and the prophets?**

"They have Moses and the prophets." This expression which refers, of course, to the Holy Scriptures of the Old Testament, is added evidence that the rich man represents the Jew. The Gentile has more than the Old Testament, he has the New Testament as well; but this rich man and his brethren have only "Moses and the prophets."

Again, the rich man asks for a sign. When told that his brethren have Moses and the prophets, which, if they believe they will not come into the place of torment, he insists on a sign, saying that if one rose from the dead and went to them they would believe. This was the constant demand of the Jewish rulers. "We would see a sign from

thee." John 6:30. "The Jews require a sign." 1 Cor. 1:32. But to this Jewish demand for a sign, Abraham, who believed without a sign, is represented as saying:

"If they hear not Moses and the prophets, neither will they be persuaded though one rose from the dead."

From this it is plain that the rich man, or the Jewish nation, was cut off from its place of privilege because it failed to believe Moses and the prophets, or the Old Testament Scriptures. And that they did not believe them, is plain from the words of Christ.

"Ye search the Scriptures, because ye think that in them ye have eternal life; and these are they which bear witness of me."

"How can ye believe, which receive glory one of another, and the glory that cometh from the only God ye seek not? Think not that I will accuse you to the Father; there is one that accuseth you, even Moses, on whom ye have set your hope. For if ye believe Moses, ye would believe me; for he wrote of me. But if ye believe not his writings, how shall ye believe my words?" John 5: 39, 44-47. R.V.

Thus it is seen that the Jews, though professing to believe the scriptures, did not believe them, and "because of unbelief, they were broken off," and it is here that the parable is a solemn warning to the Gentiles who have been received into the bosom of Abraham, or the place of sonship, with all its sacred riches and solemn responsibilities. The Jews hoarded these riches and prided themselves on their place as children of Abraham and trusted for their salvation in the old rather than the new birth. They despised the Gentiles and had no real burden for their salvation. Dressed in the robes of their royal priesthood and hoarding their wealth of truth, they haughtily passed the sinner by or deigned to drop a few crumbs as he lay begging outside the gate. But because of their selfishness and unbelief of the Scriptures the riches of the kingdom of God—the riches of revealed truth were taken from them and given to another nation bringing forth the fruits thereof."

And just as certain as the natural branches—

the natural Jews—were cut down and cast into the fire of oppression and persecution, because he did not believe the Scriptures, so sure will the grafted branch be cut off if it loses faith in those same Scriptures, "And if some of the branches be broken off, and thou, being a wild olive tree, wert grafted in among them, and with them partakest of the root and fatness of the olive tree; boast not against the branches but if thou boast, thou barest not the root, but the root thee. Thou wilt say then, The branches were broken off, that I might be grafted in. Well; because of unbelief they were broken off, and thou standest by faith. Be not high-minded, but fear: for if God spared not the natural branches, take heed lest he also spare not thee."

**Who are represented by the rich man's brethren?**

They must be Jews also; for it is said of them, "They have Moses and the prophets." Not all of the Jews were broken off from Abraham's family tree. Paul says: "Some of the branches were broken off." Joseph of Arimathea, Nicodemus, and Saul of Tarsus, with the Apostles were Jews, according to the flesh, which believed and were not broken off. Nor were all those who were broken off, broken at the same time. And as all the trees were not hewn down at the same time, so all were not cast into the fire at the same time. Since they were not broken off because of **unbelief**, it was necessary for them to hear the message before they could reject it and be broken off. Jerusalem was broken off and cast into the furnace first, because Jerusalem heard and rejected the message first; but the "dispersed among the Gentiles," those Jews who lived in the cities outside Judea still had opportunity to accept the testimony of Moses and the prophets and escape the furnace of affliction into which their Jerusalem brethren were cast. As the Jews who were dispersed among the Gentiles, heard the message of Moses and the prophets concerning Christ and rejected it, they, too, were hewn down and cast into the fire of persecution where their Jerusalem brethren were cast.

This parable comes with a solemn warning to the adopted son of Abraham—to us who are

**Gentiles by nature, who have been adopted through Christ as children of Abraham and are now enjoying the blessings of Abraham's bosom. The growing unbelief and indifference manifested by many professing Christians today, toward the Old Testament Scriptures, cannot be far behind the unbelief and indifference of the Jews in the time of Christ. And since the Jewish nation was rejected because of a failure to believe in Moses and the prophets, let the ingrafted Gentile beware lest he be broken off because of the same unbelief.**

Thus it is seen that this parable, when properly understood, contains a solemn warning applicable not only to the people to whom it was first spoken, but to those today who occupy the place and enjoy the privilege of children of Abraham.

However, when taken literally, it becomes absurd and dishonoring to God. Absurd, because it deposits all the saved in the bosom of Abraham, which is far too small to accomodate them all: dishonoring to God, because it makes out that God has located a hell of torment at the very gates of Paradise, within hearing distance of the saved, where throughout the endless ages of eternity they see the tortures and hear the groans of their lost friends and relatives.

And not only is it absurd and dishonoring to God, but it is in direct opposition to the whole tenure of Scripture, which places the punishment of the sinner after the resurrection and the judgment as the following scriptures prove:

"The Lord knoweth how to deliver the godly out of temptation, and to reserve the unjust unto the day of judgment to be punished." 2 Pet. 2:9.

"But the heavens that now are, and the earth, by the same word have been stored up for fire, being reserved against the day of judgment and destruction of ungodly men." 2 Pet. 3:7. R. V.

"And the angels which kept not their first estate, but left their own habitation, he hath reserved unto everlasting chains of darkness unto the judgment of the great day."

Thus it is seen that the angels that sinned, though they are in hopeless darkness, so far as salvation is concerned, are not now suffering the punishment that they will suffer at the judg-

ment. The idea that fallen angels are devils and that they are now in the torments of hell, cannot be reconciled with the teaching of the Scripture that they are now engaged on the earth in the work of tempting men to their destruction. That the fallen angels are not now in torment is plainly proved by the following scripture:

“And when he was come to the other side into the country of the Gergesenes, there met him two possessed with devils, coming out of the tombs, exceeding fierce, so that no man might pass by that way. And, behold, they cried out, saying, What have we to do with thee, Jesus, thou Son of God? Art thou come hither to torment us before the time?” Matt. 8:28, 29.

Certainly the devils ought to know whether they are in torment or not. And here is testimony which agrees with the whole tenure of the scriptures, which locates the time of punishment after the judgment and in connection with the destruction of the earth by fire. With this interpretation of the parable, it is found to be in harmony with the rest of the scriptures, and the God-dishonoring horrors and absurdities of the common interpretation are seen to contain no support from the parable.

Price 5 cents, Gathering Call, Riverside, Calif.,  
P. O. Box 566.

Alexander Keith, D. D., who wrote Keith's Evidence of Prophecy, wrote in the 30th edition of that book: “And the only question to be resolved — Whether there be any clear predictions literally accomplished, which, from their nature and their number, demonstrate that the Scriptures are the dictates of inspiration, or that the Spirit of Prophecy is the testimony of Jesus.”

—Preface to First Edition.

### “GIANT THOUGHTS” (?)

“I saw that the Lord had moved upon sisters to wash the feet of brethren, and that it was according to gospel order.” Early Writings, 117.

“All the angels that are commissioned to visit the earth hold a golden card, which they present to the angels at the gates of the city as they pass in and out.” Early Writings, 39.

# BABYLON THE GREAT

By A. F. Ballenger

Before the battle of Armageddon is fought, as described in Rev. 19: 11-20, God uses the beast and the ten kings to destroy the harlot "Babylon the Great."

"And the ten horns which thou sawest, and the beast, these shall hate the harlot, and shall make her desolate and naked, and shall eat her flesh, and shall burn her utterly with fire. For God did put in their hearts to do his mind, and to come to one mind, and to give their kingdom unto the beast, until the words of God should be accomplished." Rev. 17:16, 17. Revised Version and American Standard.

But what is Babylon the Great? Unless the student understands what is represented by the harlot, he will never be able to find the seven heads, or seven kingdoms on which the woman sits pictured in the 17th of Revelation. Since the woman sits on each of the seven heads or kingdoms as they appear in succession, and then sits on one of these seven which had fallen and appears again as the 8th it follows that all these kingdoms must appear in the world during the lifetime of this woman and not centuries before she was born, nor after her destruction. It is evident, therefore, that the student who reaches a wrong conclusion as

to what Babylon the Great represents, is sure to reach a wrong conclusion as to what the seven kingdoms are, upon which the woman sits.

But there is no excuse for mistaking the woman, for if there is any symbol in the 17th chapter that is definitely explained by the Lord, it is the symbol of the woman. And here is the Lord's explanation:

"And the woman whom you perceived is the great city, which has a kingdom over the kings of the earth." Rev. 17:18 Concordant Version.

Since the book was written in Greek, and the Greek reads, "The woman whom you perceived is the great city which has a kingdom over the kings of the earth," it is this original statement of what the woman is a symbol of that must be accepted.

The word translated "reigneth" in the text and "kingdom" in the margin is a noun and occurs 158 times in the New Testament, and is translated "kingdom" 157 times. And the only instance where it is translated "reigneth" is in the text under consideration. The Greek word is *basileia* and is a noun and not a verb denoting action, and should have been translated "kingdom", and as it is translated in the other 157 times where it appears.

When the Lord wishes to express

the idea of "reigneth," He uses a different word, *basiluo*, a Greek verb denoting action which occurs 21 times in the New Testament, as in Rev. 19:6, where it reads "The Lord Omnipotent reigneth."

And since the terms king and kingdom are used interchangeably in the Scriptures ("These great beasts which are four are four kings"; "the fourth beast is the fourth kingdom," Dan. 7:17, and 23), it would do no violence to the meaning of the scripture if we should read it thus:

The woman whom thou sawest is the great city, which hath a kingdom over the kingdoms of the earth. Of course the term "city" must include its citizens and its system of government. No one thinks of London apart from its people or apart from the fact that it is the capital of the British Empire.

And now the interpreting angel has fulfilled his promise to show John the "mystery" of the beast and the woman. Here is his promise. After showing John a vision of a seven-headed beast carrying a harlot woman he says: "I will tell thee the mystery of the woman, and of the beast that carrieth her, which hath the seven heads and ten horns." Rev. 17:7.

#### **Babylon Is a Real Great City**

And since the angel faithfully fulfilled his promise and told John what the woman represented, ought

we not to accept the angel's plain statement of what the woman is? First, the angel said, "The woman whom thou sawest is the great city." Must we not hunt for a real great city, and the term "great city" if a symbol of something else, who will tell us what that something else is? If the angel only changed one mystical term for another, and "the great city" is a symbolical expression, then the angel never explained the symbol, but left it an unexplained mystery, a subject for speculation by the unaided feeble mind of man.

But no one will admit that the other explanations of the angel are open to any such charge of failure.

The seven heads are explained in the 9th and 10th verses to be "seven kings" or kingdoms. All admit that the angel has fulfilled his promise and explained what the seven heads are. The seven kings or kingdoms are admitted by all to be seven real literal kingdoms, and men go into history and try to find seven real kingdoms.

Again, the angel's explanation of the ten horns, that they are "ten kings" with their kingdoms (Rev. 17:12) is accepted by all as a clear and complete definition of the meaning of the symbol of the ten horns. And all interpreters look for ten literal kings or kingdoms; and no one is so illogical and unbelieving as to teach that the "ten kings" are ten mystical somethings

which every man is at liberty to speculate on as he pleases.

Again the angel interprets the figurative "many waters" on which the woman sits, to be "peoples, multitudes, nations, and tongues"; and all are agreed that the angel has translated the symbol from the figurative to the literal, and all expect to find real literal nations speaking different tongues or languages.

And now when all are agreed that the angel's explanation of the "heads", "horns" and "waters", must be taken literal, why in the name of consistency should any one deny that the angel's explanation of the "woman" should be understood in the same way? Why should any one deny that "the great city" is really a great city, especially when there is a great city which perfectly meets the specifications in every particular?

But not only does the woman represent "the great city" but "the great city which hath a kingdom." There are many great cities in the world which are not the centers of kingdoms, so we must pass them all by and hunt for "the great city which hath a kingdom."

But the angel is more definite still. "The woman which thou sawest is the great city which hath a kingdom over the kings of the earth." There are many cities which have kingdoms centered in them, but these kingdoms do not

reign over "the kings of the earth." Consequently we must pass all these by and hunt for "the city which hath a kingdom over the kings of the earth."

But the description is still more definite. This kingdom holds dominion over the kingdoms of the earth, not by its superior military and naval powers, but by its **deceiving sorceries**. "For by thy sorceries were all nations deceived." Rev. 18:23 "The inhabitants of the earth have been made drunk with the wine of her fornication." Rev. 17:2.

It follows, therefore, that we must find "the great city which hath a kingdom over the kings of the earth" which is maintained by **deceiving sorceries**, by making "the inhabitants drunk with the wine of her fornication."

That his kingdom is an ecclesiastical or church-kingdom is further shown by the fact that this kingdom is charged with unlawful alliance with the kings of the earth. "I will show thee the judgment of the great whore . . . with whom the kings of the earth have committed fornication."

It is now evident that we must find "the great city which hath a kingdom over the kings of the earth" which kingdom is ecclesiastical in character, and which holds dominion by an unlawful alliance with the kings of the earth, by making "the inhabitants of the



earth drunk" "with the wine of her fornication," and by deceiving all nations with her sorceries.

But the detective's description is not yet complete.

This ecclesiastical kingdom that is centered in the great city is charged with drinking herself drunk with the blood of the saints and the martyrs of Jesus." Rev. 17: 6.

And with all this minute description of the city there is not an intelligent Protestant in the world who is unable to find that "great city." There is only one city, and there never has been but the one city, and there never will be but the one city which fulfills ALL these specifications, and that one city is ROME, seat of that reigning, deceiving, persecuting ecclesiastical system which has named itself after "the great city," "the Roman Catholic Church."

And now since we have found that the woman represents Rome with its reigning church-kingdom, it follows infallibly that the seven successive kingdoms over which this church reigns must be found in the lifetime of the Roman church, and not centuries before she was born nor after she is destroyed.

It will be noticed that it is the same great city and the same church-kingdom that reigns over each and all of the seven successive kingdoms. The kingdoms which carry her, change, but the woman

never changes. The kingdoms rise and fall, but the harlot Babylon the Great never falls until she has been seated upon all seven kingdoms in succession, and then on one of these fallen kingdoms revived, the "eighth" and last. When the harlot takes this final and fatal seat in her pride, saying, "I sit a queen and am no widow and shall see no sorrow," then follows her fall. "Therefore shall her plagues come in one day, death, and mourning, and famine; and she shall be utterly burned with fire: for strong is the Lord God who judgeth her." Rev. 18:8.

"And a strong angel took up a stone as it were a great millstone, and cast it into the sea, saying, Thus with a mighty fall shall Babylon, the great city, be cast down, and shall be found no more at all." Rev. 18:21 Rev. Ver.

---

### "ABODE OF CHRIST"

"Martin Luther said, 'If any one knocks at the door of my breast and says, "Who lives there?" my answer is, "Jesus Christ lives here, not Martin Luther".' This experience is enjoyed when the soul is united in a personal, conscious, ever-abiding union with Christ. —Dr. Foss."

New Cyclopaedia of  
Prose Illustrations.

## **CELEBRATING WILLIAM MILLER'S MISTAKES**

Seventh-day Adventists are celebrating the 100th anniversary of their beginning during this year 1944. They are already beginning to run articles giving some of the history of the denomination. We wish the editors could be persuaded or compelled to take the oath of a witness when he testifies before a court, i.e. to promise to "tell the truth, the whole truth, and nothing but the truth." We feel very certain that they will never take this oath; neither will they conform to the principle of telling the whole truth. The **GATHERING CALL** will be a sort of supplement to the **REVIEW & HERALD** during this year. No one will be able to get "the whole truth" of the development of the denomination, if they fail to read the **GATHERING CALL**.

SDA's do not write history as God does. We have reason to believe, judging from their experience during the past 100 years, that they would not have published any of the mistakes of Noah, Abraham, Issac, Jacob, Judah, and David. When God wrote the biography of even His great leaders, He told all the truth. He did not try to cover up the mistakes or the sins of His heroes; but SDA's don't write history after that fashion.

Instead of recording the mistakes of the pioneers, some of the leaders have very flatly denied some of the facts of their blunders in the early years of their existence; so, if you want to get the "whole truth", read the **REVIEW & HERALD** and the **GATHERING CALL** in conjunction. We will record what we feel confident they will omit.

No doubt it will be a great surprise to many readers, but it will be the "truth".

This will be a good time for our friends to solicit subscriptions for the **GATHERING CALL**. Get your SDA neighbors to read that which is omitted in the R & H; it will be good missionary work. It may lead many an honest SDA to accept truth in the place of error.

---

### **WE HAVE A NEW PRINTER**

The printer who has been doing our work, is giving a large portion of his time to a line of business other than printing, and he has been so slow in getting out our work that we are driven to turn it over to another company. We hope the change will result in our being able to get out our paper more nearly on time. It may take a couple of issues before we get to publishing promptly.

# A Great Man Has Fallen

Dr. John Harvey Kellogg passed to his rest the evening of Dec. 14, 1943; he lacked only a couple of months of being 92. He was quite active until just a few days before he died of pneumonia.

This celebrated physician was a great man. We question whether any one has ever been such a great benefactor to the world from the physical standpoint as Dr. Kellogg. He took a most positive stand for nature's method of living, and treating disease. It was thru his persistent efforts that the Battle Creek Sanitarium had such world-wide reputation. Thousands if not hundreds of thousands of people attribute their renewed health to the work of this institution. Dr. Kellogg was very pronounced against the use of drugs; but advocated with all his ability fresh air, sunshine, a vegetarian diet, proper exercise, and hydrotherapeutic treatments.

It was my privilege to hear him give a number of lectures to patients in the Sanitarium parlor. On one occasion he made the statement that the Sanitarium had every device known to man that gave promise of restoring or improving health; he said they spared no money in providing themselves with everything that con-

tributed to build up one's constitution, and he declared that fully 90 per cent of the success that they had achieved, was due to the regulation of their diet. He emphasized repeatedly that they could build up their own health by proper methods of living without coming to the Sanitarium.

The doctor's sphere of influence was the world; he was not satisfied with simply building up a big institution; he organized nurses' training schools, medical schools, and physical culture schools, with the view of carrying the principles of right living to the entire world. We hope that God will raise up someone to carry forward the work which he so nobly established.

It was no easy task for the doctor to establish the principles of right methods of treating disease, even among his brethren. He once said that he had "spent the most of his life in fighting the world, the flesh, and the General Conference."

When Dr. Rand was preparing for his medical course, he was employed in the culinary department of the Sanitarium; he complained bitterly to Dr. Kellogg for having to cook flesh meat for Mrs. White when she visited the institution. On another occasion he was attending an SDA camp meeting in the days

when they always erected a grocery store on the camp ground, and had not yet ceased to sell flesh meat. He protested very strenuously against their providing meat for the campers. The ministers protested that they had already bought the meat and paid for it; consequently they didn't feel like losing their investment. In reply to this Dr. Kellogg volunteered to pay for all the meat they had if they would take it off the market. They accepted his offer, and later he learned that the ministers of that conference divided up the meat among themselves for home consumption.

Soon after Elder A. G. Daniells was made President of the General Conference, he found himself in disagreement with Dr. Kellogg. The controversy grew more bitter rapidly. Finally, Eld. Daniells won out, and he did it by getting Mrs. E. G. White on his side. During the struggle between these two men Elders Daniells and W. W. Prescott called on Mrs. White, and labored earnestly to get her to sign a condemnation of Dr. Kellogg. They finally succeeded in getting what they wanted. When they left her room, she walked the floor back and forth with tears streaming down her cheeks saying over and over again: "They made me say it." This experience was related to me without solicitation, by Sarah McEnterfer who was

Sister White's maid-in-waiting for many years.

#### **An Untruthful Statement**

We were pleased to note that the REVIEW & HERALD of December 30, 1943, page 24, mentioned Dr. Kellogg's passing in a very kind manner; but in this they made one false statement. We quote one sentence:—"Some years ago, he decided to dissociate himself from the denomination." **This is not so.** Dr. Kellogg did not dissociate himself from the denomination. He was disfellowshipt by the Battle Creek SDA church; and the one who manoeuvred this unchristian act was none other than Elder M. N. Campbell who recently retired from the position of Vice-President of the General Conference without any reason being given. No charge was brought against Dr. Kellogg, except that he was not in harmony with the organization. Eld. G. C. Tenny was turned out of the church at the same time. No charge was brought against him, except that he refused to leave the Sanitarium; he was called to this institution to teach the Bible to the nurses, and to act as chaplain. No one ever questioned his loyalty to the teachings of the denomination, and he was offered prominent positions in the denomination if he would leave Dr. Kellogg.

No doubt this notice was written by one of the younger editors of the R & H who probably did not

know the facts; but the older editors of this paper knew that it was not so; and they should have corrected it. In the case of Dr. Kellogg, the Battle Creek church, to play safe, sent Eld. Bordeau and old Uncle Geo. Amadon to interview Dr. Kellogg before the trial. That interview lasted for something like five or six hours; and Dr. Kellogg piled up such an array of facts that these old pioneers were unable to explain them; but who, nevertheless, joined in voting him out of the church.

---

## ADVENT HISTORY

William Miller was born Feb. 15, 1782. He was the eldest of 16 children of whom 5 were boys and 11 girls. His early days were spent among the pioneers of western Massachusetts and eastern New York. His schooling was very limited; 3 months during the winter for several years marked the limit. He was a voluminous reader, and devoured practically every book that came into his hands. He longed for an education; but never had the opportunity of accomplishing his desire. The early schools in the pioneers' settlements were very crude affairs, and his biographer declares that some of the teachers from whom he took his instructions, were less qualified to teach than he was himself.

He was a leader among young

people, and when he became a man, he was still recognized as a leader in his community. He was not only a leader; but he was a good sport, of a pleasant disposition, kind and helpful to all those in need. He was made captain of a company during the war of 1812, and took part in the battle of Plattsburg.

For something like 12 years, he was recognized as an outstanding infidel. However, when he was converted, he was converted all over, and became a very diligent student of the Bible. It is stated by his biographer that his library consisted of the old family Bible and a copy of Cruden's Concordance. He must have had access to many other books, for in his lectures, he frequently referred to historians and theologians. Some time about 1830 or 1831, he came very definitely to the conclusion that the 2300 days of Dan. 8:14 represented so many years, and that the time would expire some time between March 21, 1843, and March 21, 1844. He took an active part in the local church work. In the absence of a minister, he was recognized as the reader of the company.

About 1831, he began to quietly teach his views of the prophetic periods; but he did not come into prominence as a Bible teacher until about 1840. From that time on until after the disappointment, he was in great demand, and was

unable to fill all the appointments offered to him. He lectured to over-flowing houses in the larger cities of the East—Boston, New York, Philadelphia, and Washington. He was not only a theologian, but an evangelist; and wherever he went, scores if not hundreds of people were converted. No doubt, many of them were frightened into accepting Christ thru his preaching of the near coming of the Master, and the destruction of all the wicked; but he knew how to point sinners to repentance, and was able to help them to obtain the victory.

Of course, he had many critics; some of the best Bible scholars of his time tried to show Mr. Miller wherein he was mistaken. Two of these outstanding characters were Alexander Campbell, and Chas. G. Finney. Neither of these indulged in any sarcasm, and they both spoke very highly of Mr. Miller's Christian character. They disapproved most emphatically of the way many critics abused him.

The first serious disappointment of the Millerites occurred in the spring of 1843; but they soon recovered from this, recognizing that they had made a mistake in the calculation of the beginning of their prophetic periods.

The second serious disappointment was in the spring of 1844. This threw most of them into great confusion; however, late in the sum-

mer some of his followers began to teach that the Lord would come on the Day of Atonement, which they fixed as Oct. 22, in 1844. Mr. Miller did not fall in with this new date until about 10 days or two weeks before Oct. 22. He never set a definite date for the Lord to come; but he did allow his friends to use his influence, and expressed himself as in sympathy with the teachings of his friends. It may be perplexing for some to understand how it was that Mr. Miller had such influence over the people. It was largely due to his application of a number of prophetic periods. He did not confine his argument to the "2300 days". He had, at least five periods which he claimed terminated in 1843 or 1844.

Mr. Miller taught that the seven times of Lev. 26:18 was prophetic time equalling 2520 years. He fixed the beginning of this period at 677 B. C.; consequently he made them terminate in 1843.

He also taught that Israel celebrated 49 jubilees before the nation was disbanded, and that the 50th jubilee, (or, as he expressed it "the jubilee of jubilees" would begin in 1843.

Another one of his periods which he made expire in 1843, was the 1335 years of Dan. 12:12. He estimated that the 1335 years began at 508 A.D. and therefore fit in with his scheme of interpretation and another point that he empha-

sized which seemed to take hold of the people, was his teaching that 6,000 years from the creation of Adam would reach to 1843, at which time the sabbatic millennium would begin.

He also taught that one of the 1260 years would terminate at the same time.

He taught that "the time, times, and the dividing of time" of Dan. 7:25, began at 677 B. C., the beginning of the time when the Gentiles should have rule over God's people. He states that the Babylonians had rule over Israel for 140 years, the Medes and Persians 205 years, the Grecians 174 years, and Rome 696 years, making a total of 1215 years. This reached to 1798 when the Papal rule of 1260 years expired, and then the nations again had rule over God's people for 45 years which was required to fill up the 1260 years. (1215 plus 45 equals 1260) which he claimed terminated in 1843.

Mrs. White, in EARLY WRITINGS repeatedly states that the prophetic periods (plural) ended in 1844. If anyone cares to look them up, turn to pages 232, 234, 235, 237 and 251. If the Lord spoke thru Mrs. White, then SDA's should teach at least more than one prophetic period as ending in 1844; but they do not and will not. They will stick to the one period 2,300.

William Miller, with the rest

of his followers, was greatly disappointed, especially on Oct. 22, 1844; but he was honest enough to acknowledge that he was mistaken. Mr. Miller was very much grieved after the giving of what the SDA's call "The Second Angel's Message" in the summer of 1844. He expressed his disapproval in the following words: "The calling of all churches, that do not embrace the doctrine of the advent, Babylon, I before remarked was the means of our not being listened to with candor; and, also, that I regarded it as a perversion of Scripture." MEMOIRS OF WM. MILLER, page 334.

It is unfortunate that the followers of Wm. Miller did not exhibit the same degree of honesty that he manifested. He was honest enough to acknowledge that he was mistaken, and did not try to explain away his mistake. After Oct. 22 practically all of the adventists that did not give up their faith, still looked for the Lord to come any time. Mr. Miller expressed this in a letter written to Elder J. V. Himes, Nov 10, 1844 thus:—"Brethren, hold fast; let no man take your crown. I have fixed my mind on another time, and here I mean to stand until God gives me more light, and that is, to-day, to-day, and to-day, until he comes." Id. p. 278.

He was not influenced by any of the fanatical positions taken by

some of his followers, especially the SDA's. What he said in regard to his teachings, is worthy of imitation by others. We reproduce his exact words on this subject:—"We expected the personal coming of Christ at that time; and now to contend that we were not mistaken is dishonest. We should never be ashamed frankly to confess all our errors.

"I have no confidence in any of the new theories that grew out of that movement, namely that Christ then came as the Bridegroom, that the door of mercy was closed, that there is no salvation for sinners, that the seventh trumpet then sounded, or that it was a fulfillment of prophecy in any sense" Id. 332, 333. (Emphasis ours)

Most SDA's are led to believe that the split between the SDA's and the first-day Adventists was over the subject of the Sabbath. This is a mistake. Brother and Sister White did not begin keeping the Sabbath until the fall of 1846—two years after the disappointment. The split came in the spring of 1845 at least 1½ years before the Sabbath was introduced, and the difference arose over one point. At the Albany Conference, April 29, 1845, Miller and his followers declared that they would go from that conference and begin laboring for the salvation of sinners. Bro. and Sister White, Joseph Bates in particular, and their

followers, began abusing Miller and his followers because they had departed from the truth in going out to save sinners whom "God had rejected." SDA's unitedly taught that probation had closed on Oct. 22, 1844 for all the world excepting those who were looking for the Lord to come in 1844. It is true that the Sabbath question widened the gap between these two factions; but it was not the cause of the breach.

Another difference that existed was that the SDA's stuck to the date Oct. 22, 1844 as the termination of the "2300 days." They began speculating about what happened on this date, while the First-day Adventists kept shifting the time of the termination of the 2300 days. Some of the outstanding leaders of the SDA's deny that they ever taught that probation closed in 1844; and some of them go so far as to declare that it was the 1st-day Adventists who taught this instead of the SDA's. Any honest one at all familiar with the early history of SDA's will never deny that the pioneers taught that probation closed in 1844. In this centennial year SDA's ought to teach or to publish to their people and the world that they did teach the close of probation in 1844.

A Re-Study of the Sanctuary is an eye-opener to honest SDA's. Use them freely in writing to your friends.



The **GATHERING CALL** has not devoted much time to discussing this terrible war. Our readers can get the facts from almost any of our secular papers. Nevertheless, we will continue to record historical events that we believe constitute a fulfilment of prophetic scripture.

For fully 30 years we have been teaching that some time before the coming of the Lord, the Holy Roman Empire, which was a federation of the nations of western Europe, would be revived; and that the Roman Catholic Church, symbolized by Babylon the Great, the mother of harlots, would be seated once more on this revived head of the scarlet colored beast, and that for a time she would boast:—“I sit a queen, and am no widow, and shall see no sorrow”; but the Lord says, when she is boasting, “therefore shall her plagues come in one day, death, and mourning, and famine; and she shall be utterly burned with fire: for strong is the Lord who judgeth her.” Rev. 18:7, 8.

After the first World War, such a federation of nations was organized in Europe; but it never was given power to function in international affairs. We feel confident that at the close of the present war, a strong federation of the nations will be perfected “with teeth”, and we believe that for a time, it will be under the control of the Roman Catholic system. We

don't claim to have any prophetic gift, but, according to our interpretation of Rev. 13:17, there will be two federations—one of Europe, and another of the American Republics, symbolized by “the beast,” and “the image of the beast.”

In a previous issue, we have shown that the beast, against the worship of which the third angel's message is a warning, is the revived Holy Roman Empire, which was smitten to death by the sword of the Spirit in the hands of those who supported the Reformation under Luther; but which will be revived, and will attempt to exercise all the power of the pre-reformation beast. And we believe that the R.C. Church will play a very prominent part in bringing about this revival.

Some careful Bible students may question our interpretation inasmuch as current events indicate that the U. S. would be a prominent member of the Old World federation. We do not believe that the U. S. will continue any great length of time as a member of the Old World federation. But, the U. S. according to prophecy, will be the instrument by which the American Republics will be combined in a strong active federation. In fact, Prime Minister Churchill, in one of his speeches, suggested that there should be at least three federations after this war—one in Europe, another in America, and

a third one in Asia. He also suggested that when Africa is sufficiently developed, a fourth federation can be formed in that territory.

The Bible very plainly teaches that the "beast" and "the image to the beast" will exist contemporaneously; and, for a time, will be united in their purposes. However, in future issues, we will discuss more minutely, the development of both the beast and the image to the beast.

It behooves every Bible student to keep well in mind Rev. 13 and 17, for "Time is a great demolisher of theories", and should subsequent developments be out of harmony with our understanding of these prophecies, we will not attempt to cover up our mistake; but will be as honest as William Miller was in frankly confessing that we were mistaken.

We believe trying times are in the offing for God's people, and for the world as well; but deliverance is assured for those who follow their Master.

---

### INTERESTING LETTERS

"We are very thankful for your paper; we read it with interest and give it to others to read. I am sending you \$1 to help along in the work."

In view of the prospective REVIEW & HERALD special, when the old errors will be glorified by writers who know as well as we do that their "sanctuary" theory is a mere puff-ball of error, we advise you to procure a copy of our SANCTUARY SPECIAL, and THE 2300 DAY 1844 DOCTRINE WEIGHED AND FOUND WANTING for use among honest S.D.A.'s. Price 10 cents each. Reduction on quantities.

---

### INTERESTING LETTERS

I will try again to see you if I have the opportunity to be in Riverside. Regarding the books "Power For Witnessing" and "Proclamation of Liberty and the Unpardonable Sin," I have never read anything like them. I have all of our books on that subject and nothing will compare with them. I can't understand why our people [SDA's] let the former get out of print. I am sorry I did not have the privilege of knowing your brother.

---

Be sure to keep on hand a supply of the account of the dedication of the college library at Takoma Park by a Roman Catholic. Hand them to your SDA friends or use them in your correspondence. They are free.

## The 1856 Conference

Dr. Kellogg's death has another important bearing on Mrs. White's "inspiration." In 1856 a conference was held in Battle Creek, Mich., at which she had a "vision" in which she said: "I was shown the company present at the Conference. Said the angel, 'Some food for worms, some subjects of the seven last plagues, some will be alive and remain upon the earth to be translated at the coming of Jesus.'" TESTIMONIES FOR THE CHURCH, Vol 1, pp. 131-132. A number of the brethren compiled a list of those who were at this conference. At first, they listed all those who were old enough to take part in it. When the older ones all died, then they searched for all of the babies that were there. Dr. Kellogg was born Feb. 26, 1852. This conference was held May 27, 1856. Dr. Kellogg was a little boy four years of age at this time. The writer has a personal letter from him stating that he was not in Battle Creek at the time of that conference but, even if he had been there, he would be the last baby even to pass thru the seven last plagues, and certainly none of them left to see the second coming of Christ.

The only honest explanation of this "vision" is the fact that Mrs. White was mistaken on this occasion; and, if SDA's were as honest

as the average run of successful business men, they would acknowledge that she was mistaken in this vision, and let the people know that she blundered; but they will never do it. I feel perfectly safe in declaring that a few, if not many of the ministers among the SDA's, would be glad to see the denomination put itself on record, and honestly acknowledge these mistakes on the part of their prophet. But those in authority will never allow it to be done. We may have occasion to write more in regard to Dr. Kellogg during this centennial year of SDA history.

---

### INTERESTING LETTERS

"I have never doubted but that everything published in the "Gathering Call" was founded on facts."

---

### BIBLE READINGS

"The book 'Bible Readings' was crowded in before 'Great Controversy,' which was already printed, and which should have been placed in the canvasser's hands first, because it was first, and contained important matter which the people needed to have as soon as possible." "Special Instructions Regarding Royalties," p. 9. 1899.

The sale of Bible Readings cut off thousands of dollars of her royalties.

## BOOKS FOR SALE

- A full set of 8 vols. "Testimonies to the Church" in good condition . . . . . \$5.00  
"Bible Readings," new edition . . . . . \$1.00  
"Great Controversy," edition 1888 . . . . . \$ .75  
"Empires of the Bible," by A. T. Jones . . . . . \$1.00  
"Gospel in Creation," by Dr. E. J. Waggoner . . \$ .25  
"Thoughts on Dan. & Rev." by Uriah Smith, 1897 . . . \$1.00  
"Questions & Answers," by M. C. Wilcox . . . . . \$ .25  
"His Glorious Appearing" . \$ .10  
"Marked Bible," "Freedom," and "World's Destiny" . . \$ .15

## BEFORE GOVERNORS AND KINGS

A most fascinating experience of a missionary among the Turks. A simple presentation of the Gospel which convinced a high dignitary of the Mohammedan faith. 12 pages, 2 for 5 cents.

## DUPLICATES OF MRS. WHITE'S WILL

We have a supply of these — duplicates of a certified copy of Mrs. White's will as it is on file in the Court House at Napa, Calif. We will furnish these copies at 50 cents each.

## SERVING IN NEWNESS OF SPIRIT

A beautiful presentation of the relation of works to grace in the plan of salvation. Free in any quantity with other literature.

## THE FIRST ANGEL'S MESSAGE or THE INVESTIGATIVE JUDGMENT —

S.D.A.'s teach that the Father and Son moved from the first to the second apartment of the heavenly sanctuary in 1844 to examine the books of heaven to determine who are worthy of salvation. 48 pages, 10c.

## THE SECOND ANGEL'S MESSAGE or THE FALL OF BABYLON —

S.D.A.'s teach that the Protestant Churches were rejected by God in the summer of 1844 because they refused to believe Miller's mistakes. 28 pages, 10c.

## THE THIRD ANGEL'S MESSAGE —

A history of a series of mistaken interpretations since 1844, followed by a Bible study of this message. 40 pages, 10c.

## THE PROPHET SPECIAL —

An impartial presentation of facts relating to Ellen G. White, Seventh-day Adventist prophet. 68 pages, 10c.

## THE 2300 DAY SPECIAL —

A most convincing presentation of Biblical and historical facts which show that no prophetic period ended in 1844. 80 pages, 10c.

DEPARTMENT  
FOR THE  
PROMOTION OF SOCIAL PURITY.  
N. W. C. T. U.

## Mothers' Meetings.

### Suggestions for the Local Unions.

#### **Why Should We Hold Mothers' Meetings?**

—Because vice is everywhere prevalent, and mothers need to be aroused respecting the extent of the evil and learn to understand the hundreds of different avenues by which its influence may reach even the most sheltered homes of our land. Blindness to moral danger often invites disaster. Mothers need to be awake and on the alert to increase the safeguards of virtue around their children. Mothers cannot ignore these perils if they would rightly fortify their children to meet the depraving influences and temptations which are certain, sooner or later, to assail them, for, as has been aptly said, "Much as parents may desire it, they cannot bring up their children packed in cotton wool, safely stowed away in bandboxes, labeled, 'this side up.'" Whether we like or not, we have to face the difficulty that our little ones, like ourselves have corrupt, fallen natures, and that it depends to a great extent on the training given in the home as to which side shall be uppermost—that which is evil and corrupt, or that which is pure and noble.

It is not enough that mothers endeavor to keep their

children from contamination by contact with evil; they must do a two-fold work and keep their young minds filled with high aims, and pure, elevating and ennobling thoughts, or they will find themselves at last in the situation of the mother whose son was condemned to death, and who on visiting him in prison cried, "O my boy! what has brought you to such an awful end?" to which the young man sternly replied, "Mother, you are the cause." Bursting into tears she asked, "Why, what harm have I ever taught you?" The son made the sad reply, "You neglected to teach me any good, and as I did not know better, I have sunk lower and lower."

A lady, president of a temporary home for women, where erring girls from all walks of life are received, kindly cared for, and every effort made to win them back to paths of virtue, recently said: "Of the hundreds of girls that have been sheltered in the Home during the twelve years in which I have been connected with it, to not a *single one* has her mother been true to her duty as a mother." Verily a fearful responsibility rests upon the shoulders of the mothers of the land! And when we consider how many women in these days assume the responsibility of motherhood with no especial fitness or preparation for its duties, the wonder is not that so many of the youth fall, but that so many escape.

It is our hope that through the Mothers' Meetings, mothers everywhere may be aroused to see the dangers that threaten the youth, to realize their own responsibilities, and to begin an earnest study of the ways and means by which they can intercept temptation, stop the feet of those that run to destruction, and build up such bulwarks against vice by right training and home influences that the young lives entrusted to their care may be able to stem with safety the tide of evil in the world.

Prevention is always better than cure, but true prevention must be brought about by correct education. If prop-

erly carried on, we believe there is no other one thing which will exert so great an influence in the promotion of purity as the Mothers' Meeting; and we urge that every Union hold at least one such meeting each month.

**What Shall We Study?**—Anticipating the need of aid in this direction, the program of Topics given below has been prepared. This program was intended to cover the various influences which are exerted over the life of an individual from earliest infancy, through the years of development, to maturity. Under each head are given a few important points as suggestions, each of which, if preferred, can be taken up and discussed as a separate topic.

If, possibly, some of the points submitted may be deemed objectionable, *it should be remembered* that the program is not prepared for miscellaneous audiences, but for the thoughtful and prayerful study of earnest Christian mothers who have the welfare of their own and their neighbors' children at heart; and should it be thought best to omit in the meeting the discussion of any point suggested, let the mothers study more carefully the same by themselves.

We have not wholly relied upon our own judgment in the selection of these topics for study, but have sought the counsel and approval of our general officers, and such persons as Dr. B. F. De Costa, Mr. and Mrs. Powell, Dr. Emily Blackwell, Dr. Anna Lukens, Mrs. Coffin, and others of long experience in the work.

One word of caution; the greatest care should be taken that these subjects be treated in such a manner as to give no offense and bring no reproach upon our Department work. This is something in which we need to be "wise as serpents and harmless as doves." And while each subject should be studied thoroughly and conscientiously, it can be presented in such a delicate way as to bring no reproach upon our Cause.

## TOPICS FOR STUDY AND DISCUSSION AT MOTHERS' MEETINGS.

### 1.—Predisposing Causes.

1. Personal habits, self-abuse, etc.
2. Bearing of clothing, exercise, sleep and diet of children on the subject.
3. Effects of the use of highly seasoned and stimulating foods and drinks upon the passions.

### 3.—Danger to Our Girls.

1. Effect of luxury.
2. Bringing up girls to idleness and dependence.
3. Ignorance upon sexual subjects.

### 4.—Dress and Vice.

1. Love of dress, extravagance in dress.
2. Dress a temptation to vice among the poor.
3. Low necked, sleeveless dresses.
4. Physical bearing of tight clothing.

### 5.—Pitfalls for Our Boys.

1. Lack of respect for woman.
2. Mental unchastity and ignorance.
3. Loafing, aimlessness, etc.
4. Fashionable dissipation.
5. Obscene conversation.

### 6.—Stimulants, Narcotics and Vice.

### 7.—Aids to Impurity in Both Sexes.

1. Undue familiarity of the sexes.
2. Modern methods of courtship.

### 2.—Early Perverting Influences.

1. Juvenile flirtations.
2. Sexual precocity.
3. Promiscuous associations.
4. Danger to children from nurses.

3. Flirtations.
4. Skating Rinks, round dances, etc.
5. Dancing schools.
6. Tenement house evils.

### 8.—Bad Hygiene vs. Virtue.

1. Overcrowding of families in cities.
2. Diet vs. chastity.

### 9.—Literature and Vice.

1. Obscene and impure books.
2. Novel reading, sentimental literature, etc.

### 10.—Responsibility of Parents.

1. Wrong ideas of life taught to children.
2. Ante-Natal influences.

### 11.—The Legal Aspects of the Question.

1. Age of marriage.
2. Age of consent.
3. Marital crimes.

**How to Start Mothers' Meetings.**—1st. Set apart a day in each month to be devoted to a *Mothers' Meeting*. Fix the date of the first meeting, and determine the subject for discussion at the same.

2d. Appoint a committee to visit all the mothers of the town, whether members of the Union or not, for our work in this direction must extend beyond the limits of the W. C. T. U., and talk with them respecting the im-



portance and value of Mothers' Meetings, giving them a personal invitation to attend, and, if possible, *secure their promise to do so*. Nothing else that can be done will prove so effectual in securing the attendance of mothers as personal efforts of this sort. Where this is wholly impracticable, written or printed invitations sent to each mother is the next best plan. It is also a most excellent plan to leave or send with the invitation a copy of leaflet No. 1, Mothers' Meeting Series, "An Appeal to the Women of America," asking as a favor that it shall be given a careful perusal. This will help to foster the interest which has already been aroused.

3d. The local Superintendent should visit the pastors of the various churches and endeavor to interest them in the work, explain the object of the meeting, secure, if possible, their endoresment, and ask them to announce the meeting to their congregations with such supplementary remarks concerning the importance of such meetings as they are willing to offer, or better still, a sermon on social purity.

4th. The local Superintendent should see that the meeting and also the subject to be discussed is well announced in the local papers. Do not rest satisfied, however, with the mere announcement, but secure if possible the publication of several short articles or items respecting the object and importance of Mothers' Meetings.

**How to Conduct Mothers' Meetings.**—1st. Open the meeting by the reading of passages of Scripture selected with especial reference to their bearing upon the subject under discussion; a season of prayer and music if desirable. The local President should preside at this, the same as at other meetings of the Union. Waive all business transactions as far as practicable.

2d. The local Superintendent should next present the

subject for discussion either by a well prepared, practical paper, or a plain, well meditated talk, or by reading the whole or portions of the leaflet upon the subject, or selections from other writers, interspersing the same with practical thoughts of her own. Should the latter course be pursued, the Superintendent should previously make herself perfectly familiar with the text, that she may express herself with feeling and without hesitation. Very much will depend upon her manner of reading. The Mothers' Meeting series of leaflets were not designed to take the burden of preparation off the shoulders of the local Superintendent, but simply as a help to aid her in her work, and it should not be made to take the place of an earnest effort on her part to make the meeting of the greatest practical value to those in attendance.

The presentation of the subject by the Superintendent should not exceed thirty minutes in time, after which a short time should be given for a general discussion of the subject by the mothers present. This discussion should be as general as possible, with *short* speeches, but with *no gossip, no recital of marvelous incident and personalities*, nothing, in short, to lower the standard from the moral, religious, scientific plane.

3d. After the discussion opportunity should be given for questions, if desirable. It is a good plan to have at each meeting a quantity of blank slips on which the questions may be written. These may be circulated at the opening of the meeting and gathered up during the rendering of a hymn, at the close of the discussion. Such a plan will give to all an equal chance to ask questions, and if any questions asked cannot properly be answered in such meeting, they can be passed unnoticed through the good judgment of the local Superintendent, to whom they should be given for answers.

4th. At the close of the meeting a package of the leaflet, pertaining to the subject of the day's discussion, should

be distributed to the mothers in attendance. The expense incurred in procuring the leaflets may be met, if necessary to do so, by selling the leaflets at two cents apiece to all who will pay for them. Enough of the leaflets will undoubtedly be sold to cover all expenses and allow of the gratuitous distribution of a leaflet to all who are not willing or prepared to pay for one.

The *White Shield* pledge should always be circulated at Mothers' Meetings, and every effort made to secure signatures.

The *Silver Crown* pledge (for boys) and the *Daughters of the Temple* pledge (for girls) should be under the special fostering care of the Mothers' Meeting, a committee of our best, wisest and most motherly hearted women being chosen to superintend their circulation. Let it be remembered, however, that the women's and girls' pledges do not involve the formation of a society. That of the boys may.

For literature to aid in the study of the topics for Mothers' Meetings and for distribution, send to the W. T. P. A., 161 LaSalle St., Chicago, Ill.

MISS FRANCES E. WILLARD,

MRS. J. H. KELLOGG,

*Nat. Supt.*

*Supt. Mothers' Meetings.*



# SUGGESTIONS FOR WORK FOR LOCAL UNIONS IN THE DEPARTMENT OF HYGIENE.

N. W. C. T. U.

**How to Go to Work.**—First of all, secure a local Superintendent to take charge of this branch of the work. Then if the members of the Union are not well posted in Hygiene, institute some plan of systematic study for your own information. Set apart a given portion of time to this work, every third or fourth session of your Union, at least, at which time let your entire program be devoted to Hygiene. Open your exercises with reading a portion of Scripture bearing as closely as possible upon the topic under consideration. For all who need such aid, my Syllabus of Lessons can be followed. Whether this is followed or not, let the subject to be taken up at the meeting be well understood beforehand, and if there be a local paper in the town, have the subject announced through its columns and invite ladies not belonging to the Union, to be present. Some one should be provided to present the subject under consideration, either by a short informal talk or by a well prepared paper. If there is a local Superintendent, she should do this or secure some one to do it. Afterward the ladies should resolve themselves into a committee of the whole and discuss the subject or read extracts bearing upon it which they may have found, endeavoring in every possible way to canvass the subject thoroughly. If the Syllabus is to be followed, and the subject of Physiology is thoroughly understood by all, the lessons which are wholly on Physiology need not be used. If they are *not* already well understood, a physician or teacher of Physiology might be asked to present the important points, illustrating the same with charts, in case the local Supt. feels incompetent to do so. You will understand that Physiology is the base upon which Hygiene is founded; we must first understand the structure of the body before we can intelligently study the laws of health, hence in the study of Hygiene more or less Physiology must be included.

**Health Library.**—Every Union should try in some way to secure a library of health literature. Even if only a few books can be afforded at first, these will be most valuable aids in the work, if selected with care. Use them not only for reference but loan them and urge people to read them. Get each member to donate five cents a year for this purpose, and even that small amount judiciously expended will prove of great service. Subscribe for some good health magazine, if nothing more, and have it read at the meetings of the Union or loan it to the members to take home and read to their families.

**Reading Rooms.**—Where it is possible to do so, the establishment of a free Health Reading Room is a most excellent measure of work for this Department. Fitted up pleasantly and well stocked with books and magazines on Hygiene, such a means would be a power for good. Such a measure would involve considerable expense, of course, but there are many Unions in large towns that might establish such Reading Rooms if they but had the will to undertake it, since there are so many people at the present time interested in Hygiene who would willingly aid such an enterprise. Where so broad a step is impossible, much good can be done by placing health books in such reading rooms as may already exist.

**Circulate Health Literature.**—Loan your health books and periodicals; circulate all the health literature obtainable. As we grow older in this great work and are able to publish more literature, we can do more good, but we do not circulate the few tracts and pamphlets that are available as we ought. Send to Chas. E. S. Fielden, 161, La Salle St., Chicago, Ill., for Dr. Cushman's "What to Do to Prevent Cholera," and circulate copies of it everywhere. The Department of Hygiene might make itself a universal benefactor with just this one leaflet, if

thoroughly circulated. Send to Julia Colman for copies of "The Problem of Thirst," "Decayed Drinks" and "Heredity and Hygiene." I can furnish copies of the little tract, "Progress Healthward," at 10 cents a hundred; the Syllabus of Lessons at 3 cents each; and a reprint from the Michigan State Board of Health Report, entitled "Decomposing Organic Matter," a valuable sanitary tract, of which I have a limited supply, can be had free, on application. I am preparing a series of Readings on Food which I hope will aid in the study of that subject.

**Health Lectures.**—Another measure of work for this Department which every Union can undertake if it will, is the holding of a series of HEALTH LECTURES or the formation of HEALTH CLASSES for young girls, those who are to become the wives and mothers of the future. If we expect to bring about reform, our greatest hope is in the rising generation. Established habits are hard to overcome, but a right start at first will be likely to insure a good degree of success. No person who has the care of other human beings in any capacity, (and for the majority of young women this will be the chief duty of their lives), ought to undertake such a responsibility in ignorance of God's health laws. Such a person should understand the nutritive qualities of different kinds of food, and why some are easy of digestion, and others not, and in what way each kind builds up the body. She should understand the chemistry of cookery, and be able to select and prepare just the kind of food calculated to make the best blood, brains and bodies and above all, she should know the tendency of an unwholesome, stimulating or impoverished dietary to lead toward intemperance. She should know that abnormal physical conditions, whether the result of improper foods, unhealthful clothing, poor ventilation, over-work, or other violations of health laws, tend toward intemperance, since whatever lessens natural strength creates a demand for artificial strength. These things are not taught in the colleges of our land, and are included in the home education of but few young women. To whom, then, more truly belongs the philanthropic undertaking of educating the young women of the town, the shop girls, servants, teachers, society girls, and young women in all walks of life, to an honest understanding of what is needed to become true temperance women, wives and mothers, in the broadest, grandest sense, than to the W. C. T. U.? A course of lectures on Hygiene can be undertaken in every town with but little trouble, and such a course, if judiciously arranged and well worked up, would certainly do much to bring about the desired end.

**General Meetings and Lectures.**—It would be a good plan for the Unions in each county or

district to arrange a meeting once a year, at some convenient point, to which the Unions could send delegates and call upon the State Supt. to come and conduct a series of lessons in Hygiene, lasting for a day or two, with public lectures in the evening. Where it is possible to do so, a State Normal of Hygiene is a most excellent and helpful measure of work.

**Classes in Hygienic Cookery** are another measure of work highly to be recommended. This, of course, would require a teacher, but almost any energetic woman who is willing to study the subject could soon fit herself to take charge of such a class. There certainly ought to be found such a person in every Union, and if any such will write me, I think I can mark out for her a program which she could follow out with success.

**The Fashion Petition.**—Another measure of work is the circulation of the Fashion Petition which has been sent out by this Department of our W. C. T. U. The circulation of this petition is health missionary work. It will furnish an excellent opportunity for the dissemination of the principles of healthful clothing. Great good may be done with this alone, if those who circulate it take pains to talk with all to whom they present it upon the importance of healthful dress. An effort should be made to get the names of fashionable ladies especially, and to mention the subject in any local paper where it will do good.

**How to Make Money.**—Many ask me, what shall we do to get money to carry forward the work in this department? I confess that this is a hard problem to grapple with. Most of the work we ought to do needs to be done without setting upon it a money value; for instance, a course of lectures to do the most good should be free. Collections are of course permissible and should be made wherever practicable. In many towns, a subscription paper circulated among the business men, ministers, physicians, etc., will be found a good measure. People as a general thing have some interest in sanitary topics, and persons who would give nothing to help other branches of our temperance work, will give for this. I think, too, each Union might ask a contribution or tax from each individual member for this purpose. A public hygienic dinner gotten up and served at a time when there was a large gathering of people in the town, has, in some places, been the one thing needful to add a goodly sum to the treasury. This is something highly to be commended if carried out on strictly hygienic principles. It is a novelty which will attract and do good in a two-fold way; it will help the Union in dollars, while the principles of healthful living exemplified will be seeds for good sown in the minds of all who partake of it. Town, County and State

Fairs are excellent opportunities for such a dinner. I have studied this problem of money making for a long time, and have wished that I were able to suggest more fertile plans, but I have thought of only one more, and it is this: The publishers of *Good Health*, the journal with which I am connected, have given me permission to say that if any Union or committee from a Union will obtain one or any number of subscribers for *Good Health*, at the regular subscription price, \$1.00 a year, 40 cts. of every \$1.00 thus obtained may be retained by the Union for their Department of Hygiene fund, and the remainder only sent on to the publishers for the journal. It should be accompanied by a note from the local Supt. of Hygiene on the Sec. of the Union certifying that the amount retained is to be used for the Department of Hygiene work. Agencies for other good health or temperance journals may be obtained.

**Other Measures of Work.**—The measures of work which I have suggested are nearly all of them within the reach of the ordinary Unions. If greater things are desired, and broader plans of work needed, I suggest the establishment of free Schools of Cookery; the provision of hygienic lunch stands and restaurants, for business men and women; five cent meals of oatmeal and milk, whole wheat bread, fruit, or some other simple fare, served in a pleasant room, where boot-blacks and news-boys and others of the poor and laboring class may obtain a wholesome breakfast or dinner at slight cost. Such a place would be

a power for temperance. Canon Kingsley, in speaking of the physical causes of drunkenness, gives as his opinion that one of the most fertile sources of intemperance lies in this, "that in the heavy struggle for existence which goes on all around us, the *weak* have to compete on equal terms with the *strong*, and crave in consequence, for artificial strength." Poor food is one of the most prominent sources of deficient vitality, and the poor, the laboring classes in our cities, so generally feed upon poor food that it is hardly to be wondered at that they crave stimulation. A place, then, where good bone and muscle forming food could be supplied at minimum cost would be an undertaking productive of the greatest good to the temperance cause. Lars Olsen Smith, of Sweden, is working upon this principle and establishing in Stockholm what he terms "Steam Kitchens," where the laboring men can obtain just the proper amount of the right kind of food to sustain life at its best, and secure it at very low cost. This Swedish philanthropist says, "I have studied the temperance question in all its phases, and I believe it all depends upon the question of food." Doubtless his views are somewhat extreme; but that *very much does depend* upon food we must all acknowledge, and I believe similar "kitchens" in our large cities would prove a wonderful aid to our cause. I believe, also, that no organization could better carry out such measures than our W. C. T. U., and I trust the time is not far distant when we may be able to undertake something of this sort.



# Home - Culture

CONDUCTED BY  
MRS. E. E. KELLOGG, A. M.

## HOUSEHOLD ECONOMY.

ECONOMY is one of the cardinal principles of success in good housekeeping, and consists in making advantageous use of time, strength, money, and material; it pertains to the *littles*, the minutes, the pennies, the 'scraps,—even more than to the large amounts. We are apt to recognize the importance of careful consideration in regard to large outlays, but we let the fragments of time, money, and material slip through our fingers without thought of their value. And this is a matter of such common occurrence, and one which it requires such everyday vigilance to prevent, that it is well worth our while to study some of the ways in which we may avoid waste in housekeeping.

Economy is largely a relative term; it is a matter which must correspond with surrounding circumstances and conditions. Sometimes money or material is really of less value than time or health; and what might in one case show the best and most prudent management, would in another instance be the poorest kind of economy. "Real waste of anything is loss without any equivalent gain."

All possess an equal amount of capital as regards time. There are only twenty-four hours of sixty minutes each in any one's day; yet there are those who accomplish far more than others in a day, because they squander less time, or make more advantageous use of it.

In order to learn how to economize one's time, it is necessary first to take an inventory of the use usually made of it. Keeping as careful an account of the expenditure of time as one does of money will readily serve to show the points at which retrenchment may be made.

"Sorting over" the work to be done and planning ahead for its achievement is a great help toward economy of time. To take a few minutes the evening previous or early in the morning to think over

the day's work, and formulate some practical plan for its accomplishment, will prevent much of the careless loitering on the one hand, and the aimless bustle and flurry on the other, by which time is so often wasted.

In some households time is wasted in superfluous work; in others, it is worse than thrown away in idle gossip; and sometimes an entire day is devoted to little, unimportant things which ought to have been sandwiched in between the larger duties of life. Both time and strength are dissipated through want of method. Twice the amount of energy is expended by the unsystematic worker than would be needed for the same work by one who has mastered the art of so managing that the different duties of the day overlap and fit into each other.

Without system, one may work almost to the point of exhaustion, and yet accomplish almost nothing, and then wonder, like the man jumping in and out of a bucket all day, "why a body don't get on far when he's kept agoing all day." Keeping things in order saves a great deal of time. A place for everything and everything in its place should be the rule in every home. Let shelves, drawers, cupboards, and closets each have its own appointed contents, which, when used, shall be returned with careful order. It takes no more time nor trouble to put things away at first in their right place than to lay them aside in some wrong place; while it does take time which soon accumulates into wasted hours and days to hunt for mislaid articles, and "straighten up" disordered receptacles.

The too common practise of taking what appears the easiest course at the moment, letting things go just as they happen, till there is a general clearing-up time, is in the end a waste of both time and strength. Such spasmodic renovations avail but little. Orderly, systematic work is the great time-



of are due to the unwholesome conditions to which the student is subjected, especially to the vicious combination resulting from the conventional waist-

constricting dress, with the lack of muscular activity, and from injurious sitting attitudes.—*Education Extension.*

---

### HOW TO BREATHE.

It is of the utmost importance to accustom one's self when walking to frequent intervals of conscious breathing. No involuntary action of the body is habitually so carelessly performed—so almost shirked—as this one, and upon no other does our health so largely depend. The great majority of the human race keep their lungs in a state of semi-starvation; and diseases and ailments manifold can be traced to this cause alone, since the very act which deprives one of life-giving oxygen also returns to the arteries impure blood, weighted with poisonous carbonic acid.

If the lungs be properly inflated, this act alone gives to the body a buoyancy, which greatly increases the pleasure, and lessens the exertion, of walking. Of course a mincing or languid step must be avoided. Take a free and firm, but light, stride, balancing the upper part of the body alternately upon each hip—but without swaying it perceptibly—and giving the impetus forward with a slight spring from the ball of the foot. Naturally, the mind will at first have to direct these motions; but the body responds delightfully to right ways of doing things; and if the exercise of walking can be taken where there is much of interest to divert one, it will be found a great advantage, for this ready and cheerful response of the entire body when its muscles are thus called into harmonious action, imparts a sense of exhilaration which makes one feel more like a bird than anything else can till flying-machines are accomplished facts.

The lungs have their own muscular power, which, unfortunately, is not more than half developed. The simplest preparatory exercise is full, deep breathing. Draw in a long, deep breath, expanding

the chest as fully as possible without straining either lungs or muscles. Retain the breath thus taken while you count ten; then as slowly as possible, expel it. This conscious breathing will soon enlarge and strengthen the lungs, and the more frequently this conscious action can be made, the better for the lungs and the health.

Remember in all breathing exercises that nature's avenue to the lungs is through the nostrils; provision is made in the nasal passages to catch impurities and foreign substances, which, if carried to the lungs, as when breathing through the mouth, are liable to cause serious trouble. The very best time to practise lung gymnastics, is in the morning before dressing, and again at night, for the body should be free from all restraining clothing. Stand erect, with chin down, and rise upon the toes as you inhale; hold the breath a few moments, so that the air may act on the whole surface of the blood, nourishing it, and at the same time taking up impure gases, then expel it forcefully and as completely as possible, coming down upon the heels at the same time. Five minutes of this work night and morning will work wonders.

If a proper carriage of the body be retained in all the ordinary duties of life, whether sitting or walking, it will be found to greatly minimize the fatigue of daily duties. It is the throwing of double work on some muscles by leaving others in idleness that causes more than half the pain of back and limbs which women suffer. If you walk up stairs properly, with figure erect, legs and joints flexible, and breathe properly, it is a healthful exercise, which cannot harm even a feeble woman.—*Maria Duncan, M. D.*

---

**HOW TO WALK.**—Of course there is no virtue in a dawdling walk. The slow and languid dragging of one foot after the other, which some people call walking, would tire an athlete; it utterly exhausts a weak person, and that is the reason why many delicate people think they cannot walk. To derive any benefit from the exercise it is necessary to walk with a light, elastic step, which swings the weight of the

body so easily from one leg to the other that its weight is not felt, and which produces a healthy glow, showing that the sluggish blood is stirred to action in the most remote veins.

This sort of walking exhilarates the whole body, gives tone to the nerves, and produces just that sort of healthful fatigue which encourages sound, restful sleep.—*Sel.*

ance. A flat, hollow chest means compressed lungs, which are never for a moment free to expand to their fullest extent, and hence are more liable to consumption and other diseases than lungs which are well developed and have full play in their movements. Round shoulders resulting from posterior curvature of the upper part of the spine are always connected with a flat or hollow chest, and signify not only compressed lungs but also a depressed stomach. It is common to find the stomach displaced anywhere from three to six inches, as the result of this physical deformity. Anything which flattens the

any other cause, is a crippled and diseased organ. A dislocated stomach, kidney, liver, or colon is a much more serious matter as regards health than a dislocated shoulder or hip.

A great share of the disorders of digestion and resulting impairment of the mental and nervous energy complained of by students, is the result of this depression of the stomach and other viscera. When the stomach is prolapsed, the food cannot readily find its way out, the organ being unnaturally lowered. The food, being thus retained for an unusual length of time, undergoes fermentation, and putrefactive processes are set up, whereby the system is not only robbed of the nutrient elements necessary for proper nourishment of the blood and repair of the tissues, but, through the conversion of a portion of the food elements into ptomains and other poisonous substances, the whole body is contaminated.

This is the chief source of headache, of palpitation of the heart, and so-called biliousness. This condition is commonly manifested by a bad taste in the mouth, a coated tongue, inactive bowels, mental dulness, confusion of thought, inability to concentrate the mind, irritability, forgetfulness, nervousness, and allied symptoms. There are, of course, other causes of these symptoms, but the one mentioned is certainly one of the most prolific.

How quickly these symptoms disappear when an opportunity occurs for a few weeks of out-of-door vigorous activity, especially in the case of young persons! The depressed organs quickly rise to their normal place when afforded opportunity to do so, but not infrequently, especially in the case of young ladies, the evil results of relaxed sitting are aggravated by the still more actively damaging influence of the conventional dress. This fact is well shown in Fig. 14.

The more or less rigid corset, having an inward curve, presses upon the organs of the waist to an increased degree in the sitting position, especially in bending forward. Under these circumstances, it is no matter of wonder that so large a proportion of young women students fail in health during school life. The injuries which they suffer are commonly charged to overstudy; whereas it is clear enough to the physician that the evils complained

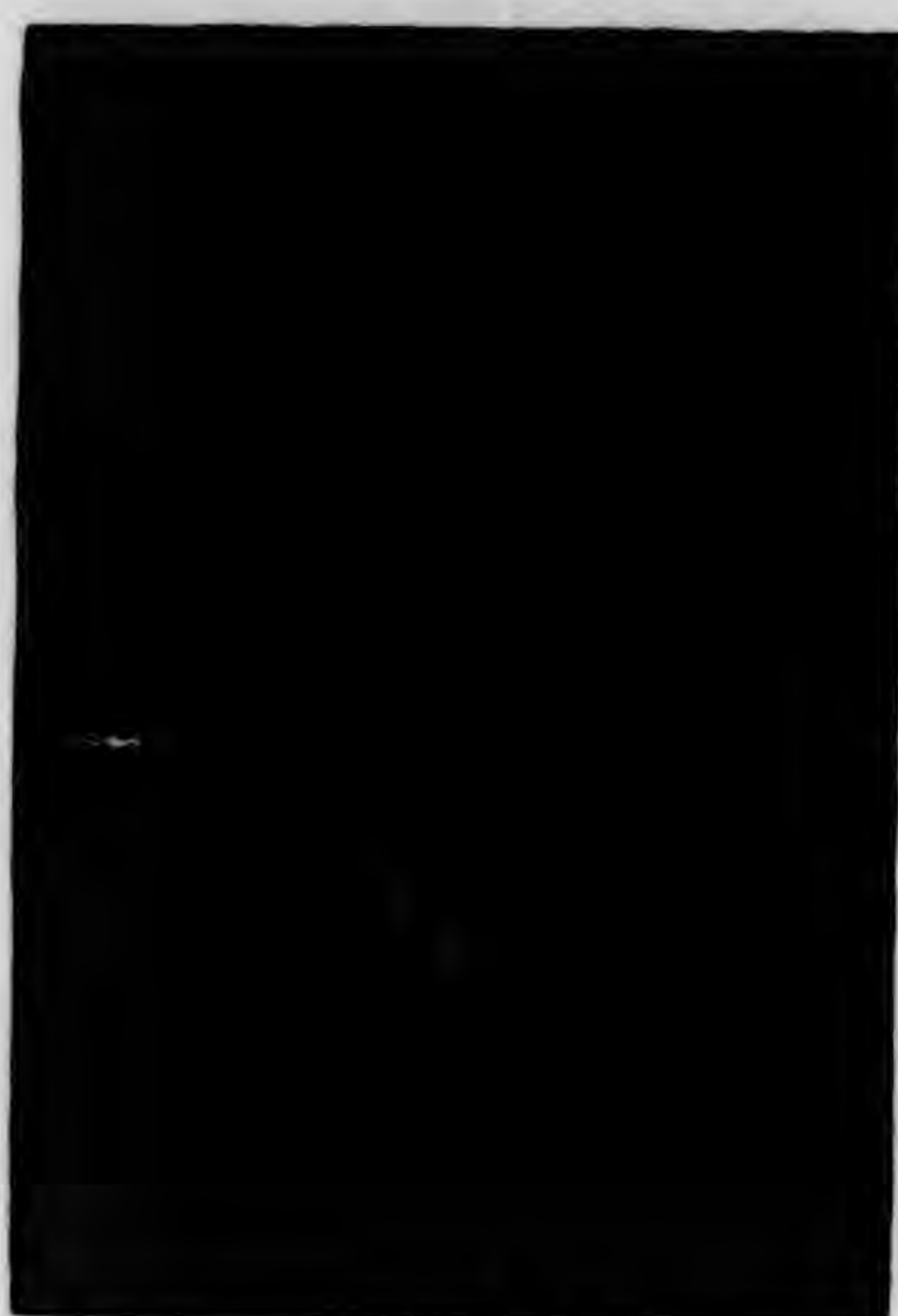


FIG. 12.



FIG. 13.

chest or waist necessarily results in the downward displacement of the stomach or other organs.

The result of this interference with the normal relations of the vital organs is a more or less serious derangement of the general health. The compressed lungs, not being able to expand to their fullest extent, are greatly hampered in their activity. Oxygen is not received in sufficient amount, the blood becomes impure, the tissues are clogged by the over-accumulation of tissue poisons, appetite and digestion fail, the blood becomes impoverished, the complexion dingy, and the whole body is weakened, the growth and development of physical and mental activity is interfered with, and a morbid bias is given to the whole life of the individual.

The lungs and heart constitute the great vital engine by which all the vital processes are kept in active operation. Seventy-two heart-beats and eighteen respiratory movements mark the rhythmical activity which keeps in circulation the vital fluid throughout the body, and supplies to each cell and the vital fluid of the blood and tissues the life-giving oxygen necessary for their activity and repair.

A depressed chest is a weakened and inactive one. A prolapsed stomach resulting from a relaxed position in sitting or from waist constriction, or from



FIG. 14.

always indicative of spinal curvature. This condition is exceedingly common among students and all classes of sedentary people. It is especially common among young women because of their less active life, their less vigorous development, and the damaging influence of the conventional mode of dress. Some years ago the writer, by request of the faculty, visited a well-known college for the purpose of making a physical examination of the students in relation to gymnastic work, which was for the first time made obligatory as a part of the daily program, a regulation which ought to exist in every school, either public or private, irrespective of grade. Of seventy-four young women examined, spinal curvature was found to exist in seventy-one, or ninety-six per cent. of the entire number. Another investigation was made of a large number of young women,—an asso-

be concealed. This form of curvature is shown in Fig. 4, also in the solid white outline of Fig. 3. Contrast these outlines with those of Fig. 5 and the

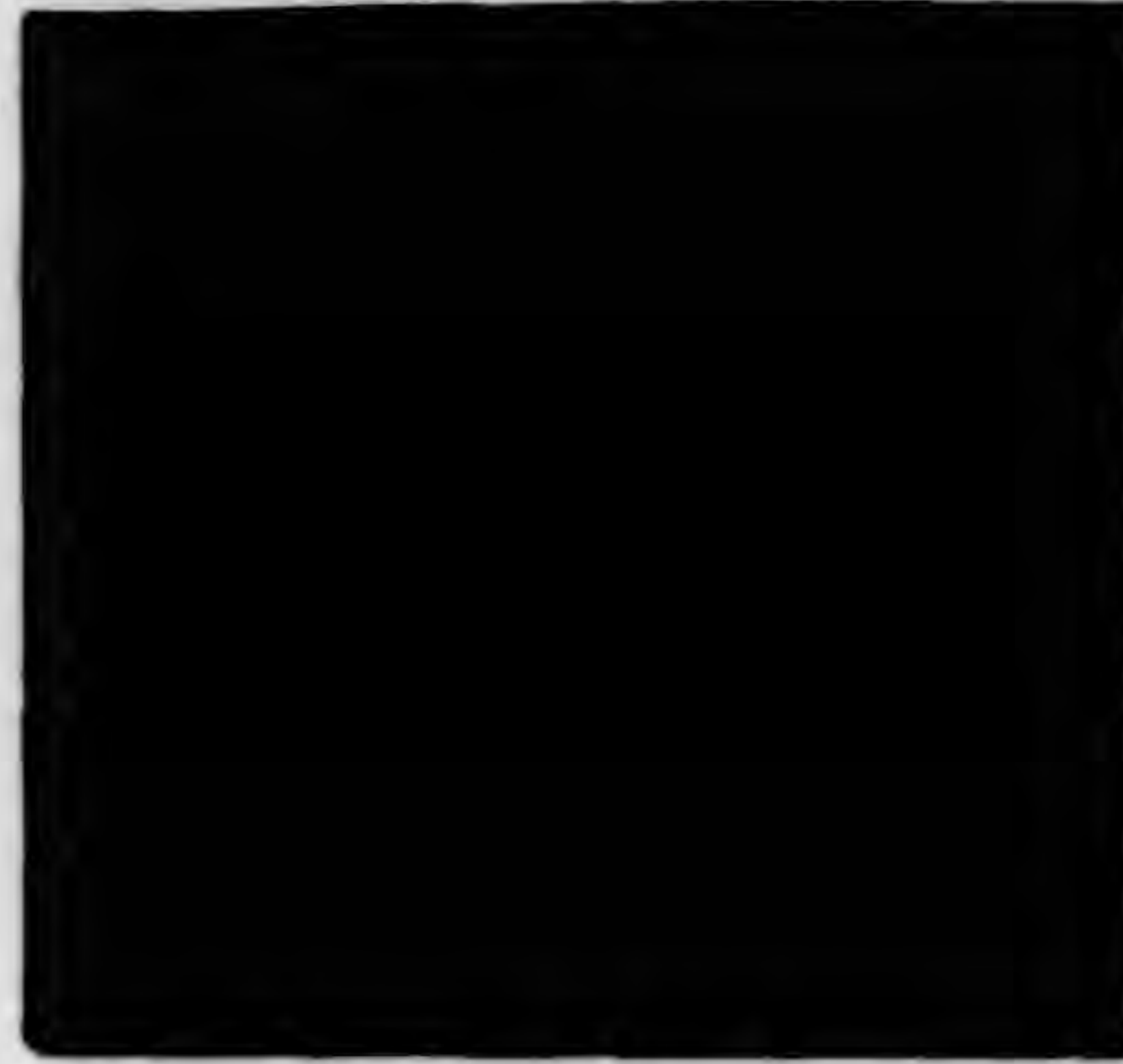


FIG. 8.

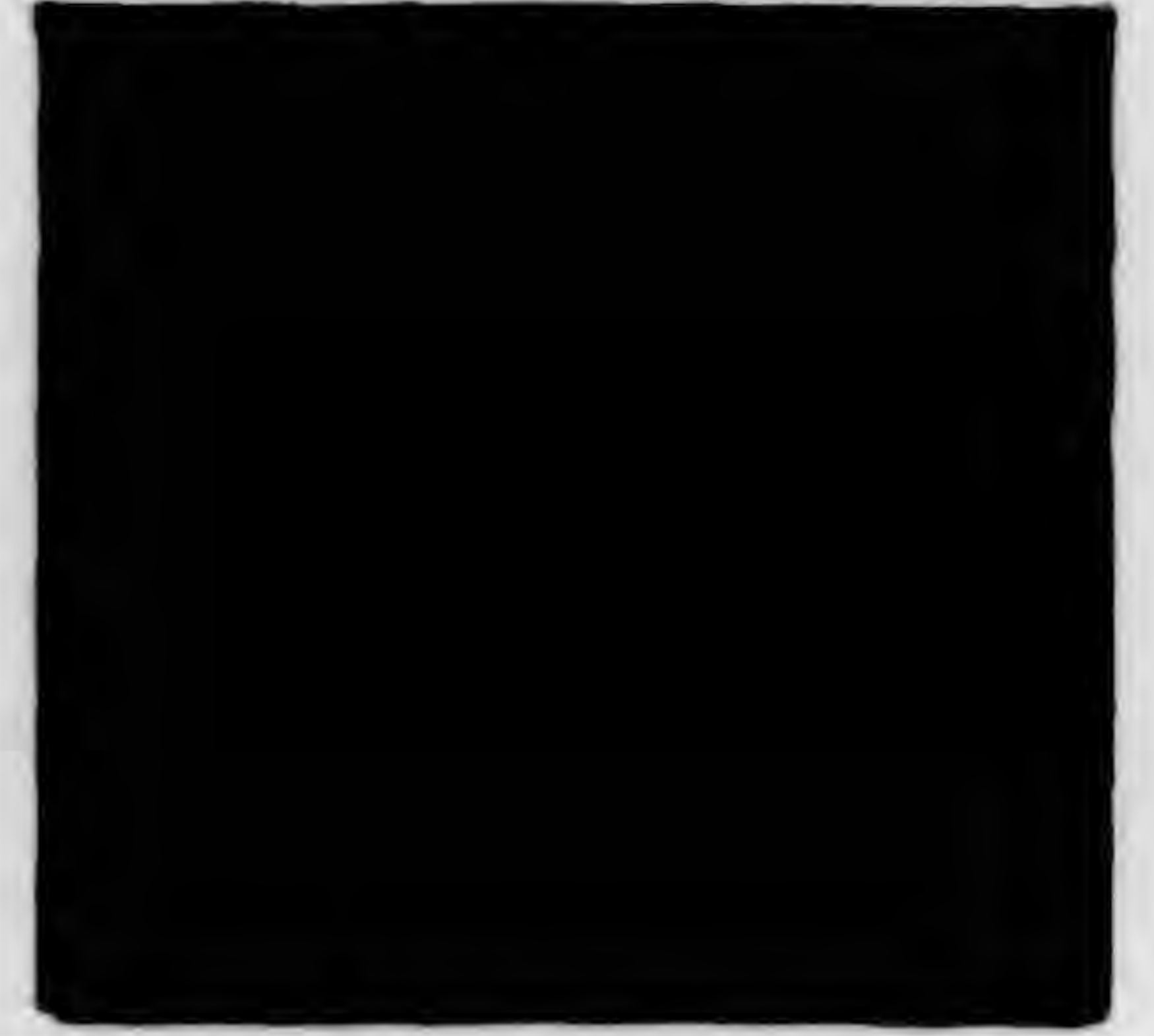


FIG. 9.



FIG. 6.



FIG. 7.

ciation of working-girls in one of our large Western cities—which showed an equally large proportion of spinal curvatures. These curvatures were evidently the result of wrong positions in sitting, the evils of which were increased by neglect of physical exercise and incorrect modes of dress.

The body may be thrown out of poise or placed in such a position that an unusual strain is brought to bear upon any of its structures for a short time without injury; but when this strain is habitual, lasting for hours at a time, or when it is many times repeated each day, even for a brief period, distortion, displacement, or some other deformity is sure to result.

Posterior curvature of the spine, manifested by round shoulders, a flat or hollow chest, forward carriage of the head, and an unnatural straightness of the back, is much the most common of all the forms of spinal curvature, and though commonly neglected, is productive of more mischief than lateral curvature. Lateral curvature (Fig. 1) can be easily hidden by the devices of the tailor or the dressmaker, unless very extreme, but posterior curvature is so patent from the signs mentioned, that it cannot

dotted line of Fig. 3. The figures shown are not diagrams, but are outlines of actual persons, made by means of a tracing apparatus over a thin garment, and represent the difference between correct and incorrect carriage of the body. The two outlines of Fig. 3 represent the same person, as do the outlines in Figs. 4 and 5. The difference in outline is simply the result of the difference in the way in which the muscles act upon the bony skeleton.

In Fig. 4 and the outline traced by the solid white lines in Fig. 3 are represented attitudes resulting from relaxation of the muscles, the weight of the upper part of the body causing posterior curvature of the spinal column. The dotted line (Fig. 3) and the outline shown in Fig. 5 represent the same individuals as those shown in Fig. 3 and the solid outline of Fig. 4, with the skeleton braced up by tense, well contracted muscles. The effect of relaxation upon the shape and symmetry of the trunk is equally great in the sitting position. Figs. 6, 7, and 8 represent the relaxed position in sitting. The correct position in sitting is represented in Fig. 9. The dif-



FIG. 10.



FIG. 11.

ference between a relaxed and an incorrect position in sitting is also well shown in Figs. 10 and 11.

The result of this abnormal position in sitting is much more serious than simply an inferior appear-

# EDITORIAL

## THE OUT-OF-DOOR LIFE

THE average man seems to have forgotten that the *genus homo* is naturally an out-of-door creature. It is as unnatural for him to spend his life indoors, excluded from the sunshine and contact with fresh air and the elements of the natural world, as for a horse, an antelope, or a gorilla. The natural home of man is the tropics or semitropical region. In such a climate he requires little clothing, and needs a house for convenience rather than for protection. He can find in the forest everything needful for sustaining life.

Civilized man is thoroughly perverted. Nearly all his habits of life are abnormal and tend to the production of disease. The use of tobacco and alcoholic liquors, the use of tea and coffee and other decoctions more or less charged with poisonous substances, excesses in eating, deprivation of fresh air, neglect of the cold bath, errors in clothing, excesses of various sorts, and the altogether artificial life lived by the average civilized human being, are rapidly accelerating the race deterioration which is apparent on every hand, and is filling our asylums with imbeciles and paretics, and our hospitals with incurables, and surrounding us with evidences of race degeneration on every hand. We have drifted so far away from the natural order of life that the most of us have lost sight of it altogether.

This fact is illustrated by an interview recently had by the *New Orleans Times-Democrat* with a man recently returned from the Phillipines, from which we quote as follows: —

“It is a well-known fact that a man out fishing or hunting will get fat on exposure that would infallibly kill him in town. Why this should be so science has failed to explain, but it is nevertheless true, and has been especially noticeable in the experience of our volunteer troops.

I was out myself, so I know what I am talking about. Here in the city I am subject to colds and suffer tortures from dyspepsia. Wet feet or a few square inches of pie will put me in bed with un-failing certainty, and after I enlisted and the first glow of patriotism cooled off, I was filled with apprehensions, and felt positive I would never survive the rigors of camp life. The result was exactly the reverse of what I expected. I got soaking wet, slept on the ground, ate fat bacon, drank ‘boot-leg’ coffee, and was never sick for a moment. Naturally I thought my old sanitary precautions were all nonsense, and when I returned I began to disregard them. In twenty-four hours I was flat on my back with pleurisy, and I assure you my case was not exceptional. As far as I have been able to learn, everybody else had substantially the same experience, differing only in degree. Of course there was an immense amount of sickness among the troops, occasioned by bad water, ‘embalmed beef,’ and other causes that could be definitely traced; but I am speaking of the ordinary exposures and hardships incident to any campaign. Why they should be harmless outside of town, and deadly inside corporate limits, is a great mystery. It is one of the things, as Lord Dundreary observes, that no fellow can find out.”

The *Dietetic and Hygienic Gazette* quotes the above without comment under the caption, “What a Man Can Thrive upon.” Our esteemed contemporary seems to overlook the fact that the so-called exposures to which the gentleman was subjected in his out-of-door life are in no sense dangerous to the natural man, — a savage, for example, — but are really the means by which he is kept in health. We are not made sick by exposure to the sun, wind, or rain. These agents are indeed

firm, are required to gain the mastery over wrong indulgences.

Unless we are overcomers we cannot eat of the tree of life nor drink of the water of life.

---

### Stable and Conditions.

"The condition and health of a horse," says the *National Builder*, "depend very much upon the kind of stable it is kept in. There are horses which suffer from disease of the eyes, from coughs, from scratches and other skin diseases, all of which are produced by the pungent, foul air in the stables. Farmers and others who have horses will take pains to keep their carriages and harnesses protected from the strong ammoniacal air of the stables, lest the leather may be rotted or the varnish dulled and spotted; and at the same time they will wonder why their horses cough, or have weak eyes or moon-blindness, or suffer from other diseases which, if they would only think for a few minutes, they would readily perceive are due to the foul air the animals are compelled to breathe every night in the year while confined in close, badly ventilated stables. The remedy is very easy. The stable should be kept clean; this will prevent the greater part of the mischief; and it should be well ventilated. The floor should be properly drained, so that the liquid will not remain on it, washed off at least twice a week with plenty of water, and then liberally sprinkled with finely ground gypsum (plaster), which will combine with and destroy the ammonia. A solution of copperas (sulphate of iron) will have the same result. Lastly, the floor should be supplied with absorbent litter, which should be removed when it is soiled. Ventilation should be provided in such a way as to avoid cold

drafts. Small openings, which may be easily closed with a slide, may be made in the outer wall near the floor, and similar ones near the ceiling, or in the roof, through which the foul air can escape; Pure air is of the utmost importance to the well-being of horses."

---

### Why the Body Needs Water.

Someone has asked, "What would be the cause of death of a person who drank no water?" This subject has been studied considerably; animals have been experimented upon, and it is found that without water they lose their power to eliminate the natural poisons; they must have water in order to eliminate them, otherwise the secretions become too dense. Without water, the amount of urea which should be secreted becomes diminished, and so with the other secretions. We need water, not only to dissolve the food and carry it along, but we need it to dissolve and carry out of the system the poisonous and worn-out material of the body, after it has served its purpose. Water forms a circulating medium for carrying substances back and forth in the system, conveying nourishment to the various parts of the body, bringing back the used-up material and carrying it out by way of the excretory ducts.

The amount of water daily required is from two to three pints. In very hot weather a larger amount is needed, as much water is lost by perspiration. If one's diet consists largely of the juices of fruits, the quantity of water may be considerably diminished.

---

NOT what we give, but what we share,  
For the gift without the giver is bare.  
Who gives himself with his alms feeds three —  
Himself, his hungering neighbor, and me.

— Lowell.

health-producing, and are only dangerous to the abnormal man whose vitality is so reduced by evil habits that he is unable to react to the wholesome impressions made by these external stimuli. The out-of-door life has, in fact, such a powerfully vitalizing influence upon the human system that the wood-chopper, the cowboy, or the mountaineer is enabled to ignore, with apparent impunity for a long period of time, most of the ordinary rules of health, although, of course, the reckoning-day finally comes, even for these hardy specimens of the race.

The reason why an unwholesome diet and various other unhygienic digressions are so deadly to the town-dweller, to the man who lives within doors, is because

his fund of vital stamina is lowered by his artificial life to such a degree that it is not able to compensate for the serious deviations from the normal mode of life, so that the body becomes a ready victim to disease. The out-of-door life should be followed either through such well-known ordinary means as sea-bathing, mountain-climbing, boating, horseback-riding, cycling, or through the systematic employment of the outdoor gymnasium. If every professional or business man could be induced to spend a couple of hours in vigorous out-of-door exercise daily, his efficiency for his work would be enormously increased, and business for medical men would be appreciably diminished.

---

## ARE NONFLESH-EATERS DELUDED?

A RECENT issue of the *British Medical Journal*, under the heading, "A Converted Frutarian," comments upon the action of Mr. Hector Waylen, an English "fruitarian," who has recently, with a considerable flourish of trumpets, returned to his flesh pots, after having abstained from flesh-eating for six or eight years.

According to the *British Medical Journal*, Mr. Waylen was a "vegetarian of the strictest kind,—wore sandals, went without a hat, and tried hard to nibble beech-nuts, thinking that by indulging in these eccentricities he was returning to nature." Will the *British Medical Journal* show us in what particular Mr. Waylen was mistaken in thinking that in discarding boots, hats, and flesh meats, he was "returning to nature?" Are not both hats and boots artificial creations? And are there not thousands, yes, millions of human beings who are able to dispense with these luxuries without injury either to heads or heels? Certainly it cannot be a question as to whether Mr. Waylen was returning to nature or not. The question is whether it is worth while or wise to return to nature in the ways in which he at-

tempted to do it. Mr. Waylen must have found it very inconvenient to travel round the world sandalless and hatless, and nibbling at beech-nuts. It would seem to be quite unnecessary either that he should drop so meager a diet as nibbles of beech-nuts or that he should discard so useful and ornamental an article as a hat or such a comfortable convenience as boots, in order to make a commendable reform in the direction of naturalness in diet and other habits of life.

The *Journal* tells us that Mr. Waylen made a number of very interesting discoveries, one of which was the fact that "vegetarians, as a rule, are not a healthy fold. Either they present a wizened and emaciated appearance or there is a tendency to flabbiness. They have poor circulation, and are liable to chills. They suffer from dyspepsia and anemia, bad breath and flatulence proceeding from a foul stomach are noticeable among them. The liver and kidneys are commonly affected, and altogether there is a marked want of vitality."

It would be interesting to ascertain where Mr. Waylen got his statistics. He

certainly must have been unfortunate in having an unusual proportion of invalids among his nonflesh-eating friends. As represented, Mr. Waylen has traveled entirely around the world while abstaining from the use of flesh; but the fact seems to have been quite overlooked that there are a number of very large communities of people who are practically abstainers from flesh meats. Among these are more than thirty millions of Japanese peasants, and several times as many Chinese peasants. There is a special race of Japanese strong men known as "wrestlers" whose ancestors for many generations have abstained from the use of flesh foods.

By a visit to the country districts of Ireland, Mr. Waylen might readily come into contact with multitudes of people, who are the longest lived and most enduring of any portion of the civilized race, with the exception of the Hungarians, and who rarely ever taste meat, their diet consisting almost exclusively of buttermilk, potatoes, and bread. Mr. Waylen is certainly mistaken in supposing that the average vegetarian has a "wizened, or emaciated appearance, or a tendency to flabbiness." We should be glad to have him meet Mr. Karl Mann, of Berlin. There are quite a number of English bicyclists and pedestrians who have made world records for endurance, and who, as seen through the writer's eyes, appear to be enjoying most vigorous health. If it is true that there are to be found many semi-invalids who are nonflesh-eaters, it is only because this class of persons are more likely to give thought

and careful study to the question of eating than are those who still believe themselves to be able "to digest anything," and who do not hesitate to give their stomachs all the business they are able to do.

From the description of Mr. Waylen's case, it is evident that he was a neurasthenic. He probably adopted a too meager diet, and became anemic and exhausted nervously, so that his "life became a dreary crawling dream, and to think or to sleep was a pain." Certainly such effects as these ought not to be charged to a vegetarian regimen. The late Professor Dujardin-Beaumont, of Paris, recommended the vegetarian regimen as a remedy for just such cases, and he himself adhered to a pretty strict vegetarian regimen for a number of years before his death, and by so doing he no doubt greatly prolonged his life while suffering from a chronic and incurable malady.

Commenting upon Mr. Waylen's experience, the *Journal* remarks: "The practical point is that we have work to do in this world and cannot do it without health, and if we find that animal food is essential to health, we must kill and eat."

With the above idea we are in perfect accord. It is right to kill animals and eat them if they are essential to life and health; but this is the very point at issue. Science, experience, laboratory research, physiological chemistry, bacteriology, and practical experience, all show that it is not necessary that we should "slay to eat."

---

## WHITE MEATS AND DARK MEATS

FOR many years the opinion has prevailed that white meats are more digestible than dark meats, and it has been a custom with physicians to prescribe certain fowls and fish, while forbidding red meats in cases of feeble gastric digestion. Offer and Rosenquist have shown, accord-

ing to the *Belliner Klinische Wochenschrift*, that there is no essential difference between the digestibility and nutritive value of white and dark meats; the amount of extractives or toxic substances found in the two varieties of meats is essentially the same.

## LAWSON TAIT

JOHN HARVEY KELLOGG, M.D., F.A.C.S., BATTLE CREEK, MICHIGAN

**T**HE untimely death of Lawson Tait, of Birmingham, England, 30 years ago, cut short one of the most notable medical careers of the last century. That he was a genius no one can doubt who will make himself familiar with his contributions to gynecological and abdominal surgery. Though by no means the first to undertake serious operations within the abdominal cavity, he certainly did more to render abdominal section a safe and practical procedure than any other man and is fairly entitled to the honor claimed for him by Dr. William J. Mayo of being "the father of modern abdominal surgery."

Tait began his career as a laparotomist at a time when the operation of ovariectomy had been practically abandoned in England. Of the last 30 ovariectomies performed in Edinburgh, where Tait had received his medical training, not a single one had survived. The operation was actually forbidden in some of the leading London hospitals. Syme, the leading Scotch surgeon, one of Tait's teachers, to the end of his life refused to perform the operation. Tait nevertheless had the courage to undertake it soon after he began practice in a provincial town at the age of 23, and before he was 26 he had done the operation 5 times. At his death in 1899, at the age of 54 years, he had performed several thousand abdominal sections and with a degree of success unrivaled by any other surgeon.

I happened to arrive in Birmingham the morning of Mr. Tait's death from uræmic coma. I had had the privilege of spending a few months with him as a pupil assistant just 10 years before. On alighting from the train I directed the cabman to drive me to The Crescent, Tait's home and private hospital. Instead of doing so the cabman handed me the morning paper, which was in mourning and bore in large black letters across the page the announcement of Mr. Tait's death. Within a few hours the whole city was in mourning, for, next to Mr. Chamberlain, Mr. Tait was unquestionably its most distinguished citizen. His fame had brought to him suffering men and women from the ends of the earth. He had many patients from the United States and Canada and from South Africa and Australia. One patient, an American, the wife of a missionary doctor, suffering greatly with an enormous ovarian tumor, came from the remote interior of Burmah, in India, having been carried several hundred miles on the shoulders of men to reach the nearest railroad station.

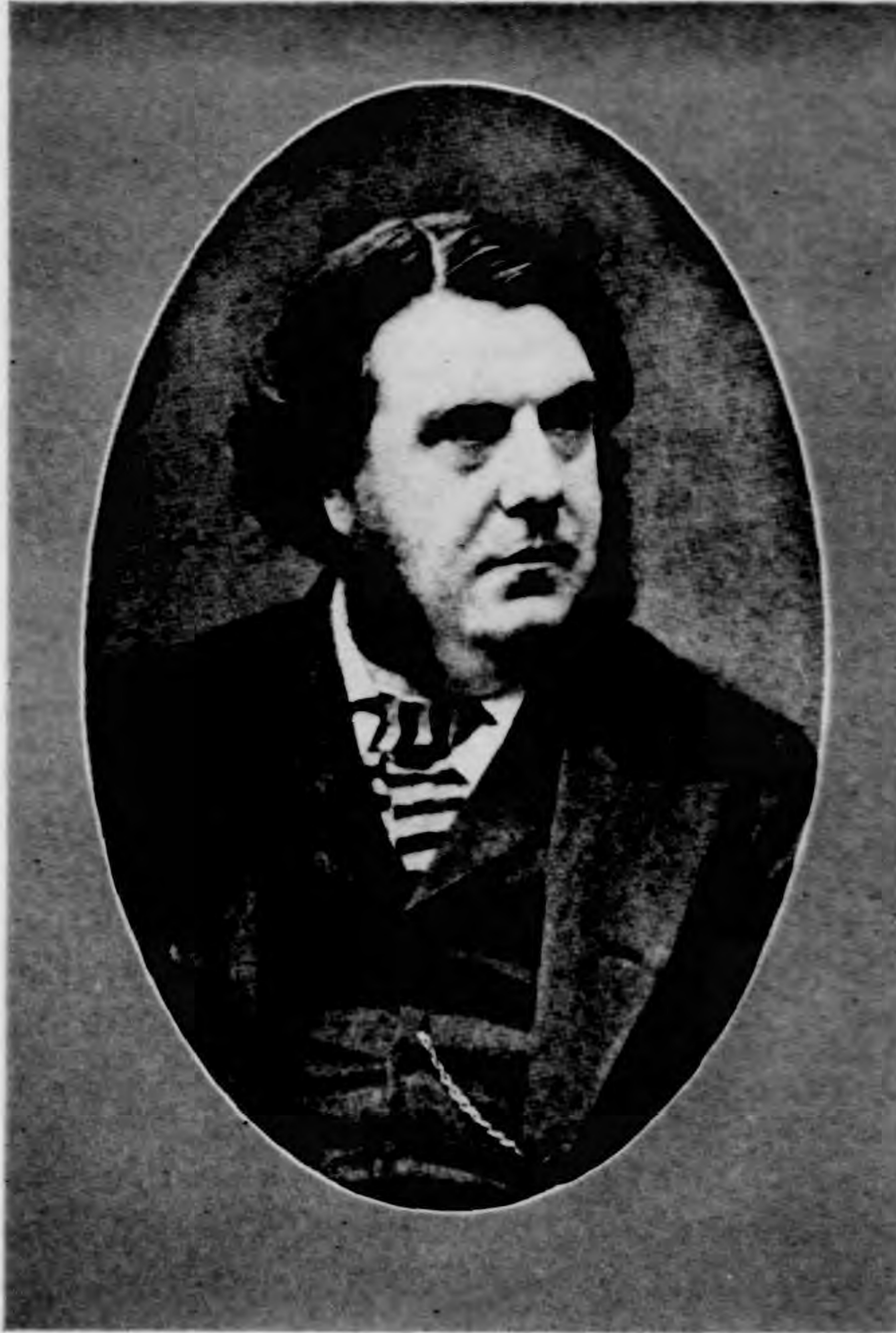
My first meeting with Mr. Tait was in his little office at The Crescent. He sat alone behind a small flat topped desk with a flexible speaking tube close at hand through which he dictated to his secretary in another room. As he sat in his chair he gave one the impression of being a man of gigantic proportions. His



shoulders were very broad, his chest thick, and his large head—he wore a number 8 hat—was covered with a thick mass of dark hair which was inclined to curl. His neck was short. His strong facial features and his abundance of wavy hair gave him an almost leonine aspect. When he stood, however, the impression of greatness diminished somewhat as he was scarcely of medium height.

In manner Mr. Tait was kindly and courteous but rather short and abrupt. He had the air of a man preoccupied with intense thought. His speech was rapid and incisive, his sentences terse and pointed. He had an unusually large vocabulary and his choice of words was always the best possible. His ordinary speaking voice was pleasant, almost musical. When aroused and vexed, which often happened, he would roar like a mad bull. Tait was one of the most tender hearted men I ever met. He was gentle and delicate in his manner of dealing with patients and scrupulously careful to observe all the proprieties.

Tait had many crotchets and allowed prejudices to warp his judgment and blind his mental vision. He had a particular dislike for



LAWSON TAIT (1845-1899)

studied at the dispensary and in which he was preparing to repair, after his rapid fashion, a torn perineum, there was also a badly torn uterine cervix. I asked, "But, Mr. Tait, are you not going to repair the cervix before closing the perineum?" "Oh, no," he said, "I never pay any attention to Emmett's little crack."

During the several months I was with him he never once repaired a torn cervix although cases of this sort came daily under observation. I doubt if he had any other reason, than his prejudice against Dr. Emmett, for thus ignoring lesions of the cervix.

Having some years before when in Vienna

Emmett, one of the finest and sweetest of men. I could never discover any reason for this except that he disagreed with him respecting the nature of the pelvic inflammations to which Emmett had applied the term cellulitis. Tait believed the chief seat of these troubles to be the fallopian tubes, which subsequently turned out to be the truth. He carried his opposition to Emmett so far as to denounce everything he taught as error. In one case which I had previously

(1883) become acquainted with Billroth's pylorotomy and Woelfler's gastro-enterostomy, I one day inquired of Tait why he did not perform these operations. He at once replied, "Pylorotomy is useless because it is never done except for cancer and the cancer always returns. I never do useless operations." The operation of gastro-enterostomy he condemned in equally strong terms, declaring that it always resulted in "continuous fæcal regurgitation." His attitude toward these operations illustrates one of the weak points in his character. When a prejudice was once established in his mind it was impossible to uproot it and it so blinded him that he was apparently incapable of treating the subject with intellectual fairness.

In a controversy Tait was a dangerous opponent. He was remarkably skillful in repartee and so dexterous a controversialist that he rarely failed to carry off the honors in discussions at medical meetings even when he was in the wrong. Tait enjoyed nothing better than lampooning an adversary, especially one whom he considered worthy of his mettle. On one occasion his opponent was a well known surgeon who, as his colleagues well knew, had for years been combating the inroads of Father Time by the adroit use of hair dye. In discussing Mr. Tait's paper the gentleman suggested that too much weight should not be given to his views because of the fact that he was known to be a man of very strong prejudices; whereupon Mr. Tait instantly retorted that he had only one prejudice in the world and that was against a man who dyed his hair. This savage sally quite annihilated his opponent.

Mr. Tait's animosity against some of his rivals was so great that it was hardly prudent to mention their names. On the one occasion of which I spoke to him of Spencer Wells he launched upon such a vehement outpouring of

barbed criticisms and acrid animadversions I never ventured to mention his name again.

During operations Mr. Tait rarely spoke except to utter now and then a monosyllable or two by way of direction to a nurse or the anæsthetist. At other times, however, when riding with him in his carriage, as I had often an opportunity to do, or when riding on the cars, Mr. Tait was a genial and interesting conversationalist and had apparently an inexhaustible fund of information on any subject that might be broached. Although he did not finish his university course before beginning his study of medicine, his literary work during the early years of his residence in Birmingham as editorial writer for the *Morning Post* had led him into nearly every field of human interest. He had also been a student of biology under Darwin, whom he almost deified.

Mr. Tait frequently attended the theater, which he greatly enjoyed, although he often fell asleep and sometimes snored so loudly as to create considerable disturbance. When not occupied he was in fact liable to fall asleep at any time. In riding up to London I have known him to sleep for almost the entire distance sitting bolt upright in a corner of the compartment and snoring loudly. On one such occasion when the customary fog happened to lift for a few moments, allowing the sun to illuminate his face, I managed to get a good kodak picture of him. Later he allowed me to take another picture as he was in the midst of a surgical operation, his face wearing the intense and rather savage look which it usually had while he was operating. He was very much amused when I presented him with the two pictures mounted on a card labeled "Wide Awake" and "Fast Asleep." This was his first introduction to the Eastman Kodak, then just out, and he became the possessor of one as soon as possible.

Tait was not spectacular in his methods of operating, but in his work he was remarkably quick, neat, accurate, and efficient. His hands were large, his fingers short and thick, but remarkably deft. His precise, dextrous, and rapid movements in the performance of an operation was a fascinating spectacle—never a false movement, though he did some extraordinary things. For instance, if in making an incision a spurting artery made a pause necessary for the application of a ligature, he would often catch the handle of his knife between his teeth instead of handing it to an assistant or laying it down. He did everything himself. He rarely allowed the assistant to do anything more than to hold an artery forceps or to support a large tumor while he applied ligatures to the pedicle.

To the writer's knowledge, Tait has seldom been excelled in rapidity and dexterity. Dr. "Jimmy" Wood, who was the star operator in Bellevue Hospital when I was a student there in the seventies, used to cut off legs in 30 seconds, and Liston sometimes amputated thighs in 20 seconds. Martin, the famous Berlin gynecologist, did a double salpingectomy in 8 minutes. I saw Tait do the same operation in  $7\frac{1}{2}$  minutes. I often noted the time occupied in perineal operations and seldom found it more than 3 minutes, although McKay, who followed me in Tait's service, in his excellent biography makes his time for this operation 5 minutes. On one occasion I held my watch and saw Tait begin and complete an operation for partial laceration of the perineum in just  $1\frac{1}{2}$  minutes.

His ordinary method of operating on patients at the Spark Hill Hospital was this: With his coat off, sleeves rolled up, and wearing a big apron, he stepped to the side of the bed, seized the anesthetized patient, and placed her crosswise on the bed with her hips at the edge, a nurse holding each limb. With a pair of

tissue forceps in one hand and scissors in the other, he dropped upon his knees and with a few quick snips dissected the vaginal flap, made a deep cut on either side, seized a long-handled Peaslee needle, and pulled through three or four silkworm-gut sutures so placed as to secure good coaptation of the raw surfaces. The whole operation was over in little more time than it takes to describe it.

In operating, Tait always aimed to do as little as possible. His incisions were short, never more than 2 or 2.5 inches unless a larger incision was necessary to remove a growth. His aim was to make the incision just large enough to admit his two large fingers. He said he learned this from Baker Brown. He opened the abdomen a little at one side of the median line and took care to avoid dividing the fibers of the rectus muscle. This practice he learned from A. McKenzie Edwards, one of his teachers at Edinburgh.

He was bitterly opposed to the use of the spray which at that time was in great vogue. I got the impression that his opposition to the spray and to antiseptic methods was chiefly based on his dislike of Lord Lister and Spencer Wells. He even refused to allow an application of antiseptics of any sort to the putrefying hysterectomy stumps which were in those days treated extraperitoneally. As a result, the atmosphere of his wards very often closely resembled that of a slaughterhouse. When one day I asked him to allow me to apply iodoform or carbolic acid to lessen the odor of decaying flesh, he curtly replied, "No," and added, "I cannot endure the smell of the stuff. I won't have it around." He did soon after begin the use of dry powdered boracic acid, insisting, however, that he used it only to keep the wound dry and not as an antiseptic.

Although Tait did not believe in antiseptics, he emphasized the necessity for cleanliness. This was perhaps his greatest contribu-

tion to surgery as he was really the father of surgical asepsis. He developed a technique which eliminated many of the perils of abdominal section and so materially reduced the mortality of this operation as to greatly enlarge its scope and enhance its usefulness. Men who followed his leadership in England, notably Greig Smith, Moynihan, and Mayo Robson, and in this country Joseph Price, Howard Kelly, and the Mayos, reduced the mortality rate to such a degree that the operation lost its terrors and soon came to head the list of major operations as a life saving procedure.

Though he opposed the Lister spray, Tait took the greatest care to keep his hands free from infection. If they became soiled at any time with an infectious fluid he refrained from operating for several days, having learned from experience that soap and water and even the use of the antiseptics then employed, would not always insure safety. Rubber gloves were of course not in use in those days. Instruments and ligatures were boiled. Sponges after being soaked over night in a one per cent carbolic acid solution were squeezed, put into a muslin bag, and hung up to dry. Only boiled water was used at operations.

At the time I was with him Mr. Tait boasted a record of 116 laparotomies with the same number of successive recoveries. The average mortality of the operation in this country at that time was, I believe, about 20 per cent. He attributed his success in ovariectomy to the adoption of Baker Brown's method of dropping the pedicle into the peritoneal cavity instead of treating it externally with the Spencer Wells clamp and introducing a drainage tube. Tait maintained that peritonitis was not likely to occur if the peritoneal cavity was kept dry.

Another reason for Tait's success was no doubt his radical and courageous departure

from the long established method of dealing with the bowels. As late as 1883, Tait still practiced restriction of bowel activity after ovariectomy, insisting that the bowels should be confined for from 10 days to 2 weeks after operation. A little later, however, he made a radical change in his management of the bowels. Before the operation, the patient was thoroughly purged with saline laxatives and starved for 48 hours. After operation, the bowels instead of being confined were moved by enema on the second morning. Thorough evacuation of the colon on the second morning after operation was a dominant feature of the after-care of his patients. Drastic measures were used when necessary to secure an evacuation, and no food was given until after the bowels moved.

Tait would not administer anodynes of any sort so long as there was any hope of saving the patient. The patients sometimes suffered cruelly, but they rarely, if ever, received an anodyne drug of any sort unless they became moribund. He said, "I never give any drug unless the patient is going to die."

When asked what should be done in cases of peritonitis following abdominal section, he replied: "Nothing at all. The patient who has peritonitis after a surgical operation is certain to die. The time to cure peritonitis is before it begins. If the peritoneal cavity is kept well drained, peritonitis will not occur. The important thing is to keep the peritoneal cavity free from stagnant fluids. I am not afraid of germs. They cannot grow without food."

The carbolic acid spray of Lister was conscientiously employed by Spencer Wells and his followers, but Tait achieved better results without the spray than others did with it, employing otherwise the same technique. Undoubtedly, the abandonment of the Spencer Wells clamp and the use of the short sterile

ligature and the intraperitoneal treatment of the stump introduced by Baker Brown were the chief factors in reducing the mortality rate from the 25 per cent of Spencer Wells' first one thousand cases to less than 5 per cent in the hands of Tait, Bantock, Thornton, and Keith.

Tait's views were strongly supported by the doctrine of intestinal toxæmia which Bouchard had recently brought out. Widal, Roux, and other French investigators had recently shown that in certain conditions, particularly stasis, the pathogenic bacteria always found in the colon may become highly virulent and capable of invading the blood stream and the tissues and producing pleurisy, peritonitis, hepatic abscess, pyelitis, and other grave conditions. Roux had produced peritonitis and abscesses with pure cultures of bacillus coli. Tait maintained that these organisms could not develop without a liquid culture medium, and so he not only introduced a drain in every case, but took care to prevent accumulation of liquid in the abdominal cavity by applying suction to the drainage tube at frequent intervals so as to keep the abdominal cavity as dry as possible.

Tait's departure from the orthodox method of dealing with the bowels before and after

laparotomy was doubtless one of his most important innovations. He led the way, however, in numerous departures from established methods and in undertaking new surgical procedures which have enormously increased the scope of abdominal surgery.

Tait claimed that he was the first to perform the operation for removal of the ovaries and tubes for the cure of chronic pelvic inflammation. He was first to operate for the removal of gall stones, first to operate in cases of ruptured tubal pregnancy, and the first to remove the uterine appendages for the relief of bleeding fibroids.

With his great intelligence and broad knowledge, Mr. Tait unfortunately gave no attention to personal hygiene. He was a good deal of a gourmand. He possessed an extraordinarily vigorous stomach which made no protest notwithstanding the enormous quantities of foods and wines as well as stronger liquors which he consumed at dinner. His gross eating habits were doubtless responsible for his premature death at the age of 54 after having previously submitted to an operation for removal of renal calculus.

His last medical paper to be published was entitled "The History of a Sore Kidney"—his own.

# LAWSON TAIT AND HIS CONTRIBUTIONS TO ABDOMINAL SURGERY\*

BY JOHN HARVEY KELLOGG, M.D.

*Medical Director, Battle Creek Sanitarium*

**Battle Creek, Mich.**

I have chosen as the subject of this address, Lawson Tait, at a period when he was at the very summit of his marvelously successful and useful career.

While opinions may differ concerning the status of Lawson Tait's work, I am sure all will agree that he was a man of superior intelligence, perhaps a genius, an independent thinker, an innovator. In fact, I think his natural disposition was to avoid the beaten path if he could find another as good or better. He was most prolific in new ideas and new methods, and never satisfied with his technic so long as it lacked anything of the perfection which he conceived to be possible.

I had an opportunity to become acquainted with Tait while serving as his pupil for five months during the early part of 1889, during which time I was his only assistant aside from his nurses and Mr. Teichelmann, his anesthetist. I assisted both in his private work at The Crescent, at the Women's Hospital at Sparkhill, and at his dispensary. I usually accompanied him on trips to various places to perform surgical operations and on visits to London to attend the sessions of the British Gynecological Association and other medical meetings, and so had a fairly good chance to become somewhat intimately acquainted with him.

As he sat in an easy chair in his little office at The Crescent, Birmingham, where I first met him, he looked very impressive. He had the appearance of being a very large man. His head was massive. He wore a number eight hat; his shoulders were broad, and his chest thick. A great head of thick hair, inclined to curl, with his thick, short neck and his strong facial features, gave him a leonine look. But the impression of greatness was lessened when he stood up, for his legs were short, so that his standing height was a little below the average.

---

\* Read by the author as guest before the Annual Meeting of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Asheville, N. C., Sept. 15-17, 1927, and reprinted by permission from the Transactions, 40: 68, 1927.

I was pleased to find that notwithstanding Mr. Tait's somewhat formidable appearance his manner was kindly though abrupt. His ordinary speaking voice was pleasant, almost musical, in tone. He spoke rapidly, incisively, using as few words as necessary to express his thoughts.

Though really a very kind-hearted man, Mr. Tait was very hot-headed and easily irritated, very opinionated, and most intolerant toward professional rivals. He was always spoiling for a fight with anyone who entertained views contrary to his own or who essayed to defend the views of one of his professional enemies, of which he had a good many. He often allowed prejudice to blind his reason and pervert his judgment. He quarreled with Emmett because of his views respecting pelvic inflammations and repudiated everything that Emmett taught. I remember on one occasion when he was preparing to repair a perineum in his rapid fashion, I called attention to the fact that the patient had a very extensive laceration of the cervix uteri, and asked him if he was not going to repair it. "Oh, no," he said, "I never pay any attention to Emmett's little crack." And all the time I was with him, I never saw him repair a torn cervix. I believe that he utterly ignored this lesion, and probably for no other reason than that Dr. Emmett laid stress upon it. He was equally prejudiced against operations on the stomach. His success with operations upon the gallbladder was so great that I was surprised that he did not operate upon the stomach as I had found Billroth and Wolfler doing in Vienna six years before. He declared, however, that Billroth's pylorotomy was useless because it was only done for cancer and the cancer would always return. He was equally opposed to Wolfler's gastroenterostomy, which he said always resulted in "continuous fecal regurgitation."

One of Tait's weak points was his hot temper. Though ordinarily amiable enough, he sometimes flew into a terrible rage and became almost as savage as a wild animal. On such occasions his face presented a terrible aspect and he roared like a mad bull.

Tait greatly enjoyed a controversy and loved nothing better than lampooning an antagonist. His skill as a controversialist and his gift of repartee were so great that in discussions at medical meetings he was generally victorious even when in the wrong.

Tait was a savage enemy and sought always to plunge his weapon into a vital part of his adversary, but he was a loyal and sympathetic friend and always ready to do battle in defense of a person whom he thought was being wronged. He had no use for pretenders, hypocrites or weaklings. He respected an honest antagonist but hated his rivals cordially.

McKay, who spent some time with Tait shortly after I was with him, relates an incident that occurred at a meeting of the London Medical Society, at which a well-known surgeon in his remarks suggested that too much attention should not be given to Mr. Tait's views because, as everyone knew, he was a man of very strong prejudices; whereupon, Mr. Tait retorted that he had only one prejudice in the world, and that was against a man who dyed his hair. As everyone knew that the surgeon had carefully dyed his hair for many years, Mr. Tait's sally was greeted with a roar of laughter, to the complete discomfiture of his opponent.

Mr. Tait certainly dearly loved the stir and excitement of battle and consequently had some very bitter enemies, especially among rival abdominal surgeons. His animosity against Spencer Wells was so great that it was almost necessary to avoid mentioning his name in his presence. In matters not subject of controversy, Mr. Tait was a most entertaining conversationalist. It was best, however, to give him an opportunity to do all of the talking. This I learned from Teichelmann, so I never offered an opinion and rarely made an observation unless invited to do so. My attitude was that of a sponge. I was after information and eagerly observed and made note of every item.

When set going by proper questioning, Mr. Tait would discourse in a most delightful, entertaining, and instructive manner, and on almost any subject that might be broached. He was a man of broad learning. He had been a student of biology under Darwin, whom he worshiped. Mr. Tait was not a churchgoer and could hardly be called a religious man, although he was raised a Catholic, but he was a profound student of ancient religions and from his talk I should think would be properly classed as a Unitarian.

While kept very busy with his professional duties, Mr. Tait found time to interest himself actively in the public affairs of the big town of Birmingham. He gave lectures at the Midland Institute and for some years regularly contributed leading articles to the principal newspapers. He was very fond of the theater, to which I sometimes accompanied him. Although he apparently enjoyed the acting greatly, he usually soon fell asleep and snored so loudly as to make considerable disturbance. I doubt if anyone dared to awaken him. He was likely to fall asleep at almost any time when not active. When I rode up to London with him, he almost invariably slept nearly the whole distance, sitting up in a corner of the compartment, snoring loudly. On one such occasion, when the fog happened to lift long enough to let a ray of bright sunshine in through the window of the opposite side, I took a kodak picture of him. I afterwards took a picture of him with his sleeves rolled up in the midst of a surgical operation, with the intense, rather savage look upon his face



which he usually wore when operating. I mounted the two pictures on the same card, writing beneath one, "Fast Asleep;" and the other, "Wide Awake." He was greatly amused by the pictures and fascinated by the kodak, which he had never before seen, and provided himself with one as soon as it was possible to obtain it.

Tait was a great lover of art. His house was filled with art objects of various sorts collected from various countries. He was exceedingly fond of animal pets and had a number of beautiful Persian cats which he would carry in his arms for hours. His fondness for animals perhaps explains his sympathy with the vivisectionists, who claimed him as a backer of their movement, but he was a bosom friend of Victor Horsley, with whom he lunched sometimes when we ran over to London to attend a medical meeting, and whose extensive animal experimentation was well known to Mr. Tait. He frankly admitted the value of bacteriologic experimentation with animals, and I formed the opinion that as a matter of fact he only objected to animal experiments in which unnecessary pain was caused during or after the operation.

Though often imperious and dictatorial in his manner, Tait was exceedingly kind and gentle in his dealings with children and in his dispensary work treated the poor old ladies who consulted him with the greatest courtesy and consideration. He was very fond of children as well as animal pets. I think it was a matter of great grief to him that he had no child of his own. I remember on one occasion when we were waiting for a train in a little town to which Mr. Tait had been called to perform a laparotomy, as we were walking up and down the street, a little five- or six-year-old girl passed us. Mr. Tait stopped, turned around, and watched the little girl until she had finally passed out of sight down the long street, and with such a look of tenderness on his face, I felt sure he was wishing that the child were his own. He treated free of any charge many poor working girls at his private hospital, The Crescent.

Mr. Tait was educated at Edinburgh, and while a medical student he lived for several years in the house of James Y. Simpson, for whom he evidently had a very great regard. A large picture of the great Scotch obstetrician hung in his sitting-room beside his own portrait. The resemblance of the two faces was most striking. When one of his assistants asked him about the appearance of James Y. Simpson, he pulled a lock of hair across his forehead and said, "There, you see him."

When Tait left Edinburgh, on finishing his medical training there, he was fully resolved never to perform the operation of opening the abdomen. Syme, one of his teachers and one of the greatest surgeons of his day, had abandoned the operation as utterly useless. He was led to do this by the fact that the operation in the hands of Edinburgh sur-

geons had proved most unsuccessful. Of the 30 operations performed by Edinburgh surgeons within the preceding few years not a single patient had survived. The operation was forbidden in Kings College Hospital. At the time I was with him, however, Tait had performed considerably more than 1,000 operations, and he informed me that he had a record of 116 cases in succession without a death. His success was unrivalled and naturally created great interest in Europe and especially in this country, where the operation was being performed with increasing frequency though in general with a high rate of mortality.

Tait was exceedingly proud of his record and highly indignant at the charge that many of his operations were needless. More than once I saw him close the abdomen after he had opened it, expecting to find diseased tubes and ovaries, but not able to verify his diagnosis.

He shared with Hegar the honor of originating the operation of removing diseased tubes and ovaries, although he insisted that his first case antedated Hegar's, but felt that the operation had been brought into disrepute by the unnecessary operations performed by overenthusiastic young surgeons.

He told me that after reading his first paper on "Exanthematic Inflammation of the Ovaries" before a provincial medical society, the surgeons present became so enthusiastic over the new indication for surgical interference that when he met the society again a few months later, every surgeon present had on exhibition a basin full of healthy ovaries.

Of course, it was hardly possible to credit Mr. Tait's statement as being literally true, although there was doubtless a considerable basis of fact. Tait was rather given to exaggeration in speech. Bantock, one of his best friends, told me that he believed implicitly everything that Mr. Tait wrote, but never relied upon his verbal statements, for in a heated discussion, in reciting his experience, he would assert that he had operated upon 50 cases when the actual number was only 5.

As a diagnostician, Tait was, to say the least, not brilliant. His histories were very brief and his examinations usually very hurried. He rarely spent a minute in palpating the abdomen, and his internal examination was often completed within half a minute or less. I remember a case in which, after such a hurried examination of a patient whom I had previously studied at the dispensary and in whom I had noted an abnormality which I believed to be a fibroid, when I asked Mr. Tait his diagnosis, to test my own findings, he curtly replied, "We will look inside to see what's the matter."

Tait's work received general recognition and approval in this country before his views were accepted in Great Britain. For this he was very grateful, and American doctors received a cordial welcome until they be-

gan to arrive in such numbers as to become an embarrassment. He felt particularly grateful for the early acceptance in America of his operation for control of bleeding fibroids by removal of the appendages. He bitterly resented the action of the Royal Medical Society in refusing to publish the report of his first 30 cases of this operation and which received only adverse criticism when read before the society. His paper was published some months later in the *American Journal of the Medical Sciences* and his operation soon became a recognized procedure in this country.

Tait was an epicure, or perhaps I should say, a gourmand. No food was too rich for him or too highly flavored. He must have had an extraordinarily vigorous stomach to enable him to dispose of the great quantities of food and wines which he consumed at dinner. To his gross eating habits may perhaps be attributed his premature death at the age of sixty-five. He had previously been operated upon for a renal calculus, and one of his last medical papers was entitled, "The History of a Sore Kidney."

Lawson Tait was an ardent advocate of various reforms in medical education and ridiculed some of the methods in common use at his time and still perhaps too much in vogue. In an address he said, "I remember that we had to learn that the direction of the anterior cornu of the fourth ventricle of the brain ran a course which was backwards, outwards, downwards, forwards, and inwards, and we were enabled in the most improper way to remember these important facts by the word, 'bodfi.' Has 'bodfi' ever served any of you at the bedside? Is there any considerable condition of human accident or ailment in which 'bodfi' could assist you to relieve your patient?"

He insisted upon the importance of training the hands in the use of tools as a necessary part of surgical education. He said of the medical student's program, "I would set him so many hours in the week into the shop of the village carpenter; and I would have him trained to use a saw, a chisel, a plane, and a skew so that he should be able to make a long splint if need be, as well as to put it on. And into the blacksmith's shop he should go, until he knew how to strike properly with a hammer."

Tait himself had served time at the lathe, the bench, and the forge, doubtless, as a young boy in his father's blacksmith shop.

As an operator Tait was not dashing or showy; he was quick, neat, accurate and efficient. His fingers were short and thick but wonderfully deft. As I stood opposite him at the operating table and watched his hands, I was fascinated by the precision, dexterity and rapidity with which each step of the operation was executed—not one false motion. He did everything himself. He helped himself to sponges and instruments; he

caught every bleeding vessel, and tied every ligature. The assistant rarely had a chance to do anything except to hold a pair of forceps while he tied the pedicle, and was seldom allowed to put a finger in the wound.

Tait's dexterity in operating has perhaps seldom been excelled, though that debonair surgeon, Jimmy Wood, the star operator in Bellevue Hospital when I was a student there, used to cut off legs in thirty seconds, and the famous Liston could amputate a thigh in twenty seconds. Martin did a double pycosalpinx in eight minutes, and Doyle did vaginal hysterectomies in two minutes.

McKay says Tait repaired perineums in five minutes. If this is so, he must have changed his method, for I often timed him, and seldom saw him devote more than three minutes to a perineum, and on one occasion saw him begin and complete the operation in just a minute and a half. With his coat off, sleeves rolled up, and wearing a big mackintosh apron, he stepped to the side of the bed, seized the patient, placed her crosswise on the bed with her hips at the edge, the nurse holding each limb. With a pair of tissue forceps in one hand and a pair of scissors in the other, he dropped upon his knees and with a few quick movements dissected the vaginal flap, made a deep cut on each side, seized a long-handled Peaslee needle and pulled through three or four silkworm-gut sutures so placed as to secure good coaptation of the raw surfaces. The whole operation was over in little more time than it takes to describe it.

Tait used no germicides or antiseptics of any sort but was exceedingly clean. If his hands became at any time soiled with a virulently infectious fluid, he declined to operate for several days after, as he had found from experience that soap and water and even the antiseptics then in use were not sufficient to guarantee safety. Instruments and ligatures were boiled, and sponges were soaked in a one per cent carbolic lotion and then put in a bag and hung up to dry. Only boiled water was used at operations. The hands were prepared by simply scrubbing with soap and water, but the scrubbing was not very thoroughly done.

In operating for removal of the appendages Tait rarely made an incision more than two or two and a half inches long. The incision was just large enough to allow the insertion of two fingers. This he learned from Baker Brown. He opened the abdomen a little to one side of the median line, taking care to avoid cutting the fibers of the rectus, a point he got from A. McKenzie Edwards, a medical lecturer in Edinburgh. He seldom saw the ovaries or appendages until after they were drawn out through the abdominal wound. His left forefinger was so highly educated that it gave him much more information than his eyes could have given him concerning the pathology with which he had to deal. He did not hesitate to use much force in breaking up adhesions and sometimes tore into

the intestines. When on the occurrence of such an accident I felt somewhat dubious concerning the patient's recovery, Mr. Tait laughed at my fears and remarked, "I have torn the intestine more than 30 times and have often seen feces pouring out of the drainage tube like meat out of a sausage grinder, but they got well just the same."

Though in the early eighties Tait had opposed the use of the drainage tube, referring to it as a "seton in the peritoneal cavity" and likely to give rise to peritonitis, he had become by 1889 an ardent advocate of the drainage tube and never opened the abdomen without introducing a glass tube for drainage.

He opposed the carbolic acid spray of Lister, and said, "It is by no means either a simple or a safe proceeding."

On one occasion, when I asked him his views respecting Pasteur's discoveries, he declared that germs were harmless, that he would be willing to use a mass of germs in place of a sponge, if they were only dry. He thought the chief danger to be the collection of fluid in the abdomen. He aimed to overcome this by three methods: (1) purging the patient before operation; (2) drainage, and (3) withholding liquids for two days after operation.

Tait's remarks about germs and Lister's methods often left me with the impression that his opposition to antiseptic methods was in large part due to his hatred of Lister and Spencer Wells. One experience in particular suggested this explanation of his obstinate opposition to antisepsis. He was at that time still treating hysterectomy stumps extraperitoneally. In many cases the tumors were very large, and the great mass of dead tissue left outside was soon in an advanced state of decay, so that his wards were often redolent with odors characteristic of the slaughterhouse. I asked him one day why he did not permit the use of iodoform or carbolic acid or some other antiseptic. He said, "I can't endure the smell of the stuff. I won't have it around." I have never encountered any antiseptic which could compare in pungent malodorousness with the odor of decomposing flesh which often pervaded the wards at The Crescent. Some little time afterward he began the use of boracic acid, insisting, however, that he did not use it for antiseptic purposes but merely to keep the wound dry.

Tait closed the abdominal wound with three or four through and through sutures of very coarse silk. When I asked what percentage of his cases developed hernia, he replied that he had never had hernia in a single case. Shortly after, he operated upon an American woman who had a very large bleeding fibroid and on my advice had come to Birmingham to be operated upon by Tait. He did not remove the tumor, thinking it safer to remove the appendages, as the patient was quite

feeble. I timed the operation, which was completed in exactly seven minutes. Within the next year and a half both pedicle ligatures worked out, one through the vagina and the other through the abdominal wall. A year or two later I spent more than an hour dealing with a multi-sacculated hernia which developed in the abdominal wound.

Postoperative hernia must have been of frequent occurrence in those days. More than twenty-five years ago I operated for hernia on a patient from whom Thomas Keith had removed an ovarian tumor thirty years before, and a year or two later I did the same operation for one of Spencer Wells' patients. So I think Mr. Tait was no more unfortunate than his colleagues in this respect. With such a method of closing the abdominal wound, the frequent occurrence of hernia was inevitable.

Tait was a man of great ingenuity. He would instantly devise some novel method of dealing with a new condition or sudden emergency arising in an operation. He invented many new instruments, the general aim of which was in the direction of simplification and increased efficiency.

Mr. Tait's greatest contribution to surgery, and to abdominal surgery in particular, was his demonstration of the value of cleanliness without antiseptics and the development of a technic which eliminated many of the perils of abdominal section and reduced the mortality to such a degree as greatly to enlarge the scope and enhance the usefulness of the operation. Those of his students who followed his technic, notably Greig Smith, Moynihan and Mayo Robson in England and Joseph Price in this country, and through his leadership the Mayos and others, attained great success and fame because of their low mortality and extraordinarily uniform good results.

Without doubt the great reduction in mortality which Tait attained was largely due to his adoption of Baker Brown's method of treating the pedicle by dropping it back free in the abdominal cavity instead of applying Spencer Wells' clamp and with the systematic use of the drainage tube which he had previously denounced. His success, however, in spite of his imperfect asepsis, I believe must have been, in part at least, attributable to his radical and courageous departure from the long-established method of dealing with the bowels. As late as 1883, Tait still recommended restriction of bowel activity after ovariectomy, recommending that the bowels should be confined for from ten days to two weeks after operation. A little later, however, Mr. Tait made a radical departure in his management of the bowels after abdominal section. Before the operation the patient was thoroughly purged with saline laxatives and starved for forty-eight hours. After operation, the bowels instead of being confined were moved by enema on the second morning. Thorough evacuation of the colon on the second morning after operation

was a dominant feature of the after-care of his patients. Drastic measures were used when necessary to secure an evacuation, and no food was given until after the bowels moved. Tait considered this early bowel action most important. He would not administer anodynes of any sort so long as there was any hope of saving the patient. The patients sometimes suffered cruelly, but they rarely, if ever, received an anodyne drug of any sort unless they became moribund. He said, "I never give any drug unless the patient is going to die."

He regarded peritonitis as a fatal disease. When I asked him one day what he considered the essential things to be done in peritonitis following an abdominal section, he replied, "Nothing at all. The patient who has peritonitis after a surgical operation is certain to die. The time to cure peritonitis is before it begins. If the peritoneal cavity is kept well drained, peritonitis will not occur. The important thing is to keep the peritoneal cavity free from stagnant fluids. I am not afraid of germs. They cannot grow without food."

The carbolic acid spray of Lister was conscientiously employed by Spencer Wells and his followers, but Tait achieved better results without the spray than others did with it, employing otherwise the same technic. Undoubtedly the abandonment of the Spencer Wells clamp and the use of the short sterile ligature and the intraperitoneal treatment of the stump introduced by Baker Brown were the chief factors in reducing the mortality rate from the 25 per cent of Spencer Wells' first one thousand cases to less than 5 per cent in the hands of Tait, Bantock, Thornton, and Keith.

I was greatly impressed with Tait's views with reference to the importance of keeping the intestine empty and active instead of confining the bowels with opium for ten or twelve days as had formerly been the routine treatment. The important facts which had recently been brought out by Bouchard and others respecting the highly toxic character of the intestinal contents lent strong support to Tait's views. Widal, Roux, and other investigators had called attention to the readiness with which the colon bacillus becomes highly virulent and, invading the blood stream and the tissues, produces peritonitis, pleurisy, pancreatitis, pleuropneumonia, cystitis, appendicitis, hepatic abscess and other local infections.

These investigations clearly established a definite relationship between intestinal bacteria and septic conditions in the abdomen. Roux actually produced purulent peritonitis and abscesses with pure cultures of *B. coli*.

Studies of the bacterial contents of the alimentary tract have shown that the number of bacteria is closely proportionate to the amount of food present and increases enormously when there is stasis of food remnants, particularly in the cecum and the large intestine. There is a great difference, however, in the character of the bacteria found. This is deter-

mined by the nature of the culture medium. Kendall and Herter showed that in the presence of carbohydrates, such as lactose, pathogenic organisms do not thrive, and the colon bacillus and even the bacilli of diphtheria, cholera, dysentery and typhoid fever cease to produce toxins, while the lactic and other acids produced by the aciduric organisms which flourish in a carbohydrate medium are harmless.

The observations of Herter, Coleman and Shaffer, Torrey and Rettger, supplementing those of Metchnikoff, Tissier and Distaso, have shown that the character of the intestinal flora may be changed by suitable carbohydrate feeding and that the growth of pathogenic organisms may be arrested and these dangerous organisms almost wholly eliminated from the intestinal flora by the prevention of stasis and the provision of a favorable nutrient medium. By this means not only is the menace of infection derived from the intestinal tract diminished but the load of toxins with which the body has to deal is substantially lessened, thus diminishing the danger of shock.

Carbohydrate feeding to change the intestinal flora in preparing a patient for abdominal section has the further advantage that it supplies the liver with a rich store of glycogen with which to detoxicate and destroy the heterogeneous proteins and other poisonous matters, a flood of which enters the circulation after every operation involving any considerable degree of traumatism.

The elimination of dangerous bacteria by changing the intestinal flora is only an extension of Tait's idea to combat infection by making conditions such as to discourage its development. In my surgical experience, it has proved highly valuable in lowering the mortality rate.

In the light of modern developments in relation to the great rôle played by intestinal bacteria and their products in functional and organic disorders of many sorts, I have been led to look upon Tait's departure from the orthodox method of dealing with the intestine after a laparotomy as one of his most important innovations.

I will close my paper with a brief summary of Mr. Tait's leading contributions to abdominal surgery.

He was the first to remove the ovaries and fallopian tubes for relief of pelvic inflammations.

First to remove the uterine appendages for relief of bleeding fibroids.

First to operate in cases of ruptured tubal pregnancy.

First to remove gallstones by operation.

First to suggest the operation of cesarean section in cases of placenta previa.

He invented a simple method of repairing the perineum, which in his hands often yielded satisfactory results.



When Mr. Tait began his work, abdominal surgery was synonymous with ovariectomy. His inventive genius and his courage led him to extend the scope of surgery within the abdominal cavity from the ovaries to the gallbladder, and other viscera, thus making him the real father of abdominal surgery of which he was in his day the greatest master, a man of whom one of his pupils has well said, "We shall never see his like again."

**LAWSON TAIT AND HIS  
CONTRIBUTIONS TO ABDOMINAL  
SURGERY**

By

**JOHN HARVEY KELLOGG, M.D.**  
Battle Creek, Michigan

---

Reprinted from  
**THE TRANSACTIONS OF THE AMER-  
ICAN ASSOCIATION OF OBSTETRICIANS,  
GYNECOLOGISTS AND ABDOMINAL  
SURGEONS**

1927, xl, 68

## LAWSON TAIT AND HIS CONTRIBUTIONS TO ABDOMINAL SURGERY

BY JOHN HARVEY KELLOGG, M.D., (GUEST), BATTLE CREEK, MICH.

I HAVE chosen as the subject of this address, Lawson Tait, at a period when he was at the very summit of his marvelously successful and useful career.

While opinions may differ concerning the status of Lawson Tait's work, I am sure all will agree that he was a man of superior intelligence, perhaps a genius, an independent thinker, an innovator. In fact, I think his natural disposition was to avoid the beaten path if he could find another as good or better. He was most prolific in new ideas and new methods, and never satisfied with his technic so long as it lacked anything of the perfection which he conceived to be possible.

I had an opportunity to become acquainted with Tait while serving as his pupil for five months during the early part of 1889, during which time I was his only assistant aside from his nurses and Mr. Teichelmann, his anesthetist. I assisted both in his private work at The Crescent, at the Women's Hospital at Sparkhill, and at his dispensary. I usually accompanied him on trips to various places to perform surgical operations and on visits to London to attend the sessions of the British Gynecological Association and other medical meetings, and so had a fairly good chance to become somewhat intimately acquainted with him.

As he sat in an easy chair in his little office at The Crescent, Birmingham, where I first met him, he looked very impressive. He had the appearance of being a very large man. His head was massive. He wore a number eight hat; his shoulders were broad, and his chest thick. A great head of thick hair, inclined to curl, with his thick, short neck and his strong facial features, gave him a leonine look. But the impression of greatness was lessened when he stood up, for his legs were short, so that his standing height was a little below the average.

I was pleased to find that notwithstanding Mr. Tait's somewhat formidable appearance his manner was kindly though abrupt. His ordinary speaking voice was pleasant, almost musical, in tone. He spoke rapidly, incisively, using as few words as necessary to express his thoughts.

Though really a very kind-hearted man, Mr. Tait was very hot-headed and easily irritated, very opinionated, and most intolerant toward professional rivals. He was always spoiling for a fight with

any one who entertained views contrary to his own or who essayed to defend the views of one of his professional enemies, of which he had a good many. He often allowed prejudice to blind his reason and pervert his judgment. He quarreled with Emmett because of his views respecting pelvic inflammations and repudiated everything that Emmett taught. I remember on one occasion when he was preparing to repair a perineum in his rapid fashion, I called attention to the fact that the patient had a very extensive laceration of the cervix uteri, and asked him if he was not going to repair it. "Oh, no," he said, "I never pay any attention to Emmett's little crack." And all the time I was with him, I never saw him repair a torn cervix; I believe that he utterly ignored this lesion, and probably for no other reason than that Dr. Emmett laid stress upon it. He was equally prejudiced against operations on the stomach. His success with operations upon the gall bladder was so great that I was surprised that he did not operate upon the stomach as I had found Billroth and Wolfler doing in Vienna six years before. He declared, however, that Billroth's pylorotomy was useless because it was only done for cancer and the cancer would always return. He was equally opposed to Wolfler's gastroenterostomy, which he said always resulted in "continuous fecal regurgitation."

One of Tait's weak points was his hot temper. Though ordinarily amiable enough, he sometimes flew into a terrible rage and became almost as savage as a wild animal. On such occasions his face presented a terrible aspect and he roared like a mad bull.

Tait greatly enjoyed a controversy and loved nothing better than lampooning an antagonist. His skill as a controversialist and his gift of repartee were so great that in discussions at medical meetings he was generally victorious even when in the wrong.

Tait was a savage enemy and sought always to plunge his weapon into a vital part of his adversary, but he was a loyal and sympathetic friend and always ready to do battle in defense of a person whom he thought was being wronged. He had no use for pretenders, hypocrites or weaklings. He respected an honest antagonist but hated his rivals cordially.

McKay, who spent some time with Tait shortly after I was with him, relates an incident that occurred at a meeting of the London Medical Society, at which a well-known surgeon in his remarks suggested that too much attention should not be given to Mr. Tait's views because, as every one knew, he was a man of very strong prejudices; whereupon, Mr. Tait retorted that he had only one prejudice in the world, and that was against a man who dyed his hair. As every one knew that the surgeon had carefully dyed his hair for many years, Mr. Tait's sally was greeted with a roar of laughter, to the complete discomfiture of his opponent.

Mr. Tait certainly dearly loved the stir and excitement of battle and consequently had some very bitter enemies, especially among rival abdominal surgeons. His animosity against Spencer Wells was so great that it was almost necessary to avoid mentioning his name in his presence. In matters not subject of controversy, Mr. Tait was a most entertaining conversationalist. It was best, however, to give him an opportunity to do all of the talking. This I learned from Teichelmann, so I never offered an opinion and rarely made an observation unless invited to do so. My attitude was that of a sponge. I was after information and eagerly observed and made note of every item.

When set going by proper questioning, Mr. Tait would discourse in a most delightful, entertaining, and instructive manner, and on almost any subject that might be broached. He was a man of broad learning. He had been a student of biology under Darwin, whom he worshiped. Mr. Tait was not a church-goer and could hardly be called a religious man, although he was raised a Catholic, but he was a profound student of ancient religions and from his talk I should think would be properly classed as a Unitarian.

While kept very busy with his professional duties, Mr. Tait found time to interest himself actively in the public affairs of the big town of Birmingham. He gave lectures at the Midland Institute and for some years regularly contributed leading articles to the principal newspapers. He was very fond of the theater, to which I sometimes accompanied him. Although he apparently enjoyed the acting greatly, he usually soon fell asleep and snored so loudly as to make considerable disturbance. I doubt if any one dared to awaken him. He was likely to fall asleep at almost any time when not active. When I rode up to London with him, he almost invariably slept nearly the whole distance, sitting up in a corner of the compartment, snoring loudly. On one such occasion, when the fog happened to lift long enough to let a ray of bright sunshine in through the window of the opposite side, I took a kodak picture of him. I afterwards took a picture of him with his sleeves rolled up in the midst of a surgical operation, with the intense, rather savage look upon his face which he usually wore when operating. I mounted the two pictures on the same card, writing beneath one, "Fast asleep"; and the other, "Wide awake." He was greatly amused by the pictures and fascinated by the kodak, which he had never before seen, and provided himself with one as soon as it was possible to obtain it.

Tait was a great lover of art. His house was filled with art objects of various sorts collected from various countries. He was exceedingly fond of animal pets and had a number of beautiful Persian cats which he would carry in his arms for hours. His fondness for animals perhaps explains his sympathy with the vivisectionists, who claimed him as a backer of their movement, but he was a bosom friend of

and especially in this country, where the operation was being performed with increasing frequency though in general with a high rate of mortality.

Tait was exceedingly proud of his record and highly indignant at the charge that many of his operations were needless. More than once I saw him close the abdomen after he had opened it, expecting to find diseased tubes and ovaries, but not able to verify his diagnosis.

He shared with Hegar the honor of originating the operation of removing diseased tubes and ovaries, although he insisted that his first case antedated Hegar's, but felt that the operation had been brought into disrepute by the unnecessary operations performed by overenthusiastic young surgeons.

He told me that after reading his first paper on "Exanthematic Inflammation of the Ovaries" before a provincial medical society, the surgeons present became so enthusiastic over the new indication for surgical interference that when he met the society again a few months later, every surgeon present had on exhibition a basin full of healthy ovaries.

Of course, it was hardly possible to credit Mr. Tait's statement as being literally true, although there was doubtless a considerable basis of fact. Tait was rather given to exaggeration in speech. Bantock, one of his best friends, told me that he believed implicitly everything that Mr. Tait wrote, but never relied upon his verbal statements, for in a heated discussion, in reciting his experience, he would assert that he had operated upon 50 cases when the actual number was only 5.

As a diagnostician, Tait was, to say the least, not brilliant. His histories were very brief and his examinations usually very hurried. He rarely spent a minute in palpating the abdomen, and his internal examination was often completed within half a minute or less. I remember a case in which, after such a hurried examination of a patient whom I had previously studied at the dispensary and in whom I had noted an abnormality which I believed to be a fibroid, when I asked Mr. Tait his diagnosis, to test my own findings, he curtly replied, "We will look inside to see what's the matter."

Tait's work received general recognition and approval in this country before his views were accepted in Great Britain. For this he was very grateful, and American doctors received a cordial welcome until they began to arrive in such numbers as to become an embarrassment. He felt particularly grateful for the early acceptance in America of his operation for control of bleeding fibroids by removal of the appendages. He bitterly resented the action of the Royal Medical Society in refusing to publish the report of his first 30 cases of this operation and which received only adverse criticism when read before the society. His paper was published some months

Victor Horsley, with whom he lunched sometimes when we ran over to London to attend a medical meeting, and whose extensive animal experimentation was well known to Mr. Tait. He frankly admitted the value of bacteriologic experimentation with animals, and I formed the opinion that as a matter of fact he only objected to animal experiments in which unnecessary pain was caused during or after the operation.

Though often imperious and dictatorial in his manner, Tait was exceedingly kind and gentle in his dealings with children and in his dispensary work treated the poor old ladies who consulted him with the greatest courtesy and consideration. He was very fond of children as well as animal pets. I think it was a matter of great grief to him that he had no child of his own. I remember on one occasion when we were waiting for a train in a little town to which Mr. Tait had been called to perform a laparotomy, as we were walking up and down the street, a little five- or six-year-old girl passed us. Mr. Tait stopped, turned around, and watched the little girl until she had finally passed out of sight down the long street, and with such a look of tenderness on his face, I felt sure he was wishing that the child were his own. He treated free of any charge many poor working girls at his private hospital, The Crescent.

Mr. Tait was educated at Edinburgh, and while a medical student he lived for several years in the house of James Y. Simpson, for whom he evidently had a very great regard. A large picture of the great Scotch obstetrician hung in his sitting-room beside his own portrait. The resemblance of the two faces was most striking. Mr. Jordan Lloyd told me that it was currently reported and generally believed that Mr. Tait was a natural son of Simpson, although Mr. Tait told me one day when we were walking home from the city market, where he loved to go after finishing his morning's work, that his father was a blacksmith. When one of his assistants asked him about the appearance of James Y. Simpson, he pulled a lock of hair across his forehead and said, "There, you see him."

When Tait left Edinburgh, on finishing his medical training there, he was fully resolved never to perform the operation of opening the abdomen. Syme, one of his teachers and one of the greatest surgeons of his day, had abandoned the operation as utterly useless. He was led to do this by the fact that the operation in the hands of Edinburgh surgeons had proved most unsuccessful. Of the 30 operations performed by Edinburgh surgeons within the preceding few years not a single patient had survived. The operation was forbidden in Kings College Hospital. At the time I was with him, however, Tait had performed considerably more than 1000 operations, and he informed me that he had a record of 116 cases in succession without a death. His success was unrivalled and naturally created great interest in Europe

later in the *American Journal of the Medical Sciences* and his operation soon became a recognized procedure in this country.

Tait was an epicure, or perhaps I should say a gourmand. No food was too rich for him or too highly flavored. He must have had an extraordinarily vigorous stomach to enable him to dispose of the great quantities of food and wines which he consumed at dinner. To his gross eating habits may perhaps be attributed his premature death at the age of sixty-five. He had previously been operated upon for a renal calculus, and one of his last medical papers was entitled, "The History of a Sore Kidney."

Lawson Tait was an ardent advocate of various reforms in medical education and ridiculed some of the methods in common use at his time and still perhaps too much in vogue. In an address he said, "I remember that we had to learn that the direction of the anterior cornu of the fourth ventricle of the brain ran a course which was backwards, outwards, downwards, forwards, and inwards, and we were enabled in the most improper way to remember these important facts by the word, 'bodfi.' Has 'bodfi' ever served any of you at the bedside? Is there any considerable condition of human accident or ailment in which 'bodfi' could assist you to relieve your patient?"

He insisted upon the importance of training the hands in the use of tools as a necessary part of surgical education. He said of the medical student's program, "I would set him so many hours in the week into the shop of the village carpenter; and I would have him trained to use a saw, a chisel, a plane, and a skew so that he should be able to make a long splint if need be, as well as to put it on. And into the blacksmith's shop he should go, until he knew how to strike properly with a hammer."

Tait himself had served time at the lathe, the bench, and the forge, doubtless, as a young boy in his father's blacksmith shop.

As an operator Tait was not dashing or showy; he was quick, neat, accurate, and efficient. His fingers were short and thick but wonderfully deft. As I stood opposite him at the operating table and watched his hands, I was fascinated by the precision, dexterity and rapidity with which each step of the operation was executed—not one false motion. He did everything himself. He helped himself to sponges and instruments; he caught every bleeding vessel, and tied every ligature. The assistant rarely had a chance to do anything except to hold a pair of forceps while he tied the pedicle, and was seldom allowed to put a finger in the wound.

Tait's dexterity in operating has perhaps seldom been excelled, though that debonair surgeon, Jimmy Wood, the star operator in Bellevue Hospital when I was a student there, used to cut off legs in thirty seconds, and the famous Liston could amputate a thigh in



twenty seconds. Martin did a double pycosalpinx in eight minutes, and Doyle did vaginal hysterectomies in two minutes.

McKay says Tait repaired perineums in five minutes. If this is so, he must have changed his method, for I often timed him, and seldom saw him devote more than three minutes to a perineum, and on one occasion saw him begin and complete the operation in just a minute and a half. With his coat off, sleeves rolled up, and wearing a big mackintosh apron, he stepped to the side of the bed, seized the patient, placed her crosswise on the bed with her hips at the edge, the nurse holding each limb. With a pair of tissue forceps in one hand and a pair of scissors in the other, he dropped upon his knees and with a few quick movements dissected the vaginal flap, made a deep cut on each side, seized a long-handled Peaslee needle and pulled through three or four silkworm-gut sutures so placed as to secure good coaptation of the raw surfaces. The whole operation was over in little more time than it takes to describe it.

Tait used no germicides or antiseptics of any sort but was exceedingly clean. If his hands became at any time soiled with a virulently infectious fluid, he declined to operate for several days after, as he had found from experience that soap and water and even the antiseptics then in use were not sufficient to guarantee safety. Instruments and ligatures were boiled, and sponges were soaked in a one per cent carbolic lotion and then put in a bag and hung up to dry. Only boiled water was used at operations. The hands were prepared by simply scrubbing with soap and water, but the scrubbing was not very thoroughly done.

In operating for removal of the appendages Tait rarely made an incision more than two or two and a half inches long. The incision was just large enough to allow the insertion of two fingers. This he learned from Baker Brown. He opened the abdomen a little to one side of the median line, taking care to avoid cutting the fibers of the rectus, a point he got from A. McKenzie Edwards, a medical lecturer in Edinburgh. He seldom saw the ovaries or appendages until after they were drawn out through the abdominal wound. His left forefinger was so highly educated that it gave him much more information than his eyes could have given him concerning the pathology with which he had to deal. He did not hesitate to use much force in breaking up adhesions and sometimes tore into the intestines. When on the occurrence of such an accident I felt somewhat dubious concerning the patient's recovery, Mr. Tait laughed at my fears and remarked, "I have torn the intestine more than 30 times and have often seen feces pouring out of the drainage tube like meat out of a sausage grinder, but they got well just the same."

Though in the early eighties Tait had opposed the use of the drainage tube, referring to it as a "seton in the peritoneal cavity" and likely

to give rise to peritonitis, he had become by 1889 an ardent advocate of the drainage tube and never opened the abdomen without introducing a glass tube for drainage.

He opposed the carbolic acid spray of Lister, and said, "It is by no means either a simple or a safe proceeding."

On one occasion, when I asked him his views respecting Pasteur's discoveries, he declared that germs were harmless, that he would be willing to use a mass of germs in place of a sponge, if they were only dry. He thought the chief danger to be the collection of fluid in the abdomen. He aimed to overcome this by three methods: (1) purging the patient before operation; (2) drainage, and (3) withholding liquids for two days after operation.

Tait's remarks about germs and Lister's methods often left me with the impression that his opposition to antiseptic methods was in large part due to his hatred of Lister and Spencer Wells. One experience in particular suggested this explanation of his obstinate opposition to antiseptics. He was at that time still treating hysterectomy stumps extraperitoneally. In many cases the tumors were very large, and the great mass of dead tissue left outside was soon in an advanced state of decay, so that his wards were often redolent with odors characteristic of the slaughterhouse. I asked him one day why he did not permit the use of iodoform or carbolic acid or some other antiseptic. He said, "I can't endure the smell of the stuff. I won't have it around." I have never encountered any antiseptic which could compare in pungent malodorousness with the odor of decomposing flesh which often pervaded the wards at The Crescent. Some little time afterward he began the use of boracic acid, insisting, however, that he did not use it for antiseptic purposes but merely to keep the wound dry.

Tait closed the abdominal wound with three or four through and through sutures of very coarse silk. When I asked what percentage of his cases developed hernia, he replied that he had never had hernia in a single case. Shortly after, he operated upon an American woman who had a very large bleeding fibroid and on my advice had come to Birmingham to be operated upon by Tait. He did not remove the tumor, thinking it safer to remove the appendages, as the patient was quite feeble. I timed the operation, which was completed in exactly seven minutes. Within the next year and a half both pedicle ligatures worked out, one through the vagina and the other through the abdominal wall. A year or two later I spent more than an hour dealing with a multisacculated hernia which developed in the abdominal wound.

Postoperative hernia must have been of frequent occurrence in those days. More than twenty-five years ago I operated for hernia on a patient from whom Thomas Keith had removed an ovarian

tumor thirty years before, and a year or two later I did the same operation for one of Spencer Wells' patients. So I think Mr. Tait was no more unfortunate than his colleagues in this respect. With such a method of closing the abdominal wound, the frequent occurrence of hernia was inevitable.

Tait was a man of great ingenuity. He would instantly devise some novel method of dealing with a new condition or sudden emergency arising in an operation. He invented many new instruments, the general aim of which was in the direction of simplification and increased efficiency.

Mr. Tait's greatest contribution to surgery, and to abdominal surgery in particular, was his demonstration of the value of cleanliness without antiseptics and the development of a technic which eliminated many of the perils of abdominal section and reduced the mortality to such a degree as greatly to enlarge the scope and enhance the usefulness of the operation. Those of his students who followed his technic, notably Greig Smith, Moynihan and Mayo Robson in England and Joseph Price in this country, and through his leadership the Mayos and others attained great success and fame because of their low mortality and extraordinarily uniform good results.

Without doubt the great reduction in mortality which Tait attained was largely due to his adoption of Baker Brown's method of treating the pedicle by dropping it back free in the abdominal cavity instead of applying Spencer Wells' clamp and with the systematic use of the drainage tube which he had previously denounced. His success, however, in spite of his imperfect asepsis, I believe must have been, in part at least, attributable to his radical and courageous departure from the long-established method of dealing with the bowels. As late as 1883, Tait still recommended restriction of bowel activity after ovariectomy, recommending that the bowels should be confined for from ten days to two weeks after operation. A little later, however, Mr. Tait made a radical departure in his management of the bowels after abdominal section. Before the operation the patient was thoroughly purged with saline laxatives and starved for forty-eight hours. After operation, the bowels instead of being confined were moved by enema on the second morning. Thorough evacuation of the colon on the second morning after operation was a dominant feature of the after-care of his patients. Drastic measures were used when necessary to secure an evacuation, and no food was given until after the bowels moved. Tait considered this early bowel action most important. He would not administer anodynes of any sort so long as there was any hope of saving the patient. The patients sometimes suffered cruelly, but they rarely, if ever, received an anodyne drug of any sort unless they became moribund. He said, "I never give any drug unless the patient is going to die."

He regarded peritonitis as a fatal disease. When I asked him one day what he considered the essential things to be done in peritonitis following an abdominal section, he replied, "Nothing at all. The patient who has peritonitis after a surgical operation is certain to die. The time to cure peritonitis is before it begins. If the peritoneal cavity is kept well drained, peritonitis will not occur. The important thing is to keep the peritoneal cavity free from stagnant fluids. I am not afraid of germs. They cannot grow without food."

The carbolic acid spray of Lister was conscientiously employed by Spencer Wells and his followers, but Tait achieved better results without the spray than others did with it, employing otherwise the same technic. Undoubtedly the abandonment of the Spencer Wells clamp and the use of the short sterile ligature and the intraperitoneal treatment of the stump introduced by Baker Brown were the chief factors in reducing the mortality rate from the 25 per cent of Spencer Wells' first one thousand cases to less than 5 per cent in the hands of Tait, Bantock, Thornton, and Keith.

I was greatly impressed with Tait's views with reference to the importance of keeping the intestine empty and active instead of confining the bowels with opium for ten or twelve days as had formerly been the routine treatment. The important facts which had recently been brought out by Bouchard and others respecting the highly toxic character of the intestinal contents lent strong support to Tait's views. Widal, Roux, and other investigators had called attention to the readiness with which the colon bacillus becomes highly virulent and, invading the blood stream and the tissues, produces peritonitis, pleurisy, pancreatitis, pleuropneumonia, cystitis, appendicitis, hepatic abscess, and other local infections.

These investigations clearly established a definite relationship between intestinal bacteria and septic conditions in the abdomen. Roux actually produced purulent peritonitis and abscesses with pure cultures of *B. coli*.

Studies of the bacterial contents of the alimentary tract have shown that the number of bacteria is closely proportionate to the amount of food present and increases enormously when there is stasis of food remnants, particularly in the cecum and the large intestine. There is a great difference, however, in the character of the bacteria found. This is determined by the nature of the culture medium. Kendall and Herter showed that in the presence of carbohydrates, such as lactose, pathogenic organisms do not thrive, and the colon bacillus and even the bacilli of diphtheria, cholera, dysentery, and typhoid fever cease to produce toxins, while the lactic and other acids produced by the aciduric organisms which flourish in a carbohydrate medium are harmless.

The observations of Herter, Coleman, and Shaffer, Torrey and

Rettger, supplementing those of Metchnikoff, Tissier, and Distaso, have shown that the character of the intestinal flora may be changed by suitable carbohydrate feeding and that the growth of pathogenic organisms may be arrested and these dangerous organisms almost wholly eliminated from the intestinal flora by the prevention of stasis and the provision of a favorable nutrient medium. By this means not only is the menace of infection derived from the intestinal tract diminished but the load of toxins with which the body has to deal is substantially lessened, thus diminishing the danger of shock.

Carbohydrate feeding to change the intestinal flora in preparing a patient for abdominal section has the further advantage that it supplies the liver with a rich store of glycogen with which to detoxicate and destroy the heterogenous proteins and other poisonous matters, a flood of which enters the circulation after every operation involving any considerable degree of traumatism.

The elimination of dangerous bacteria by changing the intestinal flora is only an extension of Tait's idea to combat infection by making conditions such as to discourage its development. In my surgical experience, it has proved highly valuable in lowering the mortality rate.

In the light of modern developments in relation to the great rôle played by intestinal bacteria and their products in functional and organic disorders of many sorts, I have been led to look upon Tait's departure from the orthodox method of dealing with the intestine after a laparotomy as one of his most important innovations.

I will close my paper with a brief summary of Mr. Tait's leading contributions to abdominal surgery.

He was the first to remove the ovaries and fallopian tubes for relief of pelvic inflammations.

First to remove the uterine appendages for relief of bleeding fibroids.

First to operate in cases of ruptured tubal pregnancy.

First to remove gallstones by operation.

First to suggest the operation of cesarean section in cases of placenta previa.

He invented a simple method of repairing the perineum, which in his hands often yielded satisfactory results.

When Mr. Tait began his work, abdominal surgery was synonymous with ovariectomy. His inventive genius and his courage led him to extend the scope of surgery within the abdominal cavity from the ovaries to the gall bladder, and other viscera, thus making him the real father of abdominal surgery of which he was in his day the greatest master, a man of whom one of his pupils has well said, "We shall never see his like again."

(From the American Journal of Public Health, Dec., 1936).

#### TRIBUTE TO MEMBERS OF LONG STANDING

The presentation of a beautiful certificate to each member who has been affiliated with the American Public Health Association for 40 years or more was an interesting and touching ceremony at the banquet at the New Orleans Annual Meeting. Two of the eight members concerned, namely, Dr. John Harvey Kellogg and Daniel W. Mead, were there in person. The certificates for the remaining members who were not able to attend were received as follows: Dr. Mazyck P. Ravenel, etc.

John Harvey Kellogg

Daniel W. Mead

DR. CUMMING ELECTED AN HONORARY  
FELLOW

**D**R. HUGH S. CUMMING, the former Surgeon General, was made an Honorary Fellow of the American Public Health Association at the recent New Orleans Annual Meeting. Dr. Cumming's accomplishments in the public health field are so outstanding and so numerous that this is an honor he richly deserves.

TRIBUTE TO MEMBERS OF LONG  
STANDING

**T**HE presentation of a beautiful certificate to each member who has been affiliated with the American Public Health Association for 40 years or more was an interesting and touching ceremony at the banquet at the New Orleans Annual Meeting. Two of the eight members concerned, namely Dr.

John [redacted] and Daniel W. Mead, were there in person. The certificates for the remaining members who were not able to attend were received as follows: Dr. Mazÿck P. Ravenel for Dr. William C. Woodward; Dr. Henry D. Chadwick for Mr. Robert Spurr Weston; Dr. Henry F. Vaughan for Dr. George A. Soper; Dr. Angel de la Garza Brito for Dr. Jesus E. Monjaras; Dr. Clarence L. Scamman for Dr. Charles V. Chapin; and Dr. Carl E. Buck for Marion Talbot.

PUBLIC HEALTH ASSOCIATION OF NEW  
YORK CITY—NEW AFFILIATED  
SOCIETY

**T**HE request of the newly formed Public Health Association of New York City for affiliation with the American Public Health Association was accepted at the New Orleans

*Meeting held Oct 20-23, 1936.*

**THE AMERICAN PUBLIC HEALTH ASSOCIATION**

**Pay Tribute to**

**JOHN HARVEY KELLOGG, M. D.**

**For more than forty years of membership  
in this professional society of public health  
workers.**

**Such long sustained affiliation is an  
inspiration to every member of the public  
health profession.**

**Walter H. Brown  
President**

**October 22nd, 1936**

**Reginald M. Atwater  
Secretary**



**DOCTOR TISSIER**  
and  
**His Work at the Pasteur Institute**

**Comprising a Summary of Dr. Tissier's Researches on the Bacteria  
of Putrefaction and of the Intestinal Flora in Infants,  
Children and Adults**

BY  
**PROFESSOR A. BESREDKA**  
PASTEUR INSTITUTE, PARIS

TRANSLATED BY  
**JOHN HARVEY KELLOGG, M.D.**  
BATTLE CREEK SANITARIUM  
Battle Creek, Michigan

---

*Reprinted from the Bulletin of the Battle Creek Sanitarium and  
Hospital Clinic, April, 1929, Vol. XXIV, No. 2, pages 73-82.*

## TRANSLATOR'S NOTE

The translator had the honor of knowing Dr. Tissier personally for many years, and mourns his loss as a friend. The doctor was for some years consulting bacteriologist to the Battle Creek Sanitarium and rendered important service in the development of the dietetic methods of changing the intestinal flora in use at that institution. For more than twenty years prior to his death, Dr. Tissier followed closely the biologic regimen, abstaining from meats of all sorts because of the observations made in his laboratory referred to in Prof. Besredka's account of his work. He also required his patients to follow closely the same diet which he termed the "vegetalien regimen."

The reader will find in this brochure the first authentic account which has appeared in English of the true genesis of researches in relation to the normal and abnormal intestinal flora. Dr. Tissier, unfortunately, contributed few papers concerning his researches although he was an incessant worker and as Dr. Besredka says in concluding his résumé of his activities "was justly considered one of the best specialists in disorders of the digestive tract in France."

JOHN HARVEY KELLOGG

## DR. TISSIER AND HIS WORK AT THE PASTEUR INSTITUTE

BY PROF. A. BESREDKA

Pasteur Institute, Paris

Henry Tissier was born at Roanne, Loire, October 17, 1866, and died at Paris, December 31, 1926. His life was one of incessant activity. He was the son of a carriage maker and began his education in the school of



his native village. Later he entered college at Compiègne. Having received his diploma as bachelor, he went to Paris, as he had long desired to do, and matriculated at the Faculty of Medicine.

From the beginning of his medical studies Tissier was greatly impressed by the ravages of gastro-enteritis among young infants. Having made himself familiar with the current literature of the question, he noted that works upon the etiology of this disease were full of contradictions. While still a young interne he conceived the idea of devoting himself to the study of the intestinal flora. He made known his ambition to his friend, Veillon, who presented him to Professor Grancher, of the Pediatric Clinic, by whom he was given an opportunity to work in the laboratory of the Pediatric Clinic. There were at work at that time in the laboratory under the direction of Veillon a sextet of highly talented investigators who were devoting themselves to the study of anaërobic microbes; namely, Zuber, Hallé, Rist, Auclair, Cottet, and Guillemot. Tissier could not have found a more favorable field for undertaking a study of the intestinal flora. So he entered upon the work with great energy and during four years devoted his entire time to work in the laboratory of the Hospital for Sick Children. At the end of his internship he published a remarkable monograph entitled, "Researches Upon the Normal and Pathological Intestinal Flora of the Nursing Infant," which he presented as his inaugural thesis in receiving his degree as Doctor of Medicine in 1900.

At this time Metchnikoff and his numerous students were studying old age and the rôle played in senility by the intestinal flora. Evidently the place for Tissier was at his side. Tissier left his own laboratory at the Hospital for Sick Children and entered the Pasteur Institute where he remained until his death.

For a long time bacteriologists had been endeavoring to determine the composition of the intestinal flora. The hope was that by an understanding of the nature of the intestinal flora it would be possible to make clear on the one hand the rôle of bacteria in the numerous fermentations which developed in the intestine in the normal state, and on the other hand to determine their rôle in digestive disorders, especially in the disorders of young infants who, as is well known, suffer a high mortality rate from intestinal disorders. But prior to the researches of Tissier it had been nearly impossible to establish a distinction between a pathologic and a normal flora, and still less between the different varieties of pathogenic flora. When the microscope revealed two or three species the bacteriologist found a great number derived for the most part from atmospheric dust. On the contrary, when the direct examination showed a varied flora it was possible to isolate only one or two species.

These paradoxical observations were evidently due to the imperfection of the technic employed. It was necessary then, before beginning the study of the pathogenic flora of the intestine, to perfect a dependable method which would give constant results, and then by the aid of a perfected technic to study the normal intestinal flora.

Such was the plan that Tissier marked out for himself and which developed, as we shall see, in the most brilliant manner.

After having described in detail the technic of culturing the stools and the method of culture, he studied both normal and pathological stools in breast-fed infants, in bottle-fed infants, and in young children taking a mixed diet. It was only after a minute study of the microorganisms observed in these different classes that Tissier approached the problem of the physiologic rôle of the intestinal flora in gastro-enteritis of nurslings.

Let us note in passing that in the course of these researches Tissier found some species which had not previously been described: *Bacillus bifidus communis*, *Bacillus exilis*, *Bacillus minutus*, *Coccobacillus perfoetens*, *Diplococcus griseus liquefaciens* and a streptococcus which was negative to the Gram stain.

#### THE NORMAL FLORA OF THE NURSING INFANT

According to Tissier, the digestive tube of a breast-fed infant is at first sterile. The first bacteria make their appearance between the tenth and the twentieth hours after birth. Bacteria appear even before food has been administered. One sees at first small cocci (*Staphylococcus albus*) and with them coccobacilli which lose their color with the Gram stain. At the end of twenty-four hours, when feeding usually begins, the *Bacillus perfringens* (Welch's bacillus) and the *Bacillus III* of Rodella appear and then progressively the following organisms appear and become very numerous toward the third day; namely, *Coccobacillus perfoetens*, *Bacillus lactis aërogenes*, enterococcus, Sarcinae. After this time this highly varied flora tends to become simpler. A diplobacillus with slender extremities (*B. bifidus*) develops rapidly. The other bacteria disappear gradually until the intestinal flora seems to consist almost exclusively of the one species, *B. bifidus*. This flora remains constant so long as the breast feeding continues, but the least error in diet or the least fault in hygiene will react upon the flora injuriously and this effect will become apparent even when neither the weight nor the external appearance of the child give indication of anything wrong.

In bottle-fed babies the phase of increasing infection is more prolonged than in breast-fed infants. Yeasts and certain varieties of Sarcinae are found in the stools. Many species of bacteria are present. Besides *B. bifidus*, *B. coli* and the enterococcus there exist in equal numbers the *B. acidophilus*, *B. exilis*, *Staphylococcus albus* and *B. lactis aërogenes*. Of all these different species no one is predominant.

In infants taking a mixed diet, if cow's milk is given from birth the flora resembles that of a bottle-fed infant. If the infant begins the use of cow's milk later, as toward the sixth or eighth month, the appearance of the stool differs little from that of a breast-fed infant.

Let us see now what is the physiologic rôle of the normal intestinal flora, according to Tissier.

As shown by his researches, the digestive tube is from the first hours of life invaded by the ordinary bacteria of putrefaction which set up in the intestine a process of putrid decomposition. The presence in the intestine of the nursling of certain species of bacteria is certainly harmful for an organism which is not yet able to defend itself. These species give rise to an abnormal condition and through infection such as is encountered, as we shall see, only in well-defined pathological conditions. But, as has been said above, in breast-fed infants, the *B. bifidus*, a strict anaërobe, rapidly develops and so completely dominates the *B. coli* and the enterococcus that the action of these organisms becomes negligible.

The *B. bifidus* in acting upon sugars produces none of the volatile acids of strong odor such as butyric and valerianic acids. In its action upon peptones the *B. bifidus* gives rise to no harmful products such as indol and phenol. It even destroys the organic waste products such as urea. The *B. bifidus* opposes the invasion of the digestive tube by abnormal species and prevents them from becoming acclimated by producing such quantities of acid that their development is arrested and by removing from the residues such substances as the proteoses which are necessary for their existence.

In the bottle-fed infant the situation is different. On account of the large amount of protein contained in cow's milk the food residues are greater in volume. The *B. bifidus* is not able to develop so readily in this medium as in the residues of breast-fed infants. Because of this, other proteolytic ferments [putrefactive organisms] develop equally as abundant as the *B. bifidus* and become acclimated to the intestine. It is this which explains the proteolytic properties of stools of this sort and the presence of such substances as indol, phenol, volatile acids—butyric, valerianic, etc.—which are not found or found only in small traces in the stools of breast-fed infants.

By these comparative researches Tissier has shown that in breast-fed infants the intestinal flora is inoffensive and protective and that it exercises no harmful influence upon the development of the organism.

After having studied the microbes composing the intestinal flora of the nursling, Tissier began the study of organisms which invade and become acclimated in the digestive tube of children who have ceased to adhere to a milk regimen and have adopted a more varied diet similar to that of adults. This period, known as weaning, usually begins between the twelfth and the eighteenth month and is generally completed by the third or fourth year.

Beginning with the weaning period, the flora of the infant is little by little invaded by a series of species of bacteria which tend to become ac-

climated in the intestine. At the age of five years, when the infant's diet becomes essentially the same as that of an adult, the flora is constituted as follows: On the one hand a fundamental flora consisting of vestiges of the flora of the nursling and of similar composition, consisting of the *B. bifidus*, the enterococcus and the *B. coli*, with the addition of *B. acidophilus*, *B. exilis* and *B. III* of Rodella which are constant, and on the other hand a super-added flora of variable composition (*B. perfringens*) [Welch's bacillus], *Coccobacillus proecutus*, *Staphylococcus parvulus* and some others. [The first is much the more important. It is to the second in a vegetarian child in relation of 90 to 10; 80 per cent of the colonies are still formed by the *B. bifidus*.] In a child taking a mixed diet the relation changes to 80-20; 70 per cent of the colonies are formed by the *B. bifidus*. In an infant fed with animal protein this relation is 70-30, with 50 per cent only of *B. bifidus* colonies.

The intestinal flora is no longer like that of the breast-fed infant. The chemical products of the intestinal bacteria are not offensive. While little harmful in a vegetarian child, this mixed flora becomes more injurious in a child receiving a mixed diet and still more harmful in a child taking considerable quantities of protein substances of animal origin. This harmful action is chiefly due to the superadded flora of which certain organisms possess pathogenic products and are even capable of giving rise to gangrenous processes. In general the richer the intestinal flora is in super-added organisms the more intense will be its injurious action.

The microbes of the fundamental flora, on the contrary, possess, as in the flora of the nursling, protective properties. A diet which will enable these organisms to live in the digestive tube and there maintain a preponderate activity will be the best diet.

These views of Tissier find full confirmation in daily medical practice.

Desiring to penetrate still more deeply the processes of fermentation and putrefaction which occur in vivo, Tissier had the idea to attempt to reproduce them in vitro by reproducing natural conditions as closely as possible. He proposed especially to study the mechanism of putrefaction in two principal aliments, butcher's meat and milk.

For a long time the bacteria putrefaction or decomposition of the protein molecule had attracted the attention of investigators. Let us recall that it was Pasteur who first in 1877, in studying the septic vibron, demonstrated the existence of a bacterium endowed with proteolytic power. He proved the existence of anaërobic life and established the primordial rôle in putrefaction of organisms capable of living without air. Twenty years later Veillon and then Zuber, then Hallé, Rist, Guillemot and Cottet in a series of studies of great interest demonstrated that in all pus with putrid odor there always exist anaërobes and often anaërobes only. It is then probable that in the destruction of dead albuminoid matters anaërobes

would also be found. This Bienstock demonstrated in 1900 in his studies of *B. putrificus*.

This last proteolytic anaërope, by reason of its resemblance to the *B. bifidus*, especially attracted the attention of Tissier, and so much more because the protective action exercised by the *B. coli* and *B. lactis* and *B. putrificus* recalled the protective action of the normal flora of the nursling against certain abnormal organisms. "These two protective processes," said Tissier, "must be due to the same cause." It was thus that he was brought to isolate the *B. putrificus* from decomposing flesh and then to study the other species found developing in decomposing flesh in symbiosis and to determine their respective actions.

These researches had necessarily been very tedious and prolonged. Our knowledge concerning the chemical constitution of albuminoid matters is as yet rudimentary. It is consequently not possible to determine the exact chemical action of the various species of proteolytic organisms.

But incomplete as were the researches undertaken by Tissier and his collaborators, Martelly and Gasching, they must be regarded as among the most important that have been made in relation to the putrefaction of alimentary substances.

Meat taken from the slaughterhouse as fresh as possible already contained all the bacteria necessary for its complete putrefaction, germs which will multiply only when the medium is favorable to their development.

At first the fermentation of sugars is active, there being at the same time a slight attack upon the albuminoids. Cultures show aërobes, mixed ferments such as *Micrococcus flavus liq.*, *Staphylococcus albus*, *B. coli*, *Streptococcus pyogenes*, *Diplococcus griseus non liq.*, *B. filiformis*.

At the end of three or four days the acid reaction is less pronounced. Changes in the albumins are much more active. The odor begins to be slightly putrid. The medium being deoxidized, anaërobes make their appearance. As yet only the mixed ferments are present such as *B. perfringens* and *B. bifementans sporogenes*.

At the end of 8 or 10 days the sugar has disappeared. The saponified fatty matters have become ammonia soaps. Glycerin is burned (oxidized). The odor is very fetid. The presence of indol, phenol, hydrogen sulphide and ammonia indicates the rapid destruction of protein. The pure proteolytic ferments, *Diplococcus magnus anaërobius* and *proteus*, are present.

At the end of three weeks only the most resistant species survive along with the products of bacterial action. At the end of four months the flesh has become a black, viscous, odorless mass. It no longer contains peptones. The only microorganisms remaining are *B. putrificus* and *B. gracilis putidus*. Such in brief is the process of putrefaction in contact with the air.



When the culture medium is deprived of air the appearance of anaerobes is more rapid but occurs in the same order.

In brief, in the putrefaction of the flesh of beef, Tissier distinguished two phases:

1. A phase in which mixed proteolytic and peptolytic ferments destroy sugar and attack albumin.

2. A phase in which pure proteolytic ferments complete the destruction of albumin and its ultimate derivatives.

As we have seen in the putrefaction of the solid substance of flesh, composed for the most part of albuminoid matters and a relatively small quantity of carbohydrate, the destructive process is eliminated by proteolytic anaerobes. It remains to be seen if the destructive process obeys the same laws in milk where the proteolytic matters are in solution or in suspension and where hydrocarbons are present in large amount.

This study, so far as it relates to meat, has been undertaken for the purpose of facilitating researches in relation to the intestinal flora and to throw light upon the pathology and physiology of the intestinal flora.

In the case of milk, as in that of flesh, the breaking up of the albuminoid matters is accompanied by decomposition of its hydrocarbons. Tissier desired to identify the organisms by which meat is the most readily invaded and to determine the order in which the destruction of its various elements—albuminoids, fat and sugars—takes place.

Tissier observed that milk as it comes from the dairy contains all the bacteria necessary for its complete putrefaction, bacteria which will multiply only when conditions become favorable.

Very soon after the milk is drawn its reaction becomes modified. There are found traces of peptone and of ammonia; the lactose diminishes slightly. Next slight changes in albumin and lactose are noted. Bacteriological examination shows the dominant species to be the enterococcus. Next comes *B. coli*. Thus in comestible milk there are already modifications due to the simultaneous action of mixed ferments and pure ferments.

At the end of two to four days the milk coagulates. By the method of Duclaux there may be shown to be present a mixture of acetic acid and another volatile acid, either valerianic or butyric acid. The dominant organism is the enterococcus. To this is due the coagulation of milk.

Three or four days after the spontaneous coagulation of the milk changes in the curd may be observed. It becomes dense and retracted. The lactose is diminished. The total acidity is increased. A bacteriological examination shows that another organism has become dominant in place of the enterococcus. This is the *Bacillus acidi paralactici*. Toward the eighth or tenth day after coagulation volatile acids appear together with the *Bacillus lactopropylbutyricus* and molds, *Oidium* and *Rhizopus*.

At the end of a month the acidity lowers. The lactic and butyric ferments are no longer the dominant species. Along with them are developed the *Bacillus faecalis alcaligenes* or other bacilli such as the *B. proteus* and *B. Zenkeri*. Molds, playing the rôle of proteolytic organisms, destroy the casein and gradually neutralize the medium.

At the end of three months the casein is transformed into a viscous mass. The layer of molds detaches itself. Simple ferments develop in their turn, among them proteolytic bacteria.

At the end of ten months there remains only a fetid, yellowish deposit. Chemical analysis shows leucin, tyrocin, a quantity of fatty acids and ammonia. Peptolytic bacteria have completed the destruction of the ultimate derivatives of the albuminoid substances.

This, then, is the usual program in the fermentation of milk. At first a phase in which mixed ferments cause a complex acid fermentation, then a lactic fermentation and finally a lactic, propionic, butyric fermentation. Molds destroy the acid products and attack the casein. Finally, simple ferments complete the destruction of albumins and its derivatives.

It appears, then, that while in a general way the putrefaction of milk resembles that of meat, it is evident that in the details there are differences, particularly in the longer duration, the lessened putridity and the constant presence of molds.

After having thus shown that the process of fermentation is essentially the same for the albumins of the muscles and those of milk, Tissier wished to determine if other proteins are attacked in like manner by bacterial diastases. This was a question of great importance for both the biologist and the physician. To establish an appropriate dietary should always be, in the mind of Tissier, regarded as the most important duty of hygienists and physicians.

For these new researches Tissier has chosen the principal proteolytics concerned in the spontaneous putrefaction of butcher's meat; namely, *B. perfringens*, *B. putrificus* of Bienstock, and *B. proteus*. To these he added two other powerful proteolytic organisms found in the human digestive tract, *B. sporogenes*, isolated and studied by Metchnikoff, and *B. colicogenes*, isolated by himself from the stools of an infant suffering from diarrhea with violent colic pains.

Tissier cultured these five organisms in great flasks of peptonized water containing a certain quantity of albuminoid matter—blood albumins, the yolk of egg, the white of egg, vegetable albumin and fibrin, fat-free flesh, milk, cheese, lentils, beans and cereals. To determine the amount of albumin destroyed he determined the nitrogen present both before and after the culture.

It was shown by these experiments that albumins differ very greatly in their resistance to bacterial diastases. The albumins most readily at-

tacked were those of the white of egg. Next in decreasing order come the albumins of the yolk of egg, then those of milk, cheese, flesh and fibrin, and last of all vegetable albumins of which the most resistant were the albumins of legumes. These showed double the resistance of animal albumins. For a given weight of albumin destroyed, the albumins of legumes gave twice as large a quantity of acid amines, while the proteins of cereals gave no more than the proteins of animal origin.

The physician or the hygienist who wishes to establish a rational dietary should not lose sight of the fact that if vegetable proteins are less digestible they are at the same time only half as putrescible, a matter of very great importance.

These studies have thrown light upon the etiology of certain gastrointestinal infections. Thus, to cite a single example, Tissier has observed that in the presence of a pure albuminoid, *B. perfringens* (Welch's bacillus) shows little activity, less than that of facultative aerobic bacteria. But when in addition to albumin a hydrocarbon, sugar or starch, is present, the vitality and activity of *B. perfringens* is greatly increased. Cultured in milk, it destroyed three-quarters of the casein present before the acidity of the culture medium became sufficient to arrest its growth.

This explains the cause of the gastro-intestinal troubles observed in certain patients subjected to a diet of cereals mixed with milk or eggs. Such a diet produces gaseous distention of the bowels, colic and liquid, frothy stools which cease at once when the diet is confined to meat or meat and eggs. In these cases the gastro-intestinal flora contains numerous strains of *B. perfringens*, the activity of which is doubled in a medium consisting of a mixture of albumin and starch.

When the digestive residues contain only albumin, fermentation diminishes and changes in type. Gas is no longer produced. The stools are no longer soft and frothy. They become compact and fetid. However, the cause of the disease has not disappeared and whenever food rich in starch is taken the old symptoms return.

Tissier has thus demonstrated by his researches how important is the study of intestinal putrefaction both from the point of view of the growth and development of the human organism and that of the genesis of infections of the digestive tube.

As regards infants, he has demonstrated that by reducing to a minimum the putrid fermentation of the alimentary residues the liability to intestinal infections is greatly diminished, while on the other hand the danger of infection is doubled by a diet containing an excess of protein.

The World War compelled Tissier to interrupt his researches upon the intestinal flora and instead to undertake the study of war wounds. Being called to examine from a bacteriological point of view wounds of all sorts, Tissier made an observation which had for the treatment of

wounds a practical importance of the first order. He especially noted that when wounds contain streptococci it is necessary to avoid closing them, otherwise failure is certain to occur. Some thousands of human beings have been saved during the war, thanks to this observation of Tissier, which still retains all its value in times of peace.

This brief note, which has for its purpose to present a summary of the scientific work of one whose labors have been an honor to the Institute Pasteur, will be incomplete if we do not add that while Tissier devoted his life to laborious and continuous laboratory research, he was in addition a devotee of art and especially of sculpture. He was also a highly trained practitioner and was justly considered as one of the best specialists in disorders of the digestive tract in France.

#### LIST OF ARTICLES PUBLISHED BY DR. TISSIER

- 1894, Janvier. Soc. Anatomique. Infiltration embryonnaire de tubercule de l'intestine.  
 1897, Novembre. Bull. de la Soc. Anatomique. Emphysème suraigu compliquant une broncho-pneumonie.  
 1899, Décembre. Le Bacterium coli et les reactions chromophiles d'Eschrich.  
 1900, Thèse de Paris. Flore intestinale du nourrisson.  
 1902, Décembre. Ann. Inst. Pasteur (en collaboration avec Martelly) Putréfaction de la viande de boucherie.  
 1903, Aout. Ann. Inst. Pasteur (en collaboration avec Gasching). Recherches sur la fermentation du lait.  
 1905, Février. Ann. Inst. Pasteur. Répartition des microbes dans l'intestin des nourrissons.  
 1906, Mai. Ann. Inst. Pasteur. Etude d'une variété d'infection intestinale chez le nourrisson.  
 1906, Février. Tribune médicale. Traitement des infections intestinales par la méthode de transformation de la flore bactérienne de l'intestin.  
 1908, Février. Ann. Inst. Pasteur. Recherches sur la flore intestinale des enfants âgés d'un an à cinq ans.  
 1906, Février. Tribune médicale. Traitement des infections intestinales par la méthode de transformation de la flore bactérienne de l'intestin.  
 1908, Février. Ann. Inst. Pasteur. Recherches sur la flore intestinale des enfants âgés d'un an à cinq ans.  
 1910, Janvier. Soc. de Biologie et tribune Médicale. Régime végétalien utilisant les graisses animales.  
 1912, Juillet. Ann. Inst. Pasteur. Action comparée des microbes de la putréfaction sur les principales albuminés.  
 1915, Décembre. Ann. Inst. Pasteur. Recherches sur la flore bactérienne des plaies de guerre.  
 1916, Octobre. Bull. de l'Acad. de Médecine et de Phar. Militaire. Recherches sur la flore bactérienne des plaies de guerre.  
 1916, Octobre. Bull. de l'Acad. de Med. Recherches sur la flore bactérienne des plaies de guerre.  
 1917, Avril. Ann. Inst. Pasteur. Recherches sur la flore bactérienne des plaies de guerre (deuxième mémoire).  
 1917, Bull. Soc. de chirurgie (en collaboration avec Deyre). Fermeture secondaire des plaies.  
 1917, Conférence de Dunkerque (brochure éditée à Dunkerque). Traitement des plaies de guerre.  
 1917, Juillet. Bull. Soc. de Chirurgie (en collaboration avec Gross). Indication des sutures des plaies de guerre d'après les données de la bactériologie.  
 1917, Décembre. Bull. Soc. de chirurgie (en collaboration avec Gross Houdard di Chiara Grimaud).  
 1918, Mai. Bull. Inst. Pasteur. Application de données bactériologiques à la chirurgie de guerre.  
 1918, Leçon de chirurgie de guerre. Bactériologie des plaies.  
 1918, Arch. de Med. et de Pharmacie militaires. Application de données bactériologiques à la chirurgie de guerre.  
 1918, Avril. Soc. de biologie. Le bacille de Barat.  
 1919, Février. Soc. de biol. (en collaboration avec Coulon). Action protéolytique du streptocoque pyogène sur le lait.  
 1919, Février. Société de biol. Action protéolytique du streptocoque pyogène sur la gélatine.  
 1920, Ann. Inst. Pasteur. Contribution à l'étude des infections intestinales.  
 1923, Bull. de l'Inst. Pasteur (cours de bactériologie de l'I. P.). La putréfaction.  
 1925, Février. Bull. de la Soc. de Biologie. Streptococoques intestinaux.  
 1925, 10 Juillet. Bull. de la Soc. de Biologie. Flore intestinale de l'enfant élevé au biberon.  
 1925, 17 Juillet. Soc. de biologie. Coagulation microbienne du jaune de l'oeuf.  
 1926, Février. Soc. de Biologie. Coccus anaérobie des selles de l'homme.

# Stefansson's Tallow-Eating Stunt\*

By DR. JOHN HARVEY KELLOGG

**T**HE two men, Stefansson and Andersen, are doubtless tickled that they have finished their gruesome job and got their pay checks, and no doubt the first thing they did was to plunge into a restaurant and fill their stomachs with lettuce and fresh tomato salad and fruits and melons and all the other good things that were made for human beings to eat and which must have tasted very good to them after a year on a dog's diet.

Dr. C. W. Lieb, who seems to be the medical mouthpiece of the Meat Board, gives in the *Journal of the American Medical Association* for July 6, what professes to be a summary of the results of the scientific studies made on these human carnivores during their meat-eating experience. By this report, it is shown that men can live on tallow and a little lean meat for several months while surrounded with inviting fresh fruits and vegetables and other wholesome foodstuffs, if they have resolution enough and such financial encouragement as men ought to receive for lending their bodies for such an unhealthy and unholy purpose to serve the interests of a great commercial publicity bureau.

Those who suppose that Stefansson and Andersen have been eating daily during recent months great slabs of beef, mutton, lamb, pork, etc., the picture the Meat Board is trying to vis-

\*Reprinted from Good Health Magazine, August, 1929.

ualize to the public, are simply deceived. The men ate as little lean meat as possible. *They lived chiefly on fat!* Half a pound of tallow and a few ounces of lean meat was their daily ration.

Was it a new discovery that men could live on a diet of fat with a little lean meat added?

*Is tallow meat?*

There are thousands of men who every day eat more real meat than did either Stefansson or Andersen.

### **Meat Made Stefansson Very Sick**

Why was such an extraordinary diet adopted? Answer.—Because a real meat diet, what the average man understands as a meat diet, made Stefansson very sick and would have killed him if he had adhered to it for one month! According to Doctor Lieb's report, Stefansson was fed real meat at the start, but it made him so sick within two days that he had to give it up. Here is Doctor Lieb's own account of the incident:

“After preliminary studies on a mixed diet Stefansson was put on an exclusive lean meat diet for the purpose of studying the effects of an excessively high protein, minimal fat dietary. Stefansson predicted that he would be ill in a few days, judging from his past experience in the Arctic, and such proved to be the case. Although this experiment was planned for but four days, in the evening of the second day he became nauseated and developed some of the discomfort, lethargy and weakness of the knees which he experienced on an enforced lean meat diet in the North. The next day all the symptoms became intensified and diarrhea developed. This part of the experiment was, of course, stopped and by adding fat in tasteful quantities, he fully recovered within two days. He lost 2 Kg. [4½ lbs.] in the first ten days. Following the *acute enteritis* just de-

scribed he developed a stubborn constipation coincident with a craving for special foods, particularly calves' brains (10 per cent ether soluble substance) and bacon. He ate heartily of this combination for several meals, but this over-compensatory diet resulted in two days of nausea and severe diarrhea. By adjustment of the lean-fat ratio a normal gastro-intestinal state returned, and no other diet complications developed during the year's experiment. . . .

"Andersen did not suffer such digestive upsets as Stefansson, mainly because no all-lean (high protein) observations were made on him."

Here is a picture of the effects of a real meat diet. In only two days on a meat diet, Stefansson was so sick it was impossible to continue. It was necessary to change the program. So, instead of feeding him on muscle meat, such meat as you buy at the meat shop in the form of steaks and chops and roasts, they fed him on tallow; that is, fat, with a daily quantity of real meat no greater than many a man eats at a single meal. According to Doctor Lieb, Stefansson ate two thousand one hundred calories of fat and five hundred and fifty calories of protein; that is, his diet was *four-fifths fat and only one-fifth muscle meat*. In other words, a tallow diet rather than a meat diet.

To make it possible for Stefansson to live without vegetable foods, it was necessary to adjust his diet with great care. In spite of this he was the whole time of his experiment living close to the edge of a catastrophe. Evidently, he ate all the meat he dared to eat, and that was very little.

Andersen escaped the enteritis, because the Stefansson experiment was so disastrous the experimenters were evidently unwilling again to run the risk involved in a really exclusive meat

diet, that is, a diet of lean meat, such as steaks and chops, roast beef and the like.

### **The Meat Diet Lowered the Vital Resistance of Both Stefansson and Andersen**

According to Doctor Lieb's report, Stefansson was so sick with influenza that he spent two days in bed and Andersen was very ill with pneumonia.

If meat has the wonderful health-promoting properties claimed for it, Stefansson and Andersen should have maintained high health during the whole experiment. The fact that one was seriously ill with pneumonia and the other with influenza, shows that the vital resistance of these hardy, athletic men must have been reduced below that of the average citizen, for only a small proportion of the people exposed along with them to pneumonia and influenza suffered attacks of these diseases.

Evidently, the diet lowered the vitality of the men. Their resistance to disease was reduced. If proper tests had been applied, it would doubtless have appeared that their physical endurance or resistance to fatigue was also reduced. If neither man had been ill, this fact would have been emphasized as evidence of superior resistance; since they were both ill from maladies from which only a minority of the community suffered, it is clearly evident that their resistance was lowered and the fact must be admitted.

Mention is made by Doctor Lieb of the fact that Stefansson suffered and recovered from an attack of typhoid in the wilds of the Arctic. Where did the explorer find the typhoid germs among those Arctic snows? We suspect his fever was due to the *B. paracoli*, generated in the half-rotten meat he was eating. The fact that he



was ill, shows clearly enough that his meat diet afforded him no protection as it should have done if such a diet promotes health and vital resistance, as its votaries claim.

Doctor Lieb professes to give a very comprehensive summary of the elaborate studies made of the men who jeopardized their health to supply sensational publicity material for the Chicago Meat Board. He claims to have found no functional disturbance of any sort. The reader is left to suppose that this monstrous bill of fare, fit only for a hyena or a barracuda, was absolutely harmless; that it imposed no strains upon the vital machinery, and might be universally adopted without risk of injury. And what a pretty paradise for packers that would be—everybody eating half a pound of tallow every day!

But the doctor leaves out one very important bit of information. What about the kidneys and the urine? Why no report about the daily output of urea, the urinary acidity, etc.? Kidneys that are compelled to do double or triple duty wear out sooner than they should. The urine is an extract of the tissues and is an indicator of bodily conditions of very great importance. The fact that the report is silent on these points leaves room for suspicion or misapprehension. Why are we not given all the facts?

On the whole, the Stefansson-Andersen-Meat-Board meat experiment turns out to be the strongest sort of proof of the *unwholesomeness* of a meat diet. But, notwithstanding this fact, the Meat Board in the nation-wide publicity campaign which they are conducting, by distorting and suppressing facts, are seeking to persuade the people of the United States, men, women and children, to eat more meat when they are already

eating too much. Almost pathetically, the suffering Meat Board pleads between the lines of its publicity documents, "Meat made Stefansson awful sick, it is true, but do please eat a little more meat to save the livestock industry," and, incidentally, of course, the packing industry.

Doctor Lieb very truly says, "It is a traditional belief that a high protein intake leads to high blood pressure, arteriosclerosis or nephritis. Among physicians it has almost become a dietetic dogma to reduce or eliminate entirely the intake of meat whenever diets are prescribed. Unless proper interpretation is given to certain present-day investigations on protein metabolism, including the results of the experiment reviewed in this paper, there is danger that the dietetic pendulum will swing too far in the opposite direction."

Certainly the pendulum is swinging. It has already swung so far that several large packers have gone into the receiver's hands. How that "pendulum" does scare the packers! It was evidently its rapid swinging away from meat with the accelerating approval of the whole medical profession, that inspired the Stefansson tallow-eating stunt, and although the doctor (Lieb) frankly intimates that this grandiose attempt to manufacture good copy dope for meat publicity is about the packers' last hope, the whole scheme, from a common sense and scientific standpoint, proves a grand fizzle and a flare-back.

The packers' case is hopeless. Every economist knows it. Every biologist knows it. Said the late Professor Virchow of Berlin, one of the greatest scientists of the last century, "The future is with the vegetarians."

**LAWSON TAIT AND HIS  
CONTRIBUTIONS TO ABDOMINAL  
SURGERY**

By

**JOHN HARVEY KELLOGG, M.D.**  
Battle Creek, Michigan

Reprinted from  
**THE TRANSACTIONS OF THE AMER-  
ICAN ASSOCIATION OF OBSTETRICIANS,  
GYNECOLOGISTS AND ABDOMINAL  
SURGEONS**

1927, xl, 68

LAWSON TAIT AND HIS CONTRIBUTIONS TO  
ABDOMINAL SURGERY

BY JOHN HARVEY KELLOGG, M.D., (GUEST), BATTLE CREEK, MICH.

I HAVE chosen as the subject of this address, Lawson Tait, at a period when he was at the very summit of his marvelously successful and useful career.

While opinions may differ concerning the status of Lawson Tait's work, I am sure all will agree that he was a man of superior intelligence, perhaps a genius, an independent thinker, an innovator. In fact, I think his natural disposition was to avoid the beaten path if he could find another as good or better. He was most prolific in new ideas and new methods, and never satisfied with his technic so long as it lacked anything of the perfection which he conceived to be possible.

I had an opportunity to become acquainted with Tait while serving as his pupil for five months during the early part of 1889, during which time I was his only assistant aside from his nurses and Mr. Teichelmann, his anesthetist. I assisted both in his private work at The Crescent, at the Women's Hospital at Sparkhill, and at his dispensary. I usually accompanied him on trips to various places to perform surgical operations and on visits to London to attend the sessions of the British Gynecological Association and other medical meetings, and so had a fairly good chance to become somewhat intimately acquainted with him.

As he sat in an easy chair in his little office at The Crescent, Birmingham, where I first met him, he looked very impressive. He had the appearance of being a very large man. His head was massive. He wore a number eight hat; his shoulders were broad, and his chest thick. A great head of thick hair, inclined to curl, with his thick, short neck and his strong facial features, gave him a leonine look. But the impression of greatness was lessened when he stood up, for his legs were short, so that his standing height was a little below the average.

I was pleased to find that notwithstanding Mr. Tait's somewhat formidable appearance his manner was kindly though abrupt. His ordinary speaking voice was pleasant, almost musical, in tone. He spoke rapidly, incisively, using as few words as necessary to express his thoughts.

Though really a very kind-hearted man, Mr. Tait was very hot-headed and easily irritated, very opinionated, and most intolerant toward professional rivals. He was always spoiling for a fight with

was of dark<sup>2</sup>

He often invited me to dine with him and sometimes went with me to the opera and other places of entertainment.

deep

any one who entertained views contrary to his own or who essayed to defend the views of one of his professional enemies, of which he had a good many. He often allowed prejudice to blind his reason and pervert his judgment. He quarreled with Emmett because of his views respecting pelvic inflammations and repudiated everything that Emmett taught. I remember on one occasion when he was preparing to repair a perineum in his rapid fashion, I called attention to the fact that the patient had a very extensive laceration of the cervix uteri, and asked him if he was not going to repair it. "Oh, no," he said, "I never pay any attention to Emmett's little crack." And all the time I was with him, I never saw him repair a torn cervix; I believe that he utterly ignored this lesion, and probably for no other reason than that Dr. Emmett laid stress upon it. He was equally prejudiced against operations on the stomach. His success with operations upon the gall bladder was so great that I was surprised that he did not operate upon the stomach as I had found Billroth and Wolfler doing in Vienna six years before. He declared, however, that Billroth's pylorotomy was useless because it was only done for cancer and the cancer would always return. He was equally opposed to Wolfler's gastroenterostomy, which he said always resulted in "continuous fecal regurgitation."

One of Tait's weak points was his hot temper. Though ordinarily amiable enough, he sometimes flew into a terrible rage and became almost as savage as a wild animal. On such occasions his face presented a terrible aspect and he roared like a mad bull.

Tait greatly enjoyed a controversy and loved nothing better than lampooning an antagonist. His skill as a controversialist and his gift of repartee were so great that in discussions at medical meetings he was generally victorious even when in the wrong.

Tait was a savage enemy and sought always to plunge his weapon into a vital part of his adversary, but he was a loyal and sympathetic friend and always ready to do battle in defense of a person whom he thought was being wronged. He had no use for pretenders, hypocrites or weaklings. He respected an honest antagonist but hated his rivals cordially.

McKay, who spent some time with Tait shortly after I was with him, relates an incident that occurred at a meeting of the London Medical Society, at which a well-known surgeon in his remarks suggested that too much attention should not be given to Mr. Tait's views because, as every one knew, he was a man of very strong prejudices; whereupon, Mr. Tait retorted that he had only one prejudice in the world, and that was against a man who dyed his hair. As every one knew that the surgeon had carefully dyed his hair for many years, Mr. Tait's sally was greeted with a roar of laughter, to the complete discomfiture of his opponent.

Mr. Tait certainly dearly loved the stir and excitement of battle and consequently had some very bitter enemies, especially among rival abdominal surgeons. His animosity against Spencer Wells was so great that it was almost necessary to avoid mentioning his name in his presence. In matters not subject of controversy, Mr. Tait was a most entertaining conversationalist. It was best, however, to give him an opportunity to do all of the talking. This I learned from Teichelmann, so I never offered an opinion and rarely made an observation unless invited to do so. My attitude was that of a sponge. I was after information and eagerly observed and made note of every item.

When set going by proper questioning, Mr. Tait would discourse in a most delightful, entertaining, and instructive manner, and on almost any subject that might be broached. He was a man of broad learning. He had been a student of biology under Darwin, whom he worshiped. Mr. Tait was not a church-goer and could hardly be called a religious man, although he was raised a Catholic, but he was a profound student of ancient religions and from his talk I should think would be properly classed as a Unitarian.

While kept very busy with his professional duties, Mr. Tait found time to interest himself actively in the public affairs of the big town of Birmingham. He gave lectures at the Midland Institute and for some years regularly contributed leading articles to the principal newspapers. He was very fond of the theater, to which I sometimes accompanied him. Although he apparently enjoyed the acting greatly, he usually soon fell asleep and snored so loudly as to make considerable disturbance. I doubt if any one dared to awaken him. He was likely to fall asleep at almost any time when not active. When I rode up to London with him, he almost invariably slept nearly the whole distance, sitting up in a corner of the compartment, snoring loudly. On one such occasion, when the fog happened to lift long enough to let a ray of bright sunshine in through the window of the opposite side, I took a kodak picture of him. I afterwards took a picture of him with his sleeves rolled up in the midst of a surgical operation, with the intense, rather savage look upon his face which he usually wore when operating. I mounted the two pictures on the same card, writing beneath one, "Fast asleep"; and the other, "Wide awake." He was greatly amused by the pictures and fascinated by the kodak, which he had never before seen, and provided himself with one as soon as it was possible to obtain it.

Tait was a great lover of art. His house was filled with art objects of various sorts collected from various countries. He was exceedingly fond of animal pets and had a number of beautiful Persian cats which he would carry in his arms for hours. His fondness for animals perhaps explains his sympathy with the vivisectionists, who claimed him as a backer of their movement, but he was a bosom friend of

we

Victor Horsley, with whom ~~he~~ lunched sometimes when we ran over to London to attend a medical meeting, and whose extensive animal experimentation was well known to Mr. Tait. He frankly admitted the value of bacteriologic experimentation with animals, and I formed the opinion, that as a matter of fact he only objected to animal experiments in which unnecessary pain was caused during or after the operation.

Though often imperious and dictatorial in his manner, Tait was exceedingly kind and gentle in his dealings with children and in his dispensary work treated the poor old ladies who consulted him with the greatest courtesy and consideration. He was very fond of children as well as animal pets. I think it was a matter of great grief to him that he had no child of his own. I remember on one occasion when we were waiting for a train in a little town to which Mr. Tait had been called to perform a laparotomy, as we were walking up and down the street, a little five- or six-year-old girl passed us. Mr. Tait stopped, turned around, and watched the little girl until she had finally passed out of sight down the long street, and with such a look of tenderness on his face, I felt sure he was wishing that the child were his own. He treated free of any charge many poor working girls at his private hospital, The Crescent.

Mr. Tait was educated at Edinburgh, and while a medical student he lived for several years in the house of James Y. Simpson, for whom he evidently had a very great regard. A large picture of the great Scotch obstetrician hung in his sitting-room beside his own portrait. The resemblance of the two faces was most striking. Mr. Jordan Lloyd told me that it was currently reported and generally believed that Mr. Tait was a natural son of Simpson, although Mr. Tait told me one day when we were walking home from the city market, where he loved to go after finishing his morning's work, that his father was a blacksmith. When one of his assistants asked him about the appearance of James Y. Simpson, he pulled a lock of hair across his forehead and said, "There, you see him."

When Tait left Edinburgh, on finishing his medical training there, he was fully resolved never to perform the operation of opening the abdomen. Syme, one of his teachers and one of the greatest surgeons of his day, had abandoned the operation as utterly useless. He was led to do this by the fact that the operation in the hands of Edinburgh surgeons had proved most unsuccessful. Of the 30 operations performed by Edinburgh surgeons within the preceding few years not a single patient had survived. The operation was forbidden in Kings College Hospital. At the time I was with him, however, Tait had performed considerably more than 1000 operations, and he informed me that he had a record of 116 cases in succession without a death. His success was unrivalled and naturally created great interest in Europe

and especially in this country, where the operation was being performed with increasing frequency though in general with a high rate of mortality.

Tait was exceedingly proud of his record and highly indignant at the charge that many of his operations were needless. More than once I saw him close the abdomen after he had opened it, expecting to find diseased tubes and ovaries, but not able to verify his diagnosis.

He shared with Hegar the honor of originating the operation of removing diseased tubes and ovaries, although he insisted that his first case antedated Hegar's, but felt that the operation had been brought into disrepute by the unnecessary operations performed by overenthusiastic young surgeons.

He told me that after reading his first paper on "Exanthematic Inflammation of the Ovaries" before a provincial medical society, the surgeons present became so enthusiastic over the new indication for surgical interference that when he met the society again a few months later, every surgeon present had on exhibition a ~~basin~~ <sup>soup</sup> full of healthy ovaries. *plate*

Of course, it was hardly possible to credit Mr. Tait's statement as being literally true, although there was doubtless a considerable basis of fact. Tait was rather given to exaggeration in speech. Bantock, one of his best friends, told me that he believed implicitly everything that Mr. Tait wrote, but never relied upon his verbal statements, for in a heated discussion, in reciting his experience, he would assert that he had operated upon 50 cases when the actual number was only 5.

As a diagnostician, Tait was, to say the least, not brilliant. His histories were very brief and his examinations usually very hurried. He rarely spent a minute in palpating the abdomen, and his internal examination was often completed within half a minute or less. I remember a case in which, after such a hurried examination of a patient whom I had previously studied at the dispensary and in whom I had noted an abnormality which I believed to be a fibroid, when I asked Mr. Tait his diagnosis, to test my own findings, he curtly replied, "We will look inside to see what's the matter." *uterine*

Tait's work received general recognition and approval in this country before his views were accepted in Great Britain. For this he was very grateful, and American doctors received a cordial welcome until they began to arrive in such numbers as to become an embarrassment. He felt particularly grateful for the early acceptance in America of his operation for control of bleeding fibroids by removal of the appendages. He bitterly resented the action of the Royal Medical Society in refusing to publish the report of his first 30 cases of this operation and which received only adverse criticism when read before the society. His paper was published some months



later in the *American Journal of the Medical Sciences* and his operation soon became a recognized procedure in this country.

Tait was an epicure, or perhaps I should say a gourmand. No food was too rich for him or too highly flavored. He must have had an extraordinarily vigorous stomach to enable him to dispose of the great quantities of food and wines ~~which~~ he consumed at dinner. To his gross eating habits may perhaps be attributed his premature death at the age of sixty-five. He had previously been operated upon for a renal calculus, and one of his last medical papers was entitled, "The History of a Sore Kidney."

~~Lawson~~ Tait was an ardent advocate of various reforms in medical education and ridiculed some of the methods in common use at his time and still perhaps too much in vogue. In an address he said, "I remember ~~that~~ we had to learn that the direction of the anterior cornu of the fourth ventricle of the brain ran a course which was backwards, outwards, downwards, forwards, and inwards, and we were enabled in the most improper way to remember these important facts by the word, 'bodfi.' Has 'bodfi' ever served any of you at the bedside? Is there any considerable condition of human accident or ailment in which 'bodfi' could assist you to relieve your patient?"

He insisted upon the importance of training the hands in the use of tools as a necessary part of surgical education. He said of the medical student's program, "I would set him so many hours in the week into the shop of the village carpenter; and I would have him trained to use a saw, a chisel, a plane, and a skew so that he should be able to make a long splint if need be, as well as to put it on. And into the blacksmith's shop he should go, until he knew how to strike properly with a hammer."

Tait himself had served time at the lathe, the bench, and the forge, doubtless, as a young boy in his father's blacksmith shop.

As an operator Tait was not dashing or showy; he was quick, neat, accurate, and efficient. His fingers were short and thick but wonderfully deft. As I stood opposite him at the operating table and watched his hands, I was fascinated by the precision, dexterity and rapidity with which each step of the operation was executed—not one false motion. He did everything himself. He helped himself to sponges and instruments; he caught every bleeding vessel, and tied every ligature. The assistant rarely had a chance to do anything except to hold a pair of forceps while he tied the pedicle, and was seldom allowed to put a finger in the wound.

Tait's dexterity in operating has perhaps seldom been excelled, though that debonair surgeon, Jimmy Wood, the star operator in Bellevue Hospital when I was a student there, used to cut off legs in thirty seconds, and the famous Liston could amputate a thigh in

who followed me  
of Berlin  
twenty seconds. Martin did a double pycosalpinx in eight minutes, and Doyle did vaginal hysterectomies in two minutes.

once  
minutes  
McKay says Tait repaired perineums in five minutes. If this is so, he must have changed his method, for I often timed him, and seldom saw him devote more than three minutes to a perineum, and on one occasion saw him begin and complete the operation in just ~~a minute~~ and a half. ~~With his coat off, sleeves rolled up, and wearing a big mackintosh apron,~~ he stepped to the side of the bed, seized the patient, placed her crosswise on the bed with her hips at the edge, ~~the~~ nurse holding each limb. With a pair of tissue forceps in one hand and a pair of scissors in the other, he dropped upon his knees and with a few quick movements dissected the vaginal flap, made a deep cut on each side, seized a long-handled Peaslee needle and pulled through three or four silkworm-gut sutures so placed as to secure good coaptation of the raw surfaces. The whole operation was over in little more time than it takes to describe it. one  
a

perfect  
p 6  
Tait used no germicides or antiseptics of any sort but was exceedingly clean. If his hands became at any time soiled with a virulently infectious fluid, he declined to operate for several days after, as he had found from experience that soap and water and even the antiseptics then in use were not sufficient to guarantee safety. Instruments and ligatures were boiled, and sponges were soaked in a one per cent carbolic lotion and then put in a bag and hung up to dry. Only boiled water was used at operations. The hands were prepared by simply scrubbing with soap and water, but the scrubbing was not very thoroughly done.

In operating for removal of the appendages Tait rarely made an incision more than two or two and a half inches long. The incision was just large enough to allow the insertion of two fingers. This he learned from Baker Brown. He opened the abdomen a little to one side of the median line, taking care to avoid cutting the fibers of the rectus, a point he got from A. McKenzie Edwards, a medical lecturer in Edinburgh. He seldom saw the ovaries or appendages until after they were drawn out through the abdominal wound. His left forefinger was so highly educated that it gave him much more information than his eyes could have given him concerning the pathology with which he had to deal. He did not hesitate to use much force in breaking up adhesions and sometimes tore into the intestines. When on the occurrence of such an accident I felt somewhat dubious concerning the patient's recovery, Mr. Tait laughed at my fears and remarked, "I have torn the intestine more than 30 times and have often seen feces pouring out of the drainage tube like meat out of a sausage grinder, but they got well just the same."

Though in the early eighties Tait had opposed the use of the drainage tube, referring to it as a "seton in the peritoneal cavity" and likely

to give rise to peritonitis, he had become by 1889 an ardent advocate of the drainage tube and never opened the abdomen without introducing a glass tube for drainage.

He opposed the carbolic acid spray of Lister, and said, "It is by no means either a simple or a safe proceeding."

On one occasion, when I asked him his views respecting Pasteur's discoveries, he declared that germs were harmless, that he would be willing to use a mass of germs in place of a sponge, if they were only dry. He thought the chief danger to be the collection of fluid in the abdomen. He aimed to overcome this by three methods: (1) purging the patient before operation; (2) drainage, and (3) withholding liquids for two days after operation.

Tait's remarks about germs and Lister's methods often left me with the impression that his opposition to antiseptic methods was in large part due to his hatred of Lister and Spencer Wells. One experience in particular suggested this explanation of his obstinate opposition to antiseptics. He was at that time still treating hysterectomy stumps extraperitoneally. In many cases the tumors were very large, and the great mass of dead tissue left outside was soon in an advanced state of decay, so that his wards were often redolent with odors characteristic of the slaughterhouse. I asked him one day why he did not permit the use of iodoform or carbolic acid or some other antiseptic. He said, "I can't endure the smell of the stuff. I won't have it around." I have never encountered any antiseptic which could compare in pungent malodorousness with the odor of decomposing flesh which often pervaded the wards at The Crescent. Some little time afterward he began the use of boracic acid, insisting, however, that he did not use it for antiseptic purposes but merely to keep the wound dry.

Tait closed the abdominal wound with three or four through and through sutures of very coarse silk. When I asked what percentage of his cases developed hernia, he replied that he had never had hernia in a single case. Shortly after, he operated upon an American woman who had a very large bleeding fibroid and on my advice had come to Birmingham to be operated upon by Tait. He did not remove the tumor, thinking it safer to remove the appendages, as the patient was quite feeble. I timed the operation, which was completed in exactly seven minutes. Within the next year and a half both pedicle ligatures worked out, one through the vagina and the other through the abdominal wall. A year or two later I spent more than an hour dealing with a multisacculated hernia which developed in the abdominal wound.

Postoperative hernia must have been of frequent occurrence in those days. More than twenty-five years ago I operated for hernia on a patient from whom Thomas Keith had removed an ovarian

tumor thirty years before, and a year or two later I did the same operation for one of Spencer Wells' patients. So I think Mr. Tait was no more unfortunate than his colleagues in this respect. With such a method of closing the abdominal wound, the frequent occurrence of hernia was inevitable.

Tait was a man of great ingenuity. He would instantly devise some novel method of dealing with a new condition or sudden emergency arising in an operation. He invented many new instruments, the general aim of which was in the direction of simplification and increased efficiency.

Mr. Tait's greatest contribution to surgery, and to abdominal surgery in particular, was his demonstration of the value of cleanliness without antiseptics and the development of a technic which eliminated many of the perils of abdominal section and reduced the mortality to such a degree as greatly to enlarge the scope and enhance the usefulness of the operation. Those of his students who followed his technic, notably Greig Smith, Moynihan and Mayo Robson in England and Joseph Price in this country, and through his leadership the Mayos and others attained great success and fame because of their low mortality and extraordinarily uniform good results.

Without doubt the great reduction in mortality which Tait attained was largely due to his adoption of Baker Brown's method of treating the pedicle by dropping it back free in the abdominal cavity instead of applying Spencer Wells' clamp and with the systematic use of the drainage tube which he had previously denounced. His success, however, in spite of his imperfect asepsis, I believe must have been, in part at least, attributable to his radical and courageous departure from the long-established method of dealing with the bowels. As late as 1883, Tait still recommended restriction of bowel activity after ovariectomy, recommending that the bowels should be confined for from ten days to two weeks after operation. A little later, however, Mr. Tait made a radical departure in his management of the bowels after abdominal section. Before the operation the patient was thoroughly purged with saline laxatives and starved for forty-eight hours. After operation, the bowels instead of being confined were moved by enema on the second morning. Thorough evacuation of the colon on the second morning after operation was a dominant feature of the after-care of his patients. Drastic measures were used when necessary to secure an evacuation, and no food was given until after the bowels moved. Tait considered this early bowel action most important. He would not administer anodynes of any sort so long as there was any hope of saving the patient. The patients sometimes suffered cruelly, but they rarely, if ever, received an anodyne drug of any sort unless they became moribund. He said, "I never give any drug unless the patient is going to die."

a  
He regarded peritonitis as a fatal disease. When I asked him one day what he considered the essential things to be done in peritonitis following an abdominal section, he replied, "Nothing at all. The patient who has peritonitis after a surgical operation is certain to die. The time to cure peritonitis is before it begins. If the peritoneal cavity is kept well drained, peritonitis will not occur. The important thing is to keep the peritoneal cavity free from stagnant fluids. I am not afraid of germs. They cannot grow without food."

The carbolic acid spray of Lister was conscientiously employed by Spencer Wells and his followers, but Tait achieved better results without the spray than others did with it, employing otherwise the same technic. Undoubtedly the abandonment of the Spencer Wells clamp and the use of the short sterile ligature and the intraperitoneal treatment of the stump introduced by Baker Brown were the chief factors in reducing the mortality rate from the 25 per cent of Spencer Wells' first one thousand cases to less than 5 per cent in the hands of Tait, Bantock, Thornton, and Keith.

I was greatly impressed with Tait's views with reference to the importance of keeping the intestine empty and active instead of confining the bowels with opium for ten or twelve days as had formerly been the routine treatment. The important facts which had recently been brought out by Bouchard and others respecting the highly toxic character of the intestinal contents lent strong support to Tait's views. Widal, Roux, and other investigators had called attention to the readiness with which the colon bacillus becomes highly virulent and, invading the blood stream and the tissues, produces peritonitis, pleurisy, pancreatitis, pleuropneumonia, cystitis, appendicitis, hepatic abscess, and other local infections.

These investigations clearly established a definite relationship between intestinal bacteria and septic conditions in the abdomen. Roux actually produced purulent peritonitis and abscesses with pure cultures of *B. coli*.

Studies of the bacterial contents of the alimentary tract have shown that the number of bacteria is closely proportionate to the amount of food present and increases enormously when there is stasis of food remnants, particularly in the cecum and the large intestine. There is a great difference, however, in the character of the bacteria found. This is determined by the nature of the culture medium. Kendall and Herter showed that in the presence of carbohydrates, such as lactose, pathogenic organisms do not thrive, and the colon bacillus and even the bacilli of diphtheria, cholera, dysentery, and typhoid fever cease to produce toxins, while the lactic and other acids produced by the aciduric organisms which flourish in a carbohydrate medium are harmless.

The observations of Herter, Coleman, and Shaffer, Torrey and

Rettger, supplementing those of Metchnikoff, Tissier, and Distaso, have shown that the character of the intestinal flora may be changed by suitable carbohydrate feeding and that the growth of pathogenic organisms may be arrested and these dangerous organisms almost wholly eliminated from the intestinal flora by the prevention of stasis and the provision of a favorable nutrient medium. By this means not only is the menace of infection derived from the intestinal tract diminished but the load of toxins with which the body has to deal is substantially lessened, thus diminishing the danger of shock.

Carbohydrate feeding to change the intestinal flora in preparing a patient for abdominal section has the further advantage that it supplies the liver with a rich store of glycogen with which to detoxicate and destroy the heterogenous proteins and other poisonous matters, a flood of which enters the circulation after every operation involving any considerable degree of traumatism.

The elimination of dangerous bacteria by changing the intestinal flora is only an extension of Tait's idea to combat infection by making conditions such as to discourage its development. In my surgical experience, it has proved highly valuable in lowering the mortality rate.

In the light of modern developments in relation to the great rôle played by intestinal bacteria and their products in functional and organic disorders of many sorts, I have been led to look upon Tait's departure from the orthodox method of dealing with the intestine after a laparotomy as one of his most important innovations.

I will close my paper with a brief summary of Mr. Tait's leading contributions to abdominal surgery.

He was the first to remove the ovaries and fallopian tubes for relief of pelvic inflammations.

First to remove the uterine appendages for relief of bleeding fibroids.

First to operate in cases of ruptured tubal pregnancy.

First to remove gallstones by operation.

First to suggest the operation of cesarean section in cases of placenta previa.

He invented a simple method of repairing the perineum, which in his hands often yielded satisfactory results.

When Mr. Tait began his work, abdominal surgery was synonymous with ovariectomy. His inventive genius and his courage led him to extend the scope of surgery within the abdominal cavity from the ovaries to the gall bladder, and other viscera, thus making him the real father of abdominal surgery of which he was in his day the greatest master, a man of whom one of his pupils has well said, "We shall never see his like again."

202 MANCHESTER STREET.

# The Temperate Life

Being a Translation and Abridgment of Luigi Cornaro's four Treatises  
on Sobriety by George Herbert.



LUIGI CORNARO (1464-1565)

From the painting by Tintoretto in the Pitti Gallery, Florence.

## Introduction by the Editor

[Cornaro's Autobiography is a notable account of the life of a notable man. Cornaro did not discover the simple life or the principles upon which it is based; but he was, perhaps, the first in modern times to recognize the value of frugality and temperance as a means of promoting human efficiency, longevity and real happiness. George Herbert, the seventeenth century poet, was one of the first to appreciate the value of Cornaro's life as an example and an object lesson in wholesome living, and his masterly summary of Cornaro's Autobiography has not been excelled by any modern writer. We propose to make the reproduction of this summary the introduction to a series of articles on the subject of how to live the simple life. We have heard a great deal in recent times about the simple life, largely from the esthetic and the moral standpoint. There are thousands who are ready to accept the idea of the simple life as a philosophy, and who are anxious to avail themselves of its benefits and advantages as illustrated in the life of Cornaro and those who have been practical exponents of natural living. It will be the purpose of this series of articles to enter into the details of the simple life from a practical standpoint.—EDITOR.]

## The Temperate Life\*

**H**AVING observed in my time many of my friends of excellent wit and noble disposition overthrown and undone by Intemperance who, if they had lived, would have been an ornament to the world and a comfort to their friends, I thought fit to discover in a short Treatise that Intemperance was not such an evil but it might easily be remedied; which I undertake the more willingly, because divers worthy young men have obliged me unto it. For when they saw their parents and kindred snatcht away in the midst of their days, and me contrariwise, at the age of Eighty and one, strong and lusty, they had a great desire to know the way of my life, and how I came to be so. Wherefore, that I may satisfy their honest desire, and withal help many others who will take this into consideration, I will declare the causes which moved me to forsake Intemperance and live a sober life, expressing also the means which I have used therein. I say therefore that the infirmities, which did not only begin, but had already gone far in me, first caused me to leave Intemperance, to which I was much addicted. For by it and my ill constitution (having a most cold and moist stomach), I fell into divers diseases, to wit, into the pain of the stomach, and often of the side, and the beginning of the Gout, with almost a continual fever and thirst.

From this ill temper there remained little else to be expected of me than that after many troubles and griefs I should quickly come to an end; whereas my life seemed as far from it by Nature, as it was near it by Intemperance. When therefore I was thus afflicted from the Thirty-fifth year of my age to the Fortieth, having tried all remedies fruitlessly, the Physician told me that yet there was one help for me if I could constantly pursue it, to wit, *a sober and orderly life*; for this had every way great force for the recovering and preserving of Health, as a disorderly life to the overthrowing of it, as I too well by experience found. For Temperance preserves even old men and sickly men sound, but Intemperance destroys most healthy and flourishing constitutions. For contrary causes have contrary effects, and the faults of Nature are often amended by Art, as barren grounds are made fruitful by good husbandry. They added withal that unless I speedily used that remedy, within a few months I should be driven to that exigent that there would be no help for me but Death, shortly to be expected.

Upon this, weighing their reasons with myself, and abhorring from so sudden an end, and finding myself continually oppressed with pain and sickness, I grew fully perswaded that all my griefs arose out of Intemperance; and therefore out of a hope of avoiding death and pain I resolved to live a temperate life.

Whereupon, being directed by them in the way I ought to hold, I understood that the food I was to use was such as belonged to sickly constitutions, and that in a small quantity. This they had told me before. But I, then not liking that kind of Diet, followed my appetite and did eat meats pleasing to my taste; and when I felt inward heats, drank delightful wines, and that in great quantity, telling my Physicians nothing thereof, as is the custom of sick people. But after I had resolved to follow Temperance and Reason, and saw that it was no hard thing to do so, but the proper duty of man, I so addicted myself to this course of life that I never went a foot out of the way. Upon this, I found within a few days that I

\* Reproduced from the English Works of George Herbert, edited by George Herbert Palmer, and published by Houghton Mifflin Company.



was exceedingly helped, and by continuance thereof within less than one year (although it may seem to some incredible), I was perfectly cured of all my infirmities.

Being now sound and well, I began to consider the force of Temperance, and to think thus with myself: If Temperance had so much power as to bring me health, how much more to preserve it! Wherefore I began to search out most diligently what meats were most agreeable unto me, and what disagreeable. And I purposed to try whether those that pleased my taste brought me commodity or discommodity, and whether that Proverb, wherewith Gluttons use to defend themselves, to wit, *That which savors is good and nourisheth*, be consonant to truth. This upon trial I found most false: for strong and very cool wines pleased my taste best, as also melons, and other fruit; in like manner, raw lettuce, fish, pork, sausages, pulse, and cake and py-crust and the like; and yet all these I found hurtful.

Therefore trusting on experience, I forsook all these kind of meats and drinks, and chose that wine that fitted my stomach, and in such measure as easily might be digested; above all, taking care never to rise with a full stomach, but so as I might well both eat and drink more. By this means, within less than a year I was not only freed from all those evils which had so long beset me, and were almost become incurable, but also afterwards I fell not into that yearly disease, whereinto I was wont, when I pleased my sense and appetite. Which benefits also still continue, because from the time that I was made whole I never since departed from my settled course of sobriety, whose admirable power causeth that the meat and drink that is taken in fit measure gives true strength to the body, all superfluities passing away without difficulty, and no ill humors being engendered in the body.

Yet with this diet I avoided other hurtful things also, as too much heat and cold, weariness, watching, ill air, overmuch use of the benefit of marriage. For although the power of health consists most in the proportion of meat and drink, yet these forenamed things have also their force. I preserved me also, as much as I could, from hatred and melancholy and other perturbations of the mind, which have a great power over our constitutions. Yet could I not so avoid all these but that now and then I fell into them, which gained me this experience, that I perceived that they had no great power to hurt those bodies which were kept in good order by a moderate Diet. So that I can truly say, That they who in these two things that enter in at the mouth keep a fit proportion, shall receive little hurt from other excesses.

This *Galen* confirms, when he says that immoderate heats and colds and winds and labours did little hurt him, because in his meats and drinks he kept a due moderation and therefore never was sick by any of these inconveniences, except it were for one only day. But mine own experience confirmeth this more, as all that know me can testify. For having endured many heats and colds, and other like commodities of the body and troubles of the mind, all these did hurt me little, whereas they hurt them very much who live intemperately. For when my brother and others of my kindred saw some great powerful men pick quarrels against me, fearing lest I should be overthrown, they were possessed with a deep melancholy (a thing usual to disorderly lives), which increased so much in them that it brought them to a sudden end. But I, whom that matter ought to have affected most, received no inconvenience thereby, because that humour abounded not in me.

Nay, I began to perswade myself that this suit and contention was raised by the Divine Providence, that I might know what great power a sober and temperate life hath over our bodies and minds, and that at length I should be a conqueror, as also a little after it came to pass. For in the end I got the victory, to my great honor

and no less profit, whereupon also I joyed exceedingly; which excess of joy neither could do me any hurt. By which it is manifest, That neither melancholy nor any other passion can hurt a temperate life.

Moreover, I say, that even bruises and squats and falls, which often kill others, can bring little grief or hurt to those that are temperate. This I found by experience when I was Seventy years old; for riding in a Coach in great haste, it happened that the Coach was overturned and then was dragged for a good space by the fury of the horses, whereby my head and whole body was sore hurt and also one of my arms and legs put out of joynt. Being carried home, when the Physicians saw in what case I was, they concluded that I would die within Three days; nevertheless, at a venture, Two Remedies might be used, letting of blood and purging, that the store of humours and inflammation and fever (which was certainly expected) might be hindred.

But I, considering what an orderly life I had led for many years together, which must needs so temper the humours of the body that they could not be much troubled or make a great concourse, refused both remedies, and only commanded that my arm and leg should be set and my whole body anointed with oyl; and so without other remedy or inconvenience I recovered, which seemed as a miracle to the Physicians. Whence I conclude that they that live a temperate live can receive little hurt from other inconveniences.

But my experience taught me another thing also, to wit, that an orderly and regular life can hardly be altered without exceeding great danger.

About Four years since, I was led, by the advice of Physicians and the daily importunity of my friends, to add something to my usual stint and measure. Divers reasons they brought, as, that old age could not be sustained with so little meat and drink, which yet needs not only to be sustained but also to gather strength, which could not be but by meat and drink. On the other side, I argued that Nature was contented with a little, and that I had for many years continued in good health with that little measure; that Custom was turned into Nature, and therefore it was agreeable to reason that my years increasing and strength decreasing, my stint of meat and drink should be diminished rather than increased, that the patient might be proportionable to the agent, and especially since the power of my stomach every day decreased. To this agreed two Italian proverbs, the one whereof was, *He that will eat much, let him eat little*; because by eating little he prolongs his life. The other proverb was, *The meat which remaineth profits more than that which is eaten*; by which is intimated that the hurt of too much meat is greater than the commodity of meat taken in a moderate proportion.

But all these things could not defend me against their importunities. Therefore to avoid obstinacy and gratify my friends, at length I yielded and permitted the quantity of meat to be increased, yet but Two ounces only. For whereas before, the measure of my whole day's meat, viz., of my bread, and eggs, and flesh, and broth, was 12 ounces exactly weighed, I increased it to the quantity of 2 ounces more; and the measure of my drink, which before was 14 ounces, I made now 16.

This addition, after ten days, wrought so much upon me that of a cheerful and merry man I became melancholy and cholerick; so that all things were troublesome to me, neither did I know well what I did or said. On the Twelfth day, a pain of the side took me, which held me Two and twenty hours. Upon the neck of it came a terrible fever, which continued Thirty-five days and nights, although after the Fifteenth day it grew less and less. Besides all this I could not sleep, no, not a quarter of an hour, whereupon all gave me up for dead.

Nevertheless I, by the grace of God, cured myself only with returning to my former course of Diet, although I was now Seventy-eight years old, and my body spent with extreme leanness, and the season of the year was winter, and most cold air. And I am confident that, under God, nothing help me but that exact rule which I had so long continued. In all which time I felt no grief, save now and then a little indisposition for a day or Two.

For the Temperance of so many years spent all ill humours, and suffered not any new of that kind to arise, neither the good humours to be corrupted or contract any ill quality, as usually happens in old men's bodies which live without rule. For there is no malignity of old age in the humours of my body, which commonly kills men; and that new one which I contracted by breaking my diet, although it was a sore evil, yet had no power to kill me.

By this it may clearly be perceived how great is the power of order and disorder; whereof the one kept me well for many years, the other, though it was but a little excess, in a few days had so soon overthrown me. If the world consist of order, if our corporal life depend on the harmony of humours and elements, it is no wonder that order should preserve and disorder destroy. Order makes arts easie and armies victorious, and retains and confirms kingdoms, cities, and families in peace. Whence I conclude that an orderly life is the most sure way and ground of health and long days, and the true and only medicine of many diseases.

Neither can any man deny this who will narrowly consider it. Hence it comes that a Physician, when he cometh to visit his Patient, prescribes this Physick first, that he use a moderate diet; and when he hath cured him commends this also to him, if he will live in health. Neither is it to be doubted, but that he shall ever after live free from diseases, if he will keep such a course of life; because this will cut off all causes of diseases, so that he shall need neither Physick nor Physician. Yea, if he will give his mind to those things which he should, he will prove himself a Physician, and that a very compleat one; for indeed no man can be a perfect Physician to another, but to himself only. The reason whereof is this: Every one by long experience may know the qualities of his own nature, and what hidden properties it hath, what meat and drink agrees best with it; which things in others cannot be known without such observation as is not easily to be made upon others, especially since there is a greater diversity of tempers than of faces. Who would believe that old wine should hurt my stomach, and new should help it, or that cinnamon should heat me more than pepper? What Physician could have discovered these hidden qualities to me, if I had not found them out by long experience? Wherefore one to another cannot be a perfect Physician. Whereupon I conclude, since none can have a better Physician than himself, nor better Physick than a Temperate Life, Temperance by all means is to be embraced.

Nevertheless, I deny not but that Physicians are necessary, and greatly to be esteemed for the knowing and curing of diseases, into which they often fall who live disorderly. For if a friend who visits thee in thy sickness, and only comforts and condoles, doth perform an acceptable thing to thee, how much more dearly should a Physician be esteemed, who not only as a friend doth visit thee, but help thee!

But that a man may preserve himself in health, I advise that instead of a Physician a regular life is to be embraced, which, as is manifest by experience, is a natural Physick most agreeable to us, and also doth preserve even ill tempers in good health, and procure that they prolong their life even to a hundred years and more, and that at length they shut up their days like a Lamp, only by a pure consumption of the radical moisture, without grief or perturbation of humours. Many have thought

that this could be done by *Aurum potable*, or the *Philosopher's-stone*, sought of many, and found of few; but surely there is no such matter, if Temperance be wanting.

But sensual men (as most are), desiring to satisfy their Appetite and pamper their belly, although they see themselves ill handled by their intemperance, yet shun a sober life; because, they say, It is better to please the Appetite (though they live Ten years less than otherwise they should do) than always to live under bit and bridle. But they consider not of how great moment Ten years are in mature age, wherein wisdom and all kind of virtues is most vigorous, which but in that age can hardly be perfected. And that I may say nothing of other things, are not almost all the learned books that we have, written by their Authors in that age and those Ten years which they set at naught in regard of their belly?

Besides, these Belly-gods say that an orderly life is so hard a thing that it cannot be kept. To this I answer that *Galen* kept it and held it for the best Physick; so did *Plato* also, and *Isocrates*, and *Tully*, and many others of the Ancients; and in our age, *Paul the Third*, and *Cardinal Bembo*, who therefore lived so long; and among our Dukes, *Laudus* and *Donatus*, and many others of inferior condition, not only in the city, but also in villages and hamlets.

Wherefore, since many have observed a regular life both of old times and later years, it is no such thing which may not be performed; especially since in observing it there needs not many and curious things, but only that a man should begin, and by little and little accustom himself unto it.

Neither doth it hinder that *Plato* says, That they who are employed in the common-wealth cannot live regularly, because they must often endure heats, and colds, and winds, and showers, and divers labours, which suit not with an orderly life. For I answer, That those inconveniences are of no great moment (as I showed before) if a man be temperate in meat and drink; which is both easy for common-weal's-men and very convenient, both that they may preserve themselves from diseases which hinder publick employment, as also that their mind in all things wherein they deal may be more lively and vigorous.

But some may say, He which lives a regular life, eating always light meats and in a little quantity, what diet shall he use in diseases, which being in health he hath anticipated? I answer first, Nature, which endeavours to preserve a man as much as she can, teacheth us how to govern ourselves in sickness. For suddenly it takes away our appetite, so that we can eat but very little, wherewith she is very well contented; so that a sick man, whether he hath lived heretofore orderly or disorderly, when he is sick ought not to eat but such meats as are agreeable to his disease, and that in much smaller quantity than when he was well. For if he should keep his former proportion, Nature, which is already burdened with a disease, would be wholly oppressed. Secondly, I answer better, that he which lives a temperate life cannot fall into diseases, and but very seldom into indispositions, because Temperance takes away the causes of diseases; and the cause being taken away, there is no place for the effect.

Wherefore since an orderly life is so profitable, so vertuous, so decent, and so holy, it is worthy by all means to be embraced, especially since it is easy and most agreeable to the nature of Man. No man that follows it is bound to eat and drink so little as I. No man is forbidden to eat fruit or fish, which I eat not. For I eat little because a little sufficeth my weak stomach; and I abstain from fruit and fish and the like, because they hurt me. But they who find benefit in these meats may, yea, ought to use them. Yet all must needs take heed lest they take a greater quantity

of any meat or drink (though most agreeable to them) then their stomach can easily digest; so that he which is offended with no kind of meat and drink, hath the *quantity* and not the *quality* for his rule, which is very easy to be observed.

Let no man here object unto me, That there are many, who though they live disorderly, yet continue in health to their lives' end; Because since this is at the best but uncertain, dangerous, and very rare, the presuming upon it ought not to lead us to a disorderly life.

It is not the part of a wise man to expose himself to so many dangers of diseases and death only upon a hope of a happy issue, which yet befalls very few. An old man of an ill constitution, but living orderly, is more sure of life than the most strong young man who lives disorderly.

But some, too much given to Appetite, object, That a long life is no such desirable thing, because that after one is once Sixty-five years old, all the time we live after is rather death than life. But these err greatly, as I will show by myself, recounting the delights and pleasures in this age of 83 which now I take, and which are such as that men generally account me happy.

I am continually in health, and I am so nimble that I can easily get on horse-back without the advantage of the ground, and sometimes I go up high stairs and hills on foot. Then I am ever cheerful, merry, and well-contented, free from all troubles and troublesome thoughts; in whose place joy and peace have taken up their standing in my heart. I am not weary of life, which I pass with great delight. I confer often with worthy men, excelling in wit, learning, behaviour, and other virtues. When I cannot have their company, I give myself to the reading of some learned book, and afterwards to writing; making it my aim in all things how I may help others to the furthest of my power.

All these things I do at my ease, and at fit seasons, and in mine own houses; which, besides that they are in the fairest place of this learned City of Padua, are very beautiful and convenient above most in this age, being so built by me according to the rules of Architecture, that they are cool in summer and warm in winter.

I enjoy also my gardens, and those divers, parted with rills of running water, which truly is very delightful. Some times of the year I enjoy the pleasure of the *Euganean* hills, where also I have fountains and gardens and a very convenient house. At other times, I repair to a village of mine seated in the valley; which is therefore very pleasant, because many ways thither are so ordered that they all meet and end in a fair plot of ground; in the midst whereof is a Church suitable to the condition of the place. This place is washed with the river of *Brenta*, on both sides whereof are great and fruitful fields, well manured and adorned with many habitations. In former time it was not so, because the place was moorish and unhealthy, fitter for beasts than men. But I drained the ground, and made the air good. Whereupon men flocked thither and built houses, with happy success. By this means the place is come to that perfection we now see it is. So that I can truly say, That I have both given God a Temple and men to worship him in it. The memory whereof is exceeding delightful to me.

Sometimes I ride to some of the neighbour cities, that I may enjoy the sight and communication of my friends, as also of excellent Artificers in *Architecture*, *painting*, *stone-cutting*, *musick*, and *husbandry*, whereof in this age there is great plenty. I view their pieces, I compare them with those of Antiquity, and ever I learn somewhat which is worthy of my knowledge. I survey *palaces*, *gardens*, *antiquities*, *publick fabrics*, *temples*, and *fortifications*; neither omit I any thing that may either teach or delight me. I am much pleased also in my travels with the beauty of situ-

ation. Neither is this my pleasure made less by the decaying dulness of my senses, which are all in their perfect vigour, but especially my Taste; so that any simple fare is more savoury to me now than heretofore, when I was given to disorder and all the delights that could be.

To change my bed, troubles me not. I sleep well and quietly anywhere, and my dreams are fair and pleasant. But this chiefly delights me, that my advice hath taken effect in the reducing of many rude and untoiled places in my country to cultivation and good husbandry. I was one of those that was deputed for the managing of that work, and abode in those fenny places two whole months in the heat of summer, (which in Italy is very great,) receiving not any hurt or inconvenience thereby: so great is the power and efficacy of that *Temperance* which ever accompanied me.

These are the delights and solaces of my old age, which is altogether to be preferred before others' youth: because that by *Temperance* and the *Grace of God* I feel not those perturbations of body and mind wherewith infinite both young and old are afflicted.

Moreover by this also in what estate I am may be discovered, because at these years (viz., 83) I have made a most pleasant Comedy, full of honest wit and merriment; which kind of Poems useth to be the child of Youth, which it most suits withal for variety and pleasantness, as a Tragedy with old Age, by reason of the sad events which it contains. And if a *Greek Poet* of old was praised that at the age of 73 years he writ a tragedy, why should I be accounted less happy, or less myself, who being Ten years older have made a Comedy?

Now lest there should be any delight wanting to my old age, I daily behold a kind of immortality in the succession of my posterity. For when I come home, I find eleven grandchildren of mine, all the sons of one father and mother, all in perfect health; all as far as I can conjecture, very apt and well given both for learning and behaviour. I am delighted with their musick and fashion, and I myself also sing often; because I have now a clearer voice than ever I had in my life.

By which it is evident that the life which I live at this age is not a dead, dumpish, and sower life, but chearful, lively, and pleasant. Neither if I had my wish, would I change age and constitution with them who follow their youthful appetites, although they be of a most strong temper; because such are daily exposed to a thousand dangers and deaths, as daily experience showeth, and I also, when I was a young man, too well found. I know how inconsiderate that age is and, though subject to death, yet continually afraid of it. For death to all young men is a terrible thing, as also to those that live in sin, and follow their appetites; whereas I by the experience of so many years have learned to give way to Reason; whence it seems to me not only a shameful thing to fear that which cannot be avoided, but also I hope, when I shall come to that point, I shall find no little comfort in the favour of Jesus Christ. Yet I am sure that my end is far from me: for I know that (setting casualties aside) I shall not die but by a pure resolution, because that by the regularity of my life I have shut out death all other ways. And that is a fair and desirable death which Nature brings by way of resolution.

Since, therefore, a Temperate life is so happy and pleasant a thing, what remains but that I should wish all who have the care of themselves to embrace it with open arms?

Many things more might be said in commendation hereof; but lest in any thing I forsake that *Temperance* which I have found so good, I here make an End.

## DIRECTIONS FOR SECURING COPYRIGHTS

Under the Revised Acts of Congress, including the Provisions for  
Foreign Copyright, by Act of March 3, 1891.

1. A *printed* copy of the title of the book, map, <sup>Printed title  
required.</sup> chart, dramatic or musical composition, engraving, cut, print, photograph, or chromo, or a *description* of the painting, drawing, statue, statuary, or model or design for a work of the fine arts, for which copyright is desired, must be delivered to the Librarian of Congress or deposited in the mail, within the United States, *prepaid*, addressed

LIBRARIAN OF CONGRESS,

WASHINGTON, D. C.

This must be done on or before day of publication in this or any foreign country.

The *printed title* required may be a copy of <sup>What style of  
print.</sup> the title page of such publications as have title pages. *In other cases, the title must be printed expressly for copyright entry*, with name of claimant of copyright. The style of type is immaterial, and the print of a type-writer will be accepted. But a separate title is required for each entry, and *each* title must be printed on paper as large as commercial note. The title of a *periodical* must include the date and number; and each number of a periodical requires a separate entry of copyright.

2. The legal fee for *recording* each copyright <sup>Copyright  
fees.</sup> claim is 50 cents, and for a *copy* of this record (or certificate of copyright under seal of the office) an additional fee of 50 cents is required, making \$1, if certificate is wanted, which will be mailed as soon as reached in the records. In the case of publications which are the production of persons not citizens or residents of the United States, the fee for recording title is \$1, and 50 cents additional for a copy of the record. Certificates covering more than one entry in one certificate are not issued.

3. Not later than the day of publication in <sup>Two copies re-  
quired.</sup> this country or abroad, two complete copies of the best edition of each book or other article must be delivered, or deposited in the mail within the United States, addressed

LIBRARIAN OF CONGRESS,

WASHINGTON, D. C.,

to perfect the copyright.

- The freight or postage must be prepaid, or the publications inclosed in parcels covered by printed Penalty Labels, furnished by the Librarian, in which case they will come FREE by mail (*not express*), without limit of weight, according to rulings of the Post Office Department. Books must be printed from type set or plates made in the United States; photographs from negatives made in the United States; chromos and lithographs from drawings on stone or transfers therefrom made in the United States.
- Free by mail.**
- Penalty.** Without the deposit of copies above required the copyright is void, and penalty of \$25 is incurred. No copy is required to be deposited elsewhere.
- New editions.** The law requires one copy of each new edition wherein any substantial changes are made, to be deposited with the Librarian of Congress.
- Notice of copyright to be given by imprint.** 4. No copyright is valid unless notice is given by inserting in every copy published, on the title page or the page following, if it be a book; or if a map, chart, musical composition, print, cut, engraving photograph, painting, drawing, chromo, statue, statuary, or model or design intended to be perfected as a work of the fine arts, by inscribing upon some portion thereof, or on the substance on which the same is mounted, the following words, viz: "*Entered according to act of Congress, in the year —, by —, in the office of the Librarian of Congress, at Washington,*" or, at the option of the person entering the copyright, the words: "*Copyright, 18—, by—.*"
- Claimant's name to be printed.**
- Penalty for false claim.** The law imposes a penalty of \$100 upon any person who has not obtained copyright who shall insert the notice "*Entered according to act of Congress,*" or "*Copyright,*" etc., or words of the same import, in or upon any book or other article.
- Translations and dramas.** 5. The copyright law secures to authors and their assigns the exclusive right to translate or to dramatize any of their works; no notice is required to enforce this right.
- Duration of copyright.** 6. The original term of copyright runs for twenty-eight years. *Within six months before* the end of that time, the author or designer, or his widow or children, may secure a renewal for the further term of fourteen years, making



forty-two years in all. Applications for renewal must be accompanied by printed title and fee; and by explicit statement of ownership, in the case of the author, or of relationship, in the case of his heirs, and must state definitely the date and place of entry of the original copyright. Within two months from date of renewal the record thereof must be advertised in an American newspaper for four weeks.

Renewals.

7. The time of publication is not limited by any law or regulation, but the courts have held that it should take place within a reasonable time. A copyright may be secured for a projected as well as for a completed work. But the law provides for no *caveat*, or notice of interference—only for actual entry of title.

Time of publication.

8. Copyrights are assignable by any instrument of writing. Such assignment to be valid, is to be recorded in the office of the Librarian of Congress within sixty days from execution. The fee for this record and certificate is one dollar, and for a certified copy of any record of assignment one dollar.

Assignments.

9. A copy of the record (or duplicate certificate) of any copyright entry will be furnished, under seal of the office, at the rate of fifty cents each.

Copies or duplicate certificates.

10. In the case of books published in more than one volume, or of periodicals published in numbers, or of engravings, photographs, or other articles published with variations, a copyright must be entered for each volume or part of a book, or number of a periodical, or variety, as to style, title, or inscription, of any other article. To *complete* the copyright on a book published serially in a periodical, two copies of each serial part, as well as of the complete work (if published separately), should be deposited.

Serials or separate publications.

11. To secure copyright for a painting, statue, or model or design intended to be perfected as a work of the fine arts, a definite title and description must accompany the application for copyright, and a photograph of the same, as large as "cabinet size," mailed to the Librarian of Congress not later than the day of publication of the work or design.

Copyright for works of art.

**Fine arts.**

The fine arts, for copyright purposes, include only painting and sculpture, and articles of merely ornamental and decorative art should be sent to the Patent Office, as subjects for Design Patents.

**No labels or names copyright.**

12. Copyrights cannot be granted upon Trade-Marks, nor upon names of companies or articles, nor upon an idea or device, nor upon prints or Labels intended to be used for any article of manufacture. If protection for such names or labels is desired, application must be made to the Patent Office, where they are registered, if admitted, at a fee of \$6 for labels, and \$25 for trade marks.

**Foreign or International copyright.**

13. The provisions as to copyright entry in the United States by foreign authors, etc., by act of Congress approved March 3, 1891 (which took effect July 1, 1891), are the same as the foregoing (except as to additional fees where the work is the production of a person not a citizen or resident).

**Fees.**

The right of citizens or subjects of a foreign nation to copyright in the United States extends by Presidential proclamation of July 1, 1891, and April 15, 1892, to Great Britain, France, Germany, Belgium, and Switzerland. The fees for entry by foreigners must cover return postages, and are \$1 for entry or \$1.50 for entry and certificate of entry (equivalent to 4s. 5d. or 6s. 7d.). All publications must be delivered to the Librarian at Washington free of charge. The free penalty labels cannot be used outside of the United States.

**Full name of proprietor required.**

14. Every applicant for a copyright should state distinctly the full name and residence of the claimant, and whether the right is claimed as author, designer, or proprietor. No affidavit or witness to the application is required.

OFFICE OF THE LIBRARIAN OF CONGRESS,

Washington, 1892.

## LAWSON TAIT

JOHN HARVEY KELLOGG, M.D., F.A.C.S., BATTLE CREEK, MICHIGAN

**T**HE untimely death of Lawson Tait, of Birmingham, England, 30 years ago, cut short one of the most notable medical careers of the last century. That he was a genius no one can doubt who will make himself familiar with his contributions to gynecological and abdominal surgery. Though by no means the first to undertake serious operations within the abdominal cavity, he certainly did more to render abdominal section a safe and practical procedure than any other man and is fairly entitled to the honor claimed for him by Dr. William J. Mayo of being "the father of modern abdominal surgery."

Tait began his career as a laparotomist at a time when the operation of ovariectomy had been practically abandoned in England. Of the last 30 ovariectomies performed in Edinburgh, where Tait had received his medical training, not a single one had survived. The operation was actually forbidden in some of the leading London hospitals. Syme, the leading Scotch surgeon, one of Tait's teachers, to the end of his life refused to perform the operation. Tait nevertheless had the courage to undertake it soon after he began practice in a provincial town at the age of 23, and before he was 26 he had done the operation 5 times. At his death in 1899, at the age of 54 years, he had performed several thousand abdominal sections and with a degree of success unrivaled by any other surgeon.

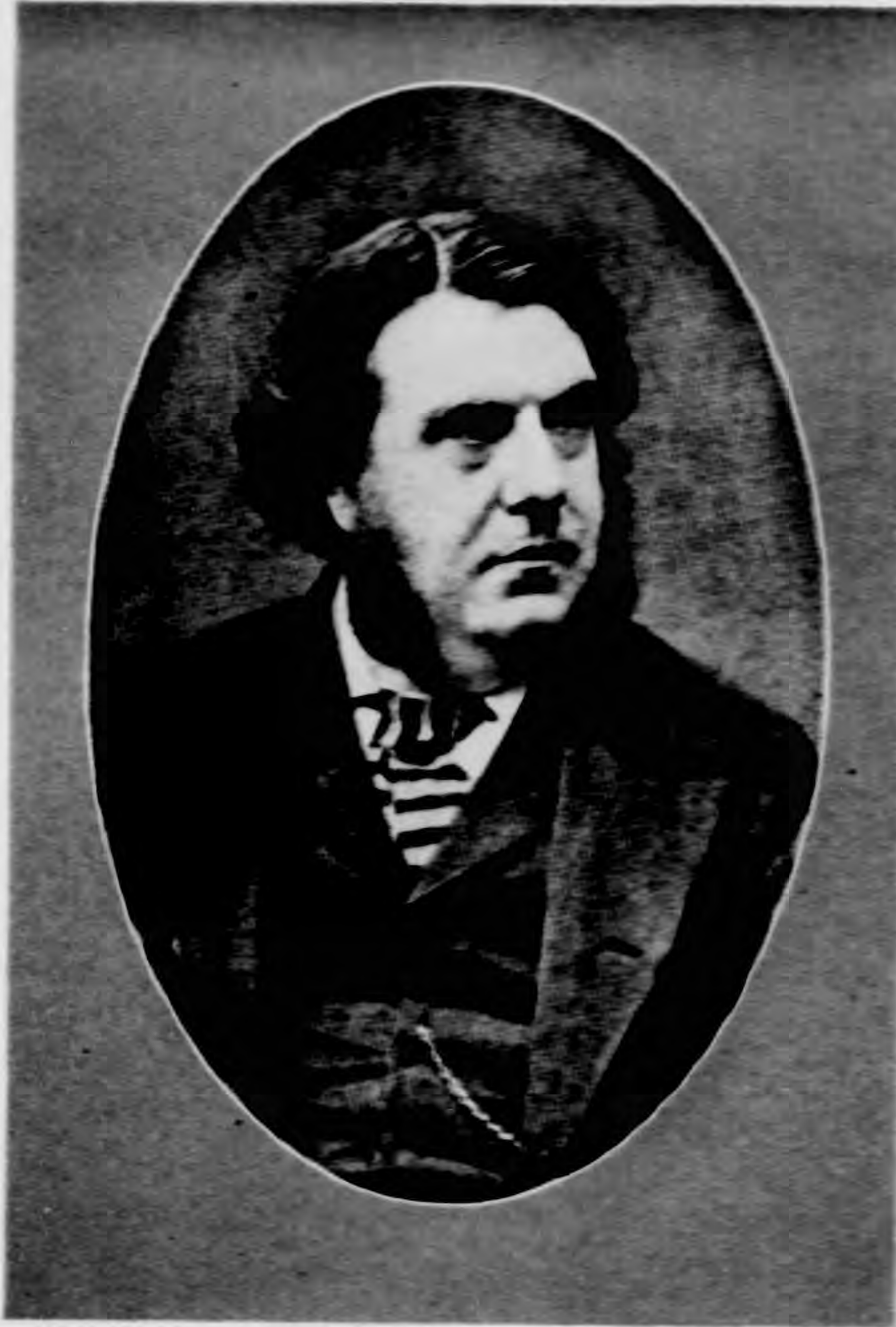
I happened to arrive in Birmingham the morning of Mr. Tait's death from uræmic coma. I had had the privilege of spending a few months with him as a pupil assistant just 10 years before. On alighting from the train I directed the cabman to drive me to The Crescent, Tait's home and private hospital. Instead of doing so the cabman handed me the morning paper, which was in mourning and bore in large black letters across the page the announcement of Mr. Tait's death. Within a few hours the whole city was in mourning, for, next to Mr. Chamberlain, Mr. Tait was unquestionably its most distinguished citizen. His fame had brought to him suffering men and women from the ends of the earth. He had many patients from the United States and Canada and from South Africa and Australia. One patient, an American, the wife of a missionary doctor, suffering greatly with an enormous ovarian tumor, came from the remote interior of Burmah, in India, having been carried several hundred miles on the shoulders of men to reach the nearest railroad station.

My first meeting with Mr. Tait was in his little office at The Crescent. He sat alone behind a small flat topped desk with a flexible speaking tube close at hand through which he dictated to his secretary in another room. As he sat in his chair he gave one the impression of being a man of gigantic proportions. His

shoulders were very broad, his chest thick, and his large head—he wore a number 8 hat—was covered with a thick mass of dark hair which was inclined to curl. His neck was short. His strong facial features and his abundance of wavy hair gave him an almost leonine aspect. When he stood, however, the impression of greatness diminished somewhat as he was scarcely of medium height.

In manner Mr. Tait was kindly and courteous but rather short and abrupt. He had the air of a man preoccupied with intense thought. His speech was rapid and incisive, his sentences terse and pointed. He had an unusually large vocabulary and his choice of words was always the best possible. His ordinary speaking voice was pleasant, almost musical. When aroused and vexed, which often happened, he would roar like a mad bull. Tait was one of the most tender hearted men I ever met. He was gentle and delicate in his manner of dealing with patients and scrupulously careful to observe all the proprieties.

Tait had many crotchets and allowed prejudices to warp his judgment and blind his mental vision. He had a particular dislike for



LAWSON TAIT (1845-1899)

studied at the dispensary and in which he was preparing to repair, after his rapid fashion, a torn perineum, there was also a badly torn uterine cervix. I asked, "But, Mr. Tait, are you not going to repair the cervix before closing the perineum?" "Oh, no," he said, "I never pay any attention to Emmett's little crack."

During the several months I was with him he never once repaired a torn cervix although cases of this sort came daily under observation. I doubt if he had any other reason, than his prejudice against Dr. Emmett, for thus ignoring lesions of the cervix.

Having some years before when in Vienna

Emmett, one of the finest and sweetest of men. I could never discover any reason for this except that he disagreed with him respecting the nature of the pelvic inflammations to which Emmett had applied the term cellulitis. Tait believed the chief seat of these troubles to be the fallopian tubes, which subsequently turned out to be the truth. He carried his opposition to Emmett so far as to denounce everything he taught as error. In one case which I had previously

(1883) become acquainted with Billroth's pylorotomy and Woelfler's gastro-enterostomy, I one day inquired of Tait why he did not perform these operations. He at once replied, "Pylorotomy is useless because it is never done except for cancer and the cancer always returns. I never do useless operations." The operation of gastro-enterostomy he condemned in equally strong terms, declaring that it always resulted in "continuous faecal regurgitation." His attitude toward these operations illustrates one of the weak points in his character. When a prejudice was once established in his mind it was impossible to uproot it and it so blinded him that he was apparently incapable of treating the subject with intellectual fairness.

In a controversy Tait was a dangerous opponent. He was remarkably skillful in repartee and so dexterous a controversialist that he rarely failed to carry off the honors in discussions at medical meetings even when he was in the wrong. Tait enjoyed nothing better than lampooning an adversary, especially one whom he considered worthy of his mettle. On one occasion his opponent was a well known surgeon who, as his colleagues well knew, had for years been combating the inroads of Father Time by the adroit use of hair dye. In discussing Mr. Tait's paper the gentleman suggested that too much weight should not be given to his views because of the fact that he was known to be a man of very strong prejudices; whereupon Mr. Tait instantly retorted that he had only one prejudice in the world and that was against a man who dyed his hair. This savage sally quite annihilated his opponent.

Mr. Tait's animosity against some of his rivals was so great that it was hardly prudent to mention their names. On the one occasion of which I spoke to him of Spencer Wells he launched upon such a vehement outpouring of

barbed criticisms and acrid animadversions I never ventured to mention his name again.

During operations Mr. Tait rarely spoke except to utter now and then a monosyllable or two by way of direction to a nurse or the anaesthetist. At other times, however, when riding with him in his carriage, as I had often an opportunity to do, or when riding on the cars, Mr. Tait was a genial and interesting conversationalist and had apparently an inexhaustible fund of information on any subject that might be broached. Although he did not finish his university course before beginning his study of medicine, his literary work during the early years of his residence in Birmingham as editorial writer for the *Morning Post* had led him into nearly every field of human interest. He had also been a student of biology under Darwin, whom he almost deified.

Mr. Tait frequently attended the theater, which he greatly enjoyed, although he often fell asleep and sometimes snored so loudly as to create considerable disturbance. When not occupied he was in fact liable to fall asleep at any time. In riding up to London I have known him to sleep for almost the entire distance sitting bolt upright in a corner of the compartment and snoring loudly. On one such occasion when the customary fog happened to lift for a few moments, allowing the sun to illuminate his face, I managed to get a good kodak picture of him. Later he allowed me to take another picture as he was in the midst of a surgical operation, his face wearing the intense and rather savage look which it usually had while he was operating. He was very much amused when I presented him with the two pictures mounted on a card labeled "Wide Awake" and "Fast Asleep." This was his first introduction to the Eastman Kodak, then just out, and he became the possessor of one as soon as possible.

Tait was not spectacular in his methods of operating, but in his work he was remarkably quick, neat, accurate, and efficient. His hands were large, his fingers short and thick, but remarkably deft. His precise, dextrous, and rapid movements in the performance of an operation was a fascinating spectacle—never a false movement, though he did some extraordinary things. For instance, if in making an incision a spurting artery made a pause necessary for the application of a ligature, he would often catch the handle of his knife between his teeth instead of handing it to an assistant or laying it down. He did everything himself. He rarely allowed the assistant to do anything more than to hold an artery forceps or to support a large tumor while he applied ligatures to the pedicle.

To the writer's knowledge, Tait has seldom been excelled in rapidity and dexterity. Dr. "Jimmy" Wood, who was the star operator in Bellevue Hospital when I was a student there in the seventies, used to cut off legs in 30 seconds, and Liston sometimes amputated thighs in 20 seconds. Martin, the famous Berlin gynecologist, did a double salpingectomy in 8 minutes. I saw Tait do the same operation in 7½ minutes. I often noted the time occupied in perineal operations and seldom found it more than 3 minutes, although McKay, who followed me in Tait's service, in his excellent biography makes his time for this operation 5 minutes. On one occasion I held my watch and saw Tait begin and complete an operation for partial laceration of the perineum in just 1½ minutes.

His ordinary method of operating on patients at the Spark Hill Hospital was this: With his coat off, sleeves rolled up, and wearing a big apron, he stepped to the side of the bed, seized the anesthetized patient, and placed her crosswise on the bed with her hips at the edge, a nurse holding each limb. With a pair of

tissue forceps in one hand and scissors in the other, he dropped upon his knees and with a few quick snips dissected the vaginal flap, made a deep cut on either side, seized a long-handled Peaslee needle, and pulled through three or four silkworm-gut sutures so placed as to secure good coaptation of the raw surfaces. The whole operation was over in little more time than it takes to describe it.

In operating, Tait always aimed to do as little as possible. His incisions were short, never more than 2 or 2.5 inches unless a larger incision was necessary to remove a growth. His aim was to make the incision just large enough to admit his two large fingers. He said he learned this from Baker Brown. He opened the abdomen a little at one side of the median line and took care to avoid dividing the fibers of the rectus muscle. This practice he learned from A. McKenzie Edwards, one of his teachers at Edinburgh.

He was bitterly opposed to the use of the spray which at that time was in great vogue. I got the impression that his opposition to the spray and to antiseptic methods was chiefly based on his dislike of Lord Lister and Spencer Wells. He even refused to allow an application of antiseptics of any sort to the putrefying hysterectomy stumps which were in those days treated extraperitoneally. As a result, the atmosphere of his wards very often closely resembled that of a slaughterhouse. When one day I asked him to allow me to apply iodoform or carbolic acid to lessen the odor of decaying flesh, he curtly replied, "No," and added, "I cannot endure the smell of the stuff. I won't have it around." He did soon after begin the use of dry powdered boracic acid, insisting, however, that he used it only to keep the wound dry and not as an antiseptic.

Although Tait did not believe in antiseptics, he emphasized the necessity for cleanliness. This was perhaps his greatest contribu-

tion to surgery as he was really the father of surgical asepsis. He developed a technique which eliminated many of the perils of abdominal section and so materially reduced the mortality of this operation as to greatly enlarge its scope and enhance its usefulness. Men who followed his leadership in England, notably Greig Smith, Moynihan, and Mayo Robson, and in this country Joseph Price, Howard Kelly, and the Mayos, reduced the mortality rate to such a degree that the operation lost its terrors and soon came to head the list of major operations as a life saving procedure.

Though he opposed the Lister spray, Tait took the greatest care to keep his hands free from infection. If they became soiled at any time with an infectious fluid he refrained from operating for several days, having learned from experience that soap and water and even the use of the antiseptics then employed, would not always insure safety. Rubber gloves were of course not in use in those days. Instruments and ligatures were boiled. Sponges after being soaked over night in a one per cent carbolic acid solution were squeezed, put into a muslin bag, and hung up to dry. Only boiled water was used at operations.

At the time I was with him Mr. Tait boasted a record of 116 laparotomies with the same number of successive recoveries. The average mortality of the operation in this country at that time was, I believe, about 20 per cent. He attributed his success in ovariectomy to the adoption of Baker Brown's method of dropping the pedicle into the peritoneal cavity instead of treating it externally with the Spencer Wells clamp and introducing a drainage tube. Tait maintained that peritonitis was not likely to occur if the peritoneal cavity was kept dry.

Another reason for Tait's success was no doubt his radical and courageous departure

from the long established method of dealing with the bowels. As late as 1883, Tait still practiced restriction of bowel activity after ovariectomy, insisting that the bowels should be confined for from 10 days to 2 weeks after operation. A little later, however, he made a radical change in his management of the bowels. Before the operation, the patient was thoroughly purged with saline laxatives and starved for 48 hours. After operation, the bowels instead of being confined were moved by enema on the second morning. Thorough evacuation of the colon on the second morning after operation was a dominant feature of the after-care of his patients. Drastic measures were used when necessary to secure an evacuation, and no food was given until after the bowels moved.

Tait would not administer anodynes of any sort so long as there was any hope of saving the patient. The patients sometimes suffered cruelly, but they rarely, if ever, received an anodyne drug of any sort unless they became moribund. He said, "I never give any drug unless the patient is going to die."

When asked what should be done in cases of peritonitis following abdominal section, he replied: "Nothing at all. The patient who has peritonitis after a surgical operation is certain to die. The time to cure peritonitis is before it begins. If the peritoneal cavity is kept well drained, peritonitis will not occur. The important thing is to keep the peritoneal cavity free from stagnant fluids. I am not afraid of germs. They cannot grow without food."

The carbolic acid spray of Lister was conscientiously employed by Spencer Wells and his followers, but Tait achieved better results without the spray than others did with it, employing otherwise the same technique. Undoubtedly, the abandonment of the Spencer Wells clamp and the use of the short sterile

ligature and the intraperitoneal treatment of the stump introduced by Baker Brown were the chief factors in reducing the mortality rate from the 25 per cent of Spencer Wells' first one thousand cases to less than 5 per cent in the hands of Tait, Bantock, Thornton, and Keith.

Tait's views were strongly supported by the doctrine of intestinal toxæmia which Bouchard had recently brought out. Widal, Roux, and other French investigators had recently shown that in certain conditions, particularly stasis, the pathogenic bacteria always found in the colon may become highly virulent and capable of invading the blood stream and the tissues and producing pleurisy, peritonitis, hepatic abscess, pyelitis, and other grave conditions. Roux had produced peritonitis and abscesses with pure cultures of bacillus coli. Tait maintained that these organisms could not develop without a liquid culture medium, and so he not only introduced a drain in every case, but took care to prevent accumulation of liquid in the abdominal cavity by applying suction to the drainage tube at frequent intervals so as to keep the abdominal cavity as dry as possible.

Tait's departure from the orthodox method of dealing with the bowels before and after

laparotomy was doubtless one of his most important innovations. He led the way, however, in numerous departures from established methods and in undertaking new surgical procedures which have enormously increased the scope of abdominal surgery.

Tait claimed that he was the first to perform the operation for removal of the ovaries and tubes for the cure of chronic pelvic inflammation. He was first to operate for the removal of gall stones, first to operate in cases of ruptured tubal pregnancy, and the first to remove the uterine appendages for the relief of bleeding fibroids.

With his great intelligence and broad knowledge, Mr. Tait unfortunately gave no attention to personal hygiene. He was a good deal of a gourmand. He possessed an extraordinarily vigorous stomach which made no protest notwithstanding the enormous quantities of foods and wines as well as stronger liquors which he consumed at dinner. His gross eating habits were doubtless responsible for his premature death at the age of 54 after having previously submitted to an operation for removal of renal calculus.

His last medical paper to be published was entitled "The History of a Sore Kidney"—his own.



# Tait McKenzie's Medical Portraits

By HENRY W. CATTELL, A.M., M.D.

Overseas Member of the Authors' Club, London, England; Philadelphia

THOSE medical men are most fortunate who have some outside interest, or avocation, as a change from the exacting conditions incident to their routine medical duties. In the case of Prof. R. Tait McKenzie, of the University of Pennsylvania, his talent for modelling has developed into a second profession, in which his future reputation has now been firmly fixed as one of the greatest living masters of sculpture. Portraits and medals in bas-relief, statues of athletes in action and at rest, and memorials of the Great War have come in a constant stream from his hands.

As a young practitioner Doctor McKenzie became interested in anatomy, teaching this subject at McGill University, Montreal, and also lecturing on artistic anatomy there as well as at the Harvard Summer School. His first figure, "The Sprinter," was shown at the Paris Salon in 1902, since which time he has produced a series of statues and statuettes of athletes, a field for which he is particularly well-fitted, owing to the advantageous opportunities arising from his official position as Director of the Department of Physical Education in an institution dominating in athletics and in which there are some 15,000 students in attendance.

During the late war Major McKenzie served in the Royal Army Medical Corps as the commandant of a great convalescent camp in England, during which time he devised various appliances for muscular reëducation that are now being widely used in England, America and Japan. After the war he resumed his teaching position and his creative work in sculpture, and he has since then completed a series of war memorials for Canada, the United States, and England, his most noteworthy pieces being the recently erected Victory Memorial in Cambridge, England, and the Scottish Memorial, not yet in place, which is to go to Edinburgh as a tribute from the Scots of America to commemorate Scotland's war efforts.

The writer is indebted to Doctor McKenzie for furnishing the necessary data for the preparation of the sketches which follow.

## MEDICAL PORTRAITS OF R. TAIT MCKENZIE

The first portrait medallion made by Doctor McKenzie was that of **DR. WILLIAM HENRY DRUMMOND**, modelled in about 1903, from life, and completed in 1907, as a memorial for the Western Hospital, Montreal. Its size is fourteen inches. A few reductions were made for the family, one of which is in the Surgeon-General's Library, Washington.

The medallion is in profile, facing left, showing head and shoulders, and the inscription reads: "William Henry Drummond, 1854—



WILLIAM HENRY DRUMMOND  
(1854-1907).

1907, Creator of *Johnnie Courteau*, *Old Doctor Fiset*, *Philorum Juneau*, *The Curé of Calumet*, *Poleon Doré*, *Josette* and *Little Bateese*. From his friend, R. Tait McKenzie, *Souvenir du Vieux Temps*."

Artist and author were young practitioners in Montreal and intimate friends, and Doctor Drummond's poems in French Canadian dialect were often first read in the studio in manuscript. They were afterwards published in four volumes, "*The Habitant*," "*Johnnie Courteau*," "*The Voyageur*," and "*The Great Fight*," the last one posthumously, by his widow, containing a reproduction of the medallion. These poems have had a wide circulation and have

made a permanent place in literature. They breathe the humor and pathos of French Canada as no books have ever done before.

DR. DUDLEY ALLEN SARGENT was modelled (twelve inches in diameter) in 1907 for the Alumni Society of the Sargent School of Physical Education, Cambridge, where the original is placed. Reductions were made, two inches, and one hundred copies issued to sub-



DUDLEY ALLEN SARGENT  
(1861-1924).

scribers. The portrait is in profile, facing left, and shows head and shoulders. The inscription reads, "Dudley Allen Sargent, Pioneer in Physical Education, 1907."

Doctor McKenzie was a student in 1890, and afterwards a lecturer, at the Harvard Summer School, and kept up a warm friendship with Doctor Sargent till his death in 1924, presiding at the Testimonial Dinner to celebrate his fiftieth anniversary, 1913, in Boston.

FRANCIS KINLOCH HUGER, in the hall of the Medical Building, University of Pennsylvania, was modelled (diameter, eighteen inches) in 1909, the inscription reading, "To commemorate the daring attempt to rescue the Marquis de Lafayette from the Fortress of Olmutz, by Francis Kinloch Huger of the Class of 1797."

Besides this inscription are the dates, 1773-1855, his birth and

death, and the portrait showing him in the wig, coat and jabot of that period. The actual portrait was modelled from a descendent of the first ambassador to Austria and a kinsman of Huger.

This romantic story has been told on many occasions, such as in the *Century* for November, 1911, and the references to Huger have been collected by the University of Pennsylvania, and include the speeches in full of Dr. Allen Smith, Dr. J. William White, and Dr.



FRANCIS KINLOCH HUGER  
(1773-1855).

Wharton Sinkler at the unveiling. The actual unveiling was done by Elizabeth Huger, of Roanoke, Va., a great-granddaughter. A few reductions to three inches were made for interested friends, and one copy sent to the Surgeon-General's Library, Washington.

DR. S. WEIR MITCHELL was modelled from life in 1909. The plaque is 28 x 16" and shows him in cap and gown, three-quarter length, his right hand holding a book, his left hanging free. The inscription reads, "S. Weir Mitchell, Physician, Poet, Man of Letters, 1909."

A variant was modelled in 1915 for the Franklin Inn Club in the same pose, but without the cap, and the inscription changed to read, "S. Weir Mitchell, M.D. Padua, LL.D. Edinburgh. Physician, Poet, Novelist, First President, MCMII-MCMXIV, of the Franklin

Inn," with a small inset of the signboard of the club. Supporting the figure are heads of Hippocrates and Homer, with garlands and swags. This bronze is in the Franklin Inn, and one hundred reductions in bronze (7 x 4") were made for members of the club.

A third variant was modelled in 1917 for the Library of the



S. WEIR MITCHELL  
(1830-1914).

University of Pennsylvania, with the name at the bottom, "S. Weir Mitchell, M.D., LL.D., 1830-1914" and on the ground, "Physician, Poet, Man of Letters, a Trustee of this University, 1875-1911," with the University Seal beneath.

DR. W. W. KEEN, modelled in 1909: Three-quarter figure, 28 x 16", in Edinburgh LL.D. cap and gown. He is facing the right, and the portrait shows both hands in action, as if lecturing. The

name William Williams Keen is at the bottom and on the ground, "Chirurgiae anatomiaeque magister, anno aetatis LXXIII" in Gothic lettering. Four copies of it were made for his family and a reduction 7 x 4" for some friends.

It was enlarged to life size, 26 x 24", and restudied for Brown



WILLIAM WILLIAMS KEEN  
(1837- ).

University, of which he is a trustee and distinguished alumnus, and the large bronze is mounted on a marble setting, and placed in a corridor of the library.

**NATHANIEL CHAPMAN** and **SAMUEL JACKSON**.—By his will Samuel Jackson left a sum to be devoted to a memorial to himself and his friend and predecessor in the chair of Physiology of the Institutes of Medicine at the University of Pennsylvania, and the

two life-size portraits, three-quarter figure, were modelled in 1909 to carry out this bequest. They are in mezzo relief, and flank the door leading to the lecture theatres from the main hall of the Medical Building of the University of Pennsylvania.

Nathaniel Chapman is shown facing the right, standing erect and reading from some loose leaves held in his right hand, his left is



NATHANIEL CHAPMAN  
(1780-1853)



SAMUEL JACKSON  
(1787-1872)

holding a book which lies on the table in front of him. He is dressed in the fashionable dress of the period, with swallow-tailed coat and stock. On the ground is the following inscription: "Nathaniel Chapman, Professor of Materia Medica in this University, 1813. Institutes of Medicine, 1816. He occupied with distinction the Chair of Theory and Practice of Medicine from 1835 to 1850." The crowned serpent and staff of Egypt, symbol of medicine, is used as a decoration, and also the Seal of the University.

Samuel Jackson is shown facing left, leaning on a high desk, with folded hands. He is dressed in frock coat with high collar and tie. On the ground is the following inscription: "Samuel Jackson,

for twenty-eight years Professor of the Institutes of Medicine in this University, 1835 to 1863," with the Seal of the University beneath.

The addresses at the unveiling were made by Dr. S. Weir Mitchell on Doctor Chapman, and Dr. James Tyson on Jackson, and the tablets were presented by Provost C. C. Harrison, and accepted by Dr. Allen J. Smith, as Dean of the Medical Department. The full proceedings were reported with illustrations of the tablets in "Old Penn," April 9, 1910.

**DR. WILLIAM GARDNER, PROFESSOR OF GYNECOLOGY, MCGILL UNIVERSITY.**—This portrait was made for his family, and is a plaque



**WILLIAM GARDNER**  
(1845- ).

in low relief, life size, showing head and shoulders, facing right. It is now on loan in the Art Gallery, Montreal. It bears the simple inscription, "William Gardner," beneath, and on the ground a small decora-



tion, the Egyptian crowned serpent and staff, surrounded by a wreath. It is considered one of the most successful portraits which Doctor McKenzie has modelled.

CRAWFORD W. LONG, 1911.—Every ten years or so the controversy about the discovery of ether as an anæsthetic breaks out anew, and in 1911 the whole question was gone over, and the facts aired



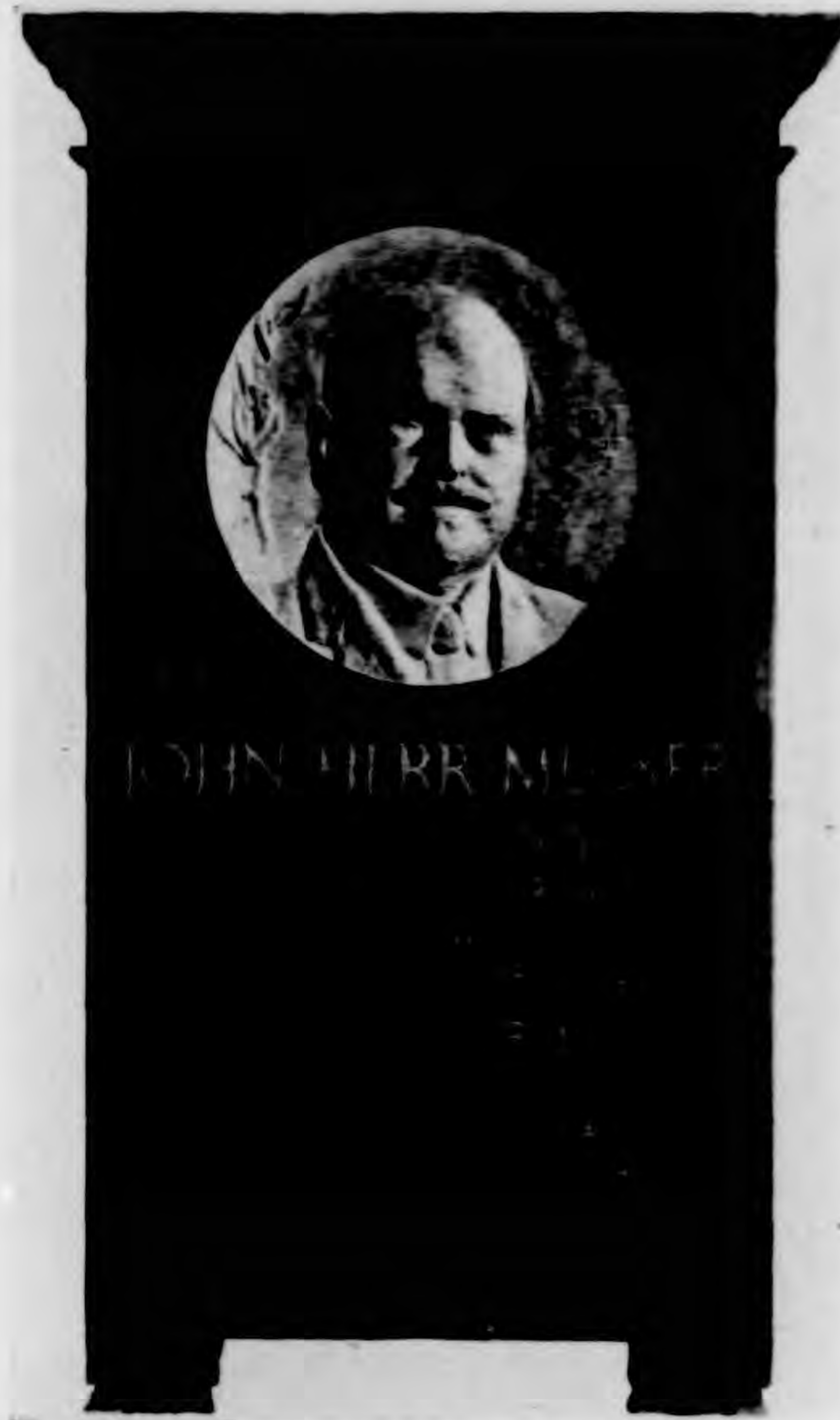
CRAWFORD W. LONG  
(1815-1878).

once more. The occasion was the unveiling in the Medical Building of the University of Pennsylvania, of Dr. Tait McKenzie's medallion of Crawford W. Long, by his daughter, Mrs. Taylor, who came from Athens, Ga., for that purpose.

There would seem to be no doubt that Doctor Long used ether in surgery first, in spite of what may be said of the publication of the fact to the medical world, four years later by Morton in Boston.

The medallion, eighteen inches in diameter, shows him as a young man. He is leaning forward, facing the left, in his right hand is a bottle from which ether is dripping on a towel which he holds, with his left hand, over the face of the patient. The likeness was taken from a crude pencil drawing, made from life shortly after his graduation. The inscription reads: "To Crawford W. Long,

first to use ether as an anæsthetic in surgery, March 30th, 1842, from his Alma Mater." On the ground the dates of his birth and death, 1815-1878, and beneath, on a tablet, "Class of '39, Pennsylvania." From each side of the tablet spring leaves and pods of poppy. The proceedings, including the speeches and facts of the controversy, were published by the University at the time and attracted wide attention. A few reductions, three inches, were made. Some years later, a variant was made for Dr. Jos. Jacobs, of Atlanta, Ga., who presented it to the University of Georgia at Athens, where it is mounted in an upright stele in the open air. The inscription is changed to record the fact that he was a graduate in Arts of the University of Georgia.



JOHN HERR MUSSER  
(1856-1912).

A portrait, in medallion form, of **PROF. JOHN HERR MUSSER**, twelve inches in diameter, head only, full face, was made in 1914 and

is much more characteristic and life-like than a previous one in profile made in 1913, it has been chosen here for reproduction. On the ground is a sprig of laurel. The bronze medallion is mounted on a tablet of oak, which bears the inscription in gilded letters, "To John Herr Musser, who founded the Social Service of the University Hospital. This Memorial is erected as a pledge that his work for humanity shall live." Signed by monogram, R. T. M., 1914. It hangs in the out-door service waiting-room of the hospital.

DR. HORATIO R. STORER, modelled in 1912 as a gift, bears the inscription: "To the Master in Surgery, Medical Numismatist, and



HORATIO R. STORER  
(1830-1922).

Lover of Man and Nature. Horatio R. Storer, M.D., LL.D. From his friend, R. Tait McKenzie, M.D., 1913."

Doctor Storer was the well-known collector of medical medals

and his home, at Newport, was a Mecca for all numismatists. His large collection was presented to the Boston Medical Library on his death in 1922 at the advanced age of ninety-two. Five copies of the original plaque, 13 x 10", were cast, one of which is in the American Numismatic Society. A 2¼ x 3" reduction was made for friends and about fifty distributed. See "Numismatic Circular," Spink & Sons, and *Numismatist*, November, 1922.

During the war, Dr. Tait McKenzie was associated for several months with SIR ROBERT JONES in connection with the Orthopaedic



ROBERT JONES  
(1858- ).

Centres and Command Depots for the care of wounded men in England. A warm friendship ensued and he modelled a plaque,

14 x 11", showing head and shoulders, facing right, in uniform with the badge of the Royal Army Medical Corps. The inscription below reads, "Robert Jones." On the ground, "Knight Commander of the Bath. Lt. Col. Royal Army Medical Corps, F.R.C.S.E., F.R.C.S.I., Inspector of Orthopædies. From his friend, R. Tait McKenzie, 1917." A few reductions (5 x 7") were made for friends. After that date Sir Robert became Major-General and received many other well-merited honors in America and Great Britain—medical, military, and civil.

**DR. WILFRED GRENFELL, OF LABRADOR.**—The medallion is eight inches in diameter, head only, facing left. This was modelled from



WILFRED GRENFELL  
(1865- )

life in two sittings, in the autumn of 1917, as a gift for Mrs. Grenfell, during a visit to Philadelphia, and several copies were made for friends.

**DR. J. WILLIAM WHITE'S** medallion is twelve inches in diameter, showing head and shoulders, facing left, in cap, hood and gown of an LL.D. Aberdeen, his favorite academic honor. This portrait is a high

relief, and was modelled to go in the wall of the fountain in Rittenhouse Square, where a special setting in stone was designed for it by Paul P. Cret. It was placed there to carry out a bequest that a modest memorial be erected to commemorate his active interest in the improvement of the square.

A replica, with the inscription, "J. Wm. White, M.D., LL.D."



J. WILLIAM WHITE  
(1850-1916).

on the ground is to go in the surgical wing that bears his name in the University Hospital, Philadelphia.

Doctor White was John Rhea Barton Professor of Surgery at the University of Pennsylvania, a public-spirited citizen, a writer and lecturer of distinction, much interested in athletics, and a warm friend of the artist.

**SIR WILLIAM OSLER.**—This memorial medallion, three-quarter figure, facing right, thirty-eight inches diameter, was modelled in 1923, for presentation to Johns Hopkins Hospital by the men who served under him as house physicians from 1889 to 1905.

It shows Sir William standing before a table on which are books and a microscope which he is adjusting with his left hand, his right hand is in a characteristic pose, resting easily on his hip, and he is

looking down, as if considering his next sentence in the Clinical Lecture he is giving. The inscription reads, "William Osler, Physician in Chief, 1889-1905. A tribute from his associates and assistants at Johns Hopkins." It is signed by monogram, R. T. M., 1923. It was unveiled January, 1925, in a temporary position, on the wall of the lecture room of the Johns Hopkins Hospital, pending the completion of the new building. This is the room in which he lectured



WILLIAM OSLER  
(1849-1919).

daily to his medical classes, until he went to take the Regius Professorship of Medicine at Oxford, 1915, where he remained till his death, 1919.

For seventeen years (1902-1919) Doctor Osler was one of the collaborating editors of the *INTERNATIONAL CLINICS*, and during this time always stood ready with his advice and pen to further the interests of this quarterly. His autobiography by Harvey Cushing, of Boston, is just off the Oxford Press, and the memorial volume gotten out by the American and Canadian Branch of the International Association of Museums, of which Doctor Osler was one of the originators and president, will be issued around July first of this year.

The CHEVALIER JACKSON medallion is twelve inches in diameter, facing the left. It was modelled from life as a personal tribute of admiration to Doctor Jackson.

On the ground is the inscription, "Chevalier Jackson, Master of



CHEVALIER JACKSON  
(1865- ).

His Art," in reference to his remarkable work in the removal of foreign bodies from the trachea and lungs, as well as his fame as a laryngologist. It is signed with the monogram R. T. M., 1925.



Esculapius medal, modelled in 1923, for Dr. Edward B. Krumbhaar, for annual presentation to the medical student of the University of Pennsylvania, who best distinguishes himself in medical research. (Reduced.)



# PERSONAL • GLIMPSSES

## A RED-LETTER DAY FOR RED AMERICANS

**A** "AMERICAN INDIAN DAY," the fourth Friday of each September, is being celebrated this year on September 28, with a very real nation-wide awakening as to what the red man means to those who have "adopted" his country, and what the invaders owe him. There is hope that it may become a real "red-letter day" in the history of the Indian, announces the editor of the *Dayton Journal*, as a result of the recent great meeting, in New York City, of a number of associations interested in Indian welfare. A particularly favorable sign, adds the *New York Times*, is found in the report of the Committee of One Hundred, appointed some months ago by Secretary of the Interior Work, to confer on Indian problems. They are drawing up a "Program of Rights" for the American Indian, or the "Amerindian," as a good many ethnologists and historians are beginning to call him. The amount of our culture which we have derived from these "original landlords of America," the real nobility of much of the aboriginal attitude toward life, finally the present state of our Indian population, these authorities agree, make them worthy of more intelligent treatment than they have had. The basis of the Committee's report, as stated by Dr. Herbert J. Spindin, of Harvard University, seems to be that we ought to develop, rather than destroy, "their pride of race," and that they "should be encouraged and permitted to undertake as great a degree of self-government as possible." These are both ideals for which the Indians themselves have been working through the American Indian Association, and, more recently, through the first Indian school in the United States to be conducted by Indians for Indian children, now operating in Minneapolis.

An unusually vigorous appeal for better days for our autochthonous population is presented by William S. Hart, the screen star, well-known Western hero of a hundred "movie dramas," who, incidentally, is able to speak one of the six Indian languages. He has been elected one of the vice-presidents of a new association, The American Indian Order, with headquarters in Indianapolis. Mr. Hart writes a special "American Indian Day" appeal in *The American Indian Tipi*, a journal published by the American Indian Association. With the apology that he is no wielder of the pen, Mr. Hart proceeds:

The Indian—the red American Indian—who once was monarch of all he surveyed; who once was the host and the white man the guest; who once owned nothing except all the land that the United States stands on, and who now lives a supplicant for American citizenship, and is denied!

Living in the dark does not help one to see the light. And our red brothers are living in the dark. They can not understand. How can they?

When first they fought us in defense of their land and homes—and whipt us—it was called a massacre. When we fought and whipt them—even to shooting down old Indians, squaws, and papooses in the snow—it was called a battle. The battle of the Washita! And when a tender-hearted officer remonstrated at firing on children hiding in the brush, he was told by his commander—"Nits breed lice!" Yet in the late war ten thousand of these red people volunteered, went overseas, and fought like what they are—Americans.

When I spoke on a Liberty Loan trip at Brooklyn, New York, the whole City Hall Square was packed with over twenty thousand loyal Americans—all with upturned eager faces, ready and anxious to do their bit to help put over the biggest war in history.

An example of the war's cruelty was carried to the platform. One of the committee informed me, "Here's a poor, mangled Guinea—show him to the crowd." I looked at the "poor, mangled Guinea." He was an American Indian—and they did not know!

There are many different Indian languages, but I took a chance. I spoke to him in Sioux, the language of the Dakotas, which, as a boy, I could speak fluently. It was the language of his people. He straightened his bent body. His blue, sweated, trembling chin stood still—and a heavenly light came into his clear, brown eyes. Tears came forth, and they must have come from heaven, too!

I asked him in English if he was in pain. He replied, with a pitiable attempt at smiling, "She feel better—some time—when she stop hurtin'."

I could not speak. My hand gript his shoulder. He looked at me and saw my weakness. And to this broken soldier of the trenches must have come a vision of the far-away prairies and the stoicism of his people, for he said in Sioux—slowly, deliberately,

proudly—"A ta, nena O he ta ka"—(Our fathers were brave men).

We have left, scarcely, three hundred thousand of these Americans. They are decreasing at the rate of over two thousand a year.

They venerate the sun, the moon, and the stars. They climb to the highest mountain peaks to talk and to pray to the great Wakan (our God). Their language is beautifully expressive and seems to signify its meaning in the sound—and because they talk so little their words have a peculiar force.

Their morals are beyond question.

They love their children. I have never seen a greater picture than a Sioux infant at its mother's breast, while she crooned to it "Ko Ke pa Shna—Ko Ke pa Shna"—(Do not be afraid—do not be afraid).

Their word once given is never broken. The much-quoted term—"Lie like a Sioux"—is an infernal, villainous falsehood that found birth in some charlatan's brain.

They are hospitable, kind, and generous, and their courage is God-given.

I have seen this in the handwriting of General B. F. Benteen, Seventh Cavalry, United States Army, who fought all through the Indian wars, in commenting on the Custer fight in which he took part as captain: "We were outnumbered, and by Sioux warriors—the greatest fighters that the sun ever shone on."

These Americans want American citizenship. What can we



A REPROACH AT THE DOOR

—Yardley in the Stockton (Cal.) Record.



On the floor is shown Rug No. 534. The 9x12 ft. size is only \$18.00.



Facsimile of the Gold Seal which is pasted on the face of every genuine guaranteed Gold-Seal Congoleum Rug.

## For Some Room in Every Home—

What a charming room!—rich in atmosphere yet so homelike in its detail. Quaint balcony, intimate fireplace, gay cretonnes—and a Congoleum Rug to set it all off!

'No matter whether it's a room in a cozy apartment, city home, summer cottage or farmhouse, there's an appropriate <sup>Gold Seal</sup> Congoleum Rug for it. There are designs for every room—rich, elaborate, Oriental motifs for living rooms and dining rooms; dainty floral effects for bedrooms, and neat blue-and-white and brown-and-white patterns for bathrooms and kitchens.

These attractive rugs require so little care—a boon to the woman who does her own work! A light going-over with a damp mop and they are spotless. And they cling tightly to the floor as though they were a part of it—never turn up at the corners or edges.

Ask your dealer to show you these rugs for you must see them to appreciate them fully. You will be amazed at the very low prices.

6 x 9 ft.	\$ 9.00	The pattern illustrated is made in the five large sizes only. The small rugs are made in other patterns to harmonize with it.	1½ x 3 ft.	\$ .60
7½ x 9 ft.	11.25		3 x 3 ft.	1.40
9 x 9 ft.	13.50		3 x 4½ ft.	1.95
9 x 10½ ft.	15.75		3 x 6 ft.	2.50
9 x 12 ft.	18.00			

Owing to freight rates, prices in the South and west of the Mississippi are higher than those quoted.

### CONGOLEUM COMPANY

INCORPORATED

Philadelphia    New York    Boston    Chicago    Kansas City  
 San Francisco    Minneapolis    Atlanta    Dallas    Pittsburgh  
 Montreal    London    Paris    Rio de Janeiro

Gold Seal  
**CONGOLEUM**  
 ART-RUGS

do? Abolish the Indian Bureau—where millions are being spent yearly to keep the Indian in subjugation.

He is subjugated. What he wants is freedom and the endowment of his birthright—American citizenship!

Let us spend some of those millions now being squandered on political jobs in the Indian department on the Indians themselves. Let us give them something for all that we have taken from them.

The Indian Bureau, even tho, apparently, it is not in favor of its own abolishment, is reported to have been behind the scientific bodies which met recently "for the purpose of discussing a Magna Charta for the Indians, and to outline general principles that should direct the United States in dealing with them." The Bureau is reported to be eager "to hear constructive criticism of its old policy, offered in a friendly spirit," since, to quote the *New York Times*:

The recognition that some of these policies have not proved successful or are now obsolete, due to changed conditions and the recent appointment of a Committee of 100 by the Secretary of the Interior, furnished opportunity for a constructive reconsideration of Indian policy.

The discussion, presided over by Warren K. Moorhead, Indian Commissioner appointed by President Harding, took up education, industry, health and sanitation, land tenure, irrigation, religion, self-government, and the organization of administration and inspection. The report urged, in the first place, that, even tho the Indian should be educated in the arts and sciences of to-day, no attempt should be made to "civilize" him "by killing his Indian psychology and his consciousness of race." With regard to the industrial policy, it was urged that more use should be made of "the Indian genius in painting, sculpture, music and literature," which were said to be such as to be able to provide "a genuine contribution to the sum total of Americanism." These arts, the report says, "have never been developed under disinterested supervision." Every effort should be made to maintain for the Indian his title and land, and special care should be given not to expose him to certain white man's diseases to which "the Indian has no natural immunity." Religious freedom should be the same for him as for the white man, it is argued further. No churches should be allowed to coerce him, and "it should not be assumed without proof that a ceremony is immoral or unsanitary without expert evidence to this effect." The Conference decided, in conclusion, that:

A change in method in the mechanism of Indian administration was not so important as a change in view-point, to bring about better conditions for the Indian. Responsibility to enlightened opinion and increased cooperation between Congress and the Indian Bureau were urged as the best hope of the proper administration of Indian affairs.

The Secretary-in-chief of the American Indian Association, the Rev. Red Fox St. James, has sent out a call to make "American Indian Day" a national holiday, to be observed on the fourth Friday of each September. It is already a legal holiday in several

States, due chiefly to the Indian educator's trip on horseback through the country in 1914, when he called on the Governors of a score of States, and argued for the new national holiday. He presents the Indian position in an appeal which appears in a number of newspapers and periodicals. We quote from the version that appears in *The North American Tipi* and *The Rocky Mountain News*:

The first word the Pilgrim fathers and the Jamestown colonists and William Penn heard from Indian lips was "welcome." They were the same type then of whom Columbus wrote to his sovereigns, the King and Queen of Spain: "There is not a better people in the world than these, nor more affectionate, affable, and mild. They love their neighbors as themselves."

Let us recall some of the things the Pilgrims got from the Indians. The list is not without interest to us all, for we celebrate our Thanksgiving largely in Indian fashion.

Beginning with furnishings of the frontier home they were "skins tanned after Indian methods, cornhusk mats, cornhusk mattresses, pillows of wild duck feathers, brushes of turkey feathers, birchbark boxes and baskets, basswood bowls, woven willow baskets and chairs cunningly backed and seated with the pliable inner bark of hickory."

Then came the great staple, corn. The Indian had developed four or five distinct varieties of it, suited to various conditions of soil and climate. It could be planted in unplowed ground, which could not be done with any of the grains the Puritans brought with them. It could be cultivated in the hills, it could be eaten before it was ripe, it could be harvested and cared for easily compared to wheat or oats, it could be cooked without milling.

The Indian had not stopt with corn. He evolved a perfect garden combination of corn and beans—and squash; the beans to twine up the cornstalks without other aid, the squash to shade the ground between the hills and keep down the weeds, and all were cultivated with one hoeing.

Not only so, but the Indian had learned to cook his corn, and most of the following names are Indian names: Hominy, scrapple, succotash, pone, ash-cake, butter popcorn (battered with hickory nut oil). The Pilgrims learned about pumpkin pie from the Indian. The Indian had a dish of "stewed" pumpkins sweetened

and combined with dried berries and nuts, substituting cornmeal for pumpkin. The Indian produced the favorite dessert known as Indian pudding. The Indian had discovered maple sugar, that was new to the aliens, as well as cranberries, celery and oysters. Imagination halts before the first contact of the European with the "quahang," or hard-shell clam—tho they were quick enough to adopt clambake and chowder when the Indian made them known. Buckwheat cakes, the Indian taught the first settlers. The Indian made a nut-butter, which is similar to the nut-butter on the market to-day, of hickory nut kernels pounded in a mortar.

Many of the Indian dishes, the writer points out, when worked out, made a great contribution to the joy of living in Europe and were handed down to the white Americans of to-day. Also:

The Indian had contributed more than corn, potatoes, sweet potatoes, tomatoes and other vegetables and maple sirup—to say nothing of tobacco, which the white man enjoys in his leisure hours and for which the whole world is greatly his debtor. The Indian inventor has also to his credit the snowshoe, the birchbark canoe, the moccasin, to say nothing of his wonderful blan-

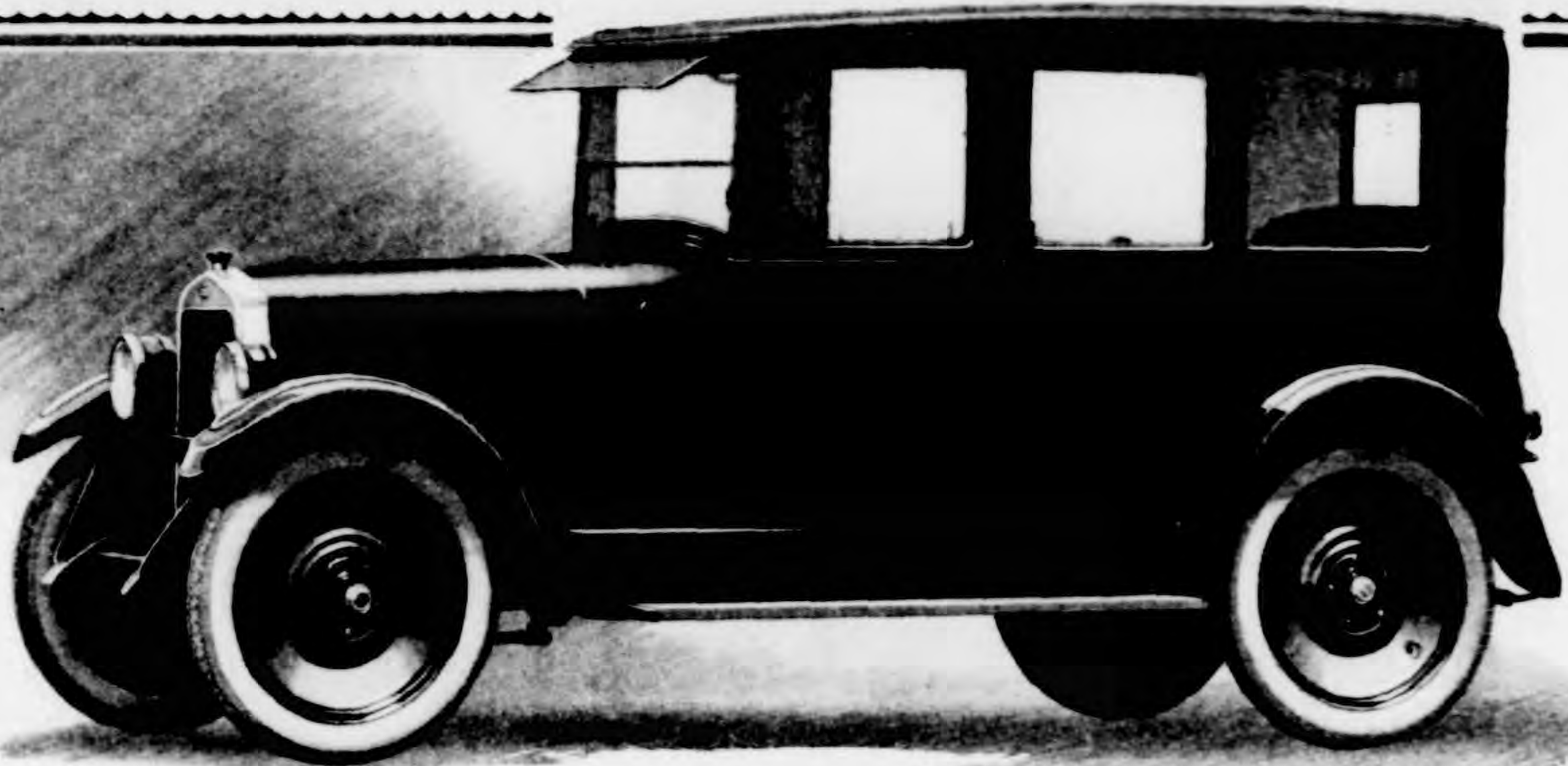


THE ORIGINATOR OF "AMERICAN INDIAN DAY"

The Rev. Red Fox St. James, whose Indian name is "Skiuhushu" (meaning "Red Fox"), presents a powerful appeal for more consideration for "the original landlords of the United States." He is shown here in his tribal costume of the Northern Blackfeet, accompanied by his daughter.

Brand New and True Blue

# Oakland "6"



## Inspect Its Four-wheel Brakes! See Its Brand New Engine—Its Beautiful New Bodies!

From axle to axle—this True Blue Oakland is *new!*

For two years—Oakland engineers and General Motors experts have labored, without handicap or stint, to produce the finest light-six in the world.

And now, it is here—ready for your inspection!

It has a brand new engine—smoother, quieter and more powerful.

Four-wheel brakes provide the very ultimate measure of safety. They are sound, simple and practical, requiring much less attention than the conventional two-wheel brakes.

Fisher-built bodies of rare beauty and luxurious appointments grace every model.

See it—inspect it—compare it! Let your Oakland dealer point out its centralized controls, its new type of permanent top and the many other exclusive features that stamp it—

—the greatest dollar-for-dollar value in the entire automotive market.

*Roadster Touring Car Sport Roadster Sport Touring Business Coupe 4-Passenger Coupe Sedan*

OAKLAND MOTOR CAR COMPANY, PONTIAC, MICHIGAN  
*Division of General Motors Corporation*



### Watch for the True Blue Travelers

A fleet of "True Blue Travelers"—of which the Brand New Oaklands are exact counterparts—is engaged in a nation-wide demonstration! With thousands of miles of test service already on their speedometers—they are out to demonstrate, at first hand, the high quality of Oakland construction, and the remarkably efficient performance buyers may expect from their True Blue Oaklands.

kets. But that is not all. Our American Government learned practically all the strategy of modern warfare from the Indians. Also the United States Army tents are patterned after the styles of Indian tepees.

General George Washington gave tribute to the Indians. In 1775 the Continental Congress, in the midst of the war of the Revolution, realized the deadly danger of the enmity of the Indians. Congress agreed to make friendship, with these words:

"That the securing and preserving the friendship of the Indians appears to be a subject of the utmost moment in these colonies."

The very first treaty made by the Continental Congress, acting for the United States of America, was a treaty made with the Delaware Indians, who were head of the Confederated Indian Tribes. In that treaty, after the help of the Indians was guaranteed, the hope was held out that a State would be created and the Indians assured possession, with representation in Congress. The hopes of this treaty are still awaiting fulfillment by the Indians, in some form or other. So important was the help of the Indians—they fought in great numbers—that General George Washington declared that if they had been enemies instead of friends, the Revolution would not have ended in American independence.

Thousands of Indians fought in the Civil War in aiding to preserve the Union and free the negroes. On the staffs of General Grant, General Parker and General Logan were Indians.

In the Spanish-American War the Indians helped to protect the American flag.

To-day in the United States there are about 500,000 Indians, of whom 336,000 are registered by the Indian office. Of these less than half are pure blood.

There were 17,000 Indians in the World War, 85 per cent. were volunteers, 15 per cent. were drafted. We had about 4,000,000 American soldiers in the World War—making it 4 per cent. of the entire population of the United States.

The Indians had at the least 5 per cent., yet the American Indians are not citizens. It was even necessary to pass a special legislative enactment in order that they might have a right in their own native land to apply for citizenship. Only Congress has the power to give citizenship to the Indians.

Ten American Indians were given the Croix de Guerre. One hundred and fifty were decorated for bravery. One Indian, offering himself as a living sacrifice for world freedom, stripped, painted himself in protective coloring and crept across open fields, exposed to enemy gun-fire, placing a bomb to a bridge the Allies could no longer defend. He checked the enemy by that act, saved the battle-line, and died there! Other warriors are cited:

One winner of the Croix de Guerre was Sergt. O. W. Leader, pure Indian of Oklahoma. He was selected by the French Government as the model original American soldier, of whom an oil painting was made to hang upon the walls of the French federal building with those of all Allied races.

There were 10,000 Indian members of the American Red Cross; 100,000 garments were knitted by Indians. One old Ute Indian woman had sold to the Red Cross her one possession of value—an exquisite example of basket weaving. It brought her \$513. She was over seventy-five years of age. The money was carefully divided by her in two portions and the larger portion was given for war service. "I am old," she said, "the \$13 will be enough for me."

"In the fifth or Victory loan the Indian applications for Liberty bonds were to the extent of nearly four millions, making their total subscription \$25,000,000, or \$75 per head for the entire Indian population."—Department of Interior, Report 1919—Vol. II.

Should not the American people consider all these things as a tribute to these first Americans on "American Indian day?"



**HE APPEALS FOR NATIVE AMERICANS ON "AMERICAN INDIAN DAY"**

This is a scene from a screen drama, but "Bill" Hart, here shown leading the horse of Chief Standing Bear, is also a leader of the Indians in real life. As a vice-president of the American Indian Association, he has issued a stirring call for justice for the red man.

The call for observation of "American Indian Day" has gone out from the Minneapolis headquarters of the American Indian Association. It runs in part:

We, the first natives of this land, everywhere welcomed those that become Americans. Let all Americans remember this. Hostility did not come until the white man wronged the red man. Why not all observe Indian Day as any other great memorial day is observed? Our forefathers were the earliest Americans, and their contribution of a distinct type (as we are) enriches the great composite white citizenship. American Indian Day is chosen after a careful study of the time of the year when all have returned from vacations and camp life in the great outdoors, reminding them of the great outdoor life our people enjoyed before the white man came. It is in the season of the "hunting moon"; it is near the time of Indian summer, when spring and summer have perfected the year with blossoms, flowers, fruit and vegetation through nature's plan. It is the corn festival and home-coming days and council ceremony for all the

tribes. It is that time of the year when nature has made herself known in fulness for all her children.

The new Indian school in Minneapolis, the first in history to be operated exclusively by Indians, is financed by the American Indian Order and the American Indian Association, two organizations said to contain 14,000 members. The superintendent is the Rev. Red Fox St. James, or Skiuhushu, as he is known to the Indians. According to the *Minneapolis Tribune*:

Minneapolis was chosen as a site for the school because of its central location in respect to Indian population. There are 11,000 Indians in Minnesota, 15,000 in Wisconsin, 9,000 in North Dakota and 22,000 in South Dakota.

In establishing the institute, the superintendent declared that the Indian children should be given an education and allowed to be among white people, where they could work "shoulder to shoulder, free and equal in all things." The Indian should be taught to think for himself and to work for himself, he said, adding that the Indians do not want pity, but recognition, justice and freedom.



# To manufacturers of quality products

## How to help your salesmen meet price competition

**CHEAP-SUBSTITUTE** competition is the bugaboo of every manufacturer of quality goods.

We, too, manufacture high-quality products—lubricating oils for plant machinery. We suggest that your salesmen

may be interested in the following line of arguments which our own salesmen use successfully in meeting price competition. Very possibly your salesmen will find that they can adapt some of these points to their own selling.

### We say:

<p style="text-align: center;">• 1 •</p> <p>The value of high-grade lubricating oil does not show in the check your cashier mails for it. It shows in the net profits your treasurer distributes at the end of the year.</p> <p style="text-align: center;">• 2 •</p> <p>The Vacuum Oil Company offers you the most <i>economical</i> lubrication you can buy. Not always in price per gallon, but in the thing you really pay for—<i>lubrication results</i>.</p> <p style="text-align: center;">• 3 •</p> <p>The time to judge the value of high-grade lubricating oils is not when you are billed for the oil, but when you come face to face with the savings—power saved, repair bills saved, production assured.</p>	<p style="text-align: center;">• 4 •</p> <p>The bargain hunter, temporarily proud of his cheap lubricating oils, forgets that repair bills and replacement costs are included in the bargain.</p> <p style="text-align: center;">• 5 •</p> <p>As a manufacturing problem, it is far more difficult for us to produce high-grade oil which will effect operating economies than to make cheap oil to sell at a price.</p> <p style="text-align: center;">• 6 •</p> <p>We could manufacture and sell any grade of lubricating oils that we choose. We consult your best interest when we manufacture high-grade oils. You consult your best interests when you use them.</p>	<p style="text-align: center;">• 7 •</p> <p>Your plant will profit more from the use of our high-grade oils than we do from their making.</p> <p style="text-align: center;">• 8 •</p> <p>Plants where real economy is practiced tell us they judge lubrication by its ultimate savings—not its initial cost. Executives of such plants say—"We buy the best lubrication we can get regardless of cost"—"We find the cheapest oil to be the oil that lubricates most"—"A few cents more per gallon is nothing compared to the cost to us of a single over-heated bearing." "Our long use of high-quality oils has cut in half the annual depreciation on our engines and machines."</p>
--	--	---

**AS** specialists in the manufacture of high-quality lubricants, for over half a century, the Vacuum Oil Company is dedicated to a broad service:

To help secure the fullest operating profits from every known type of engine and machine for every industry in every country.

**Domestic Branches:**

- |                           |             |                  |
|---------------------------|-------------|------------------|
| New York<br>(Main Office) | Boston      | Chicago          |
| Philadelphia              | Detroit     | Pittsburgh       |
| Indianapolis              | Minneapolis | Kansas City, Mo. |
| Milwaukee                 | Des Moines  | Dallas           |
| Buffalo                   | Rochester   | Oklahoma City    |
|                           | Albany      |                  |



## Lubricating Oils

*A grade for each type of service*

---

# VACUUM OIL COMPANY

---

# MICHIGAN TRADESMAN

Forty-fourth Year

GRAND RAPIDS, WEDNESDAY, MARCH 23, 1927

Number 2270

## MICHIGAN TRADESMAN

E. A. Stowe, Editor

PUBLISHED WEEKLY BY  
THE TRADESMAN COMPANY  
GRAND RAPIDS, MICHIGAN

(Unlike any other paper.)  
Frank, Free and Fearless for the Good  
That We Can Do.  
Each Issue Complete in Itself.  
Dedicated to the Best Interests  
of Business Men.

### Subscription Price.

Three dollars per year, if paid strictly  
advance.

Four dollars per year, if not paid in  
advance.

Canadian subscription, \$4.04 per year,  
payable invariably in advance.

Sample copies 10 cents each.

Extra copies of current issues, 10 cents;  
issues a month or more old, 15 cents;  
issues a year or more old, 25 cents; issues  
five years or more old 50 cents.

Entered Sept. 23, 1883, at the Postoffice  
of Grand Rapids as second class matter  
under Act of March 3, 1879.

### CHARLES HEMAN LEONARD.

Charles H. Leonard has gone to his last long rest, leaving behind him a host of sorrowing friends in whose hearts his memory will never die. He died as he lived, a forceful, dominating figure in the field of his life's work, which enabled him to create the largest refrigerator factory in the world.

To some who saw him only at his work he may have seemed at times brusque, but to those who knew him, he was kindness personified. He had burdens to bear—myriads of them; burdens which would have made nervous wrecks of many men, yet through them all he maintained a calmness and a poise, deliciously flavored with an inimitable sense of humor.

For several months Mr. Leonard had been gradually failing in health. His friends noticed it, and urged him to husband his strength, but the spirit "to do" was greater than the spirit "to heed." The death of his wife and brother, undoubtedly hastened the decline which culminated in his death. For the past several months that decline had been rapid, yet through it all he maintained his cheerfulness and labored on the details of his great work.

He passed away at his home in Grand Rapids, Tuesday afternoon, March 22. His work was finished; his labors done. He has left behind him a monument to his life, not shaped of cold, hard marble or bronze, but carved deep in the hearts of those who knew him and loved him.

### COTTON AND COTTON GOODS.

Although the final ginning figures of last year's cotton crop are to be made public to-morrow, the imminence of them had apparently little effect in influencing the quotations during the past week. In fact, it seems very doubtful if anything more than a tem-

porary flurry is likely to follow publication, whichever way the figures go. The general impression is that they will not vary much from the final estimates of the crop. The disposition of the crop becomes less and less of a problem with the passage of months, the taking by spinners being extremely large. Attention is now being directed toward the new crop. Planting will be somewhat later than usual because of the heavy rainfall over much of the growing sections, but this will be counterbalanced by the advantages of the subsoil moisture, which is abundant. How much reduction will be made in the acreage planted to cotton is as yet uncertain, but the highest estimates place this at no more than 10 per cent. The use of less fertilizer, however, is indicated. The market for cotton goods continues to be highly satisfactory to producers. Mills, converters and printers are all busy in filling orders, and they are well sold ahead. There has been a little slackening up in the sales of gray goods, but this is more than made up by the continued activity in those of colored and printed fabrics. In knit underwear the demands are now for quick deliveries because of the dilatory tactics of buyers earlier in the season. Orders for hosiery are a little fitful.

It is not news that English folk songs, no longer known in the land of their origin, have been discovered among our Southern mountaineers, but the number of these songs is somewhat surprising, since it reaches into the hundreds. An added fact of interest is that they are being restored to popularity through the efforts of the English Folk Dance Society. That a mass of these lyrics was carried into the backwoods of our mountain districts by early English settlers—not to be forgotten as they were in their original home, but to be preserved and eventually recovered—here is a tale as romantic as that told in many of these songs themselves. With the great world, even that part of it which almost impinged upon their fastnesses, shut out, these independent mountaineers kept alive the oral literature which they had brought with them across the sea. Not the smallest feature of the paradox of the decay of these songs in their homeland and their survival in an alien clime is the scorn which multitudes of well-educated persons felt for an untutored population which, as it happened, however unconsciously and obscurely, was rendering a rare service to scholarship and culture.

Florida's bank troubles will be regarded by the rest of the country with real distress. The State has won general sympathy through the gallantry

with which it has met the deflation of the boom era and the devastation of its hurricane. It is to be remembered that this deflation was accomplished without banking troubles. These institutions were admittedly steered through the boom with a soundness and conservatism of control which is probably without counterpart in similar hasty onrushes of prosperity. They survived the unkind fate which swept down upon the far Southern coast in a cyclonic wind. That their own people have forced so many of them to close their doors now is almost ironic. What was the psychology of these self-destructive runs? Perhaps it was that of a war-worn people. The struggle has been so hard and so long drawn out that the nerve of these communities may have snapped like that of an army which has been asked to bear too heavy a burden. After all, even courage cannot beat everything. The bank failures may slow up Florida's recovery, though we hope not. But those who think that they reflect upon the fundamental gameness of her people profoundly err.

Men of about sixty years of age on the average are at the head of the country's one hundred outstanding organizations in industry, finance, transportation and communication. The youngest set of executives in any one of these fields is that which is engaged in banking. These men are youngsters of fifty-five. The oldest group is that of financiers, occupied with wider and more varied activities than the bankers strictly so-called. This has long been known as a young man's country. Evidently it is a pretty good country for young men of all ages.

Few men in this world achieve a greater honor than that conferred upon John I. Gibson, of Battle Creek, judging by the manner in which nearly 400 of his fellow citizens united in giving him a testimonial luncheon at Post Tavern last Thursday. The affair was so cordial and the spirit of friendship and good fellowship was so prevalent that no one who participated in the event could fail to be impressed by the wonderful personality of the man who could make such an affair possible.

The Sunday closing law is now before the people of Michigan and the Legislature at Lansing. It is a meritorious measure and ought to receive hearty support at the hands of all merchants, all friends of Sunday observance and all people who believe that the merchant should have one day's rest out of every seven. No pains should be spared to put the bill through the Legislature with the least possible delay.

What's in a name? Well, real estate men think it pays to be known as realtors, undertakers have become morticians and now hairdressers have gone the length described as cosmetologists; ordinary janitors insist on calling themselves heating engineers; boot blacks refer to themselves as pedal engineers; barbers masquerade as tonsorial artists; we have always had grandilo-

and there is a "lift." But the hairdressers have something to advance on behalf of their desired change of name beside the orthoepic superiority of "cosmetologist." Nowadays they are much more than hairdressers. They are beauty specialists. As such they are entitled to a name which more accurately suggests their varied functions. Besides they might have inflicted upon their patrons a far more formidable term than "cosmetologist." They might have petitioned the Legislature to permit them to call themselves "beauticians" or even "pulchritudinists." Anyway, called what the public chooses, what they consider. Nobody ever says he is going to see an attorney-at-law.

After a five years' battle the Indian Rights Association has succeeded in establishing the validity of an Indian's title to land even after it has become valuable. The question has been sharply contested. Formerly it was the custom to set aside lands which the white settlers didn't care very much about for the Indians. Latterly, when the lands developed minerals, gas or oil the Indians' title lapsed under a ruling of Albert B. Fall, former Secretary of the Interior, that such reservations were "merely public lands temporarily withdrawn from occupation of Indians." The Indian Rights Association questioned the justice of this decision and finally succeeded in having a law passed which provides that all benefits derived from gas and oil on such reservations shall be credited to the Indians assigned to live there. The act further provides that the boundary lines of these reservations cannot be changed except by act of Congress and that mining operations shall be under the control of the Indian Bureau instead of the General Land Office, where the Fall decision would have placed it. The final result shows that we can be just to the Indians, even if it takes a civilian organization five years to convince us that we are wrong.

The love of nature is something that may be developed in every breast, and it is a love that rarely fails to purify and exalt.—E. P. Roe.

## BEHOLD A REAL MAN.

### Remarkable Tribute To a Royal Good Fellow.\*

When Dr. Martin told me a few days ago about this dinner and informed me that I might be called upon to say a few words about John I. Gibson, I began casting about for information about this man Gibson. I had heard his name occasionally and met him now and then in a casual way during a good many years and had formed impressions, more or less definite, but after all I did not feel quite certain that I knew enough about John I. Gibson to be able to stand up here and vouch for him, so I began to rummage about for information.

It was not necessary to enquire where he came from. His reddish hair and blue eyes and Scotch-Irish beard betrayed his origin. And appreciating the dominating influence of racial inheritance, I determined to delve as deep into his origins as possible. If time had permitted I might have taken a trip to the Emerald Isle to prosecute an original investigation, but the time being short I fortunately discovered such an expedition was unnecessary, as I happened to find in my library two huge volumes giving the complete pedigree of every Irishman from John O'Shannesy straight back to Adam. So into this great ocean of genealogical data I plunged to see what I could fish out about John I., and I found enough to entertain you for an hour—real racy stuff of every variety—fact, fiction, romance, scandal, heroism, tragedy, crime, burlesque, buttochery, forebears of every description. Time will permit me to touch only a few of the high points, the mountain peaks, so to speak, for a good many interesting things must have happened in the family history reaching back six thousand years or more.

Well, one of the first things I discovered was that John has a lot of royal blood in his veins. It really was not necessary to consult a genealogy to find that out or even to make a chemical or a microscopical examination of his blood. The grand manner and poise which go with regal heritage were evidence sufficient without documents. Well, John I's great, great, great, tenth greatest grandfather was the son of one Art Eanthea, 112th monarch of Ireland who lived in the 2nd century and was the ancestor of Queen Victoria. No doubt John would be sitting on an Irish throne to-day instead of enjoying the opulence of an American sovereign, were it not for the fact that Pope Adrian, in order to bribe Henry II into servile obedience, tossed Ireland to him as a tip, and unscrupulous Henry sent a lot of English bullies over to Ireland and displaced the rightful owners. This happened so recently as 800 years ago.

One of his ancestors, a thousand years further back, Tuathal Teachmar, who had been driven from his throne into exile in Britain, was helped to repossess his kingdom by Agricola, a

\*Tribute to John I. Gibson by Dr. John Harvey Kellogg at testimonial banquet tendered by Battle Creek Kiwanis Club, March 17.

Roman general an incident mentioned by the historian Tacitus, which gives to our fellow citizen the high distinction and prestige of being a very ancient historical character—at least his ancestor was there.

A few years farther back another royal ancestor, number one hundred in the line of Irish kings, was reigning at the time Christ was born.

Working back, the ancestral record gets more interesting every minute; or rather, every hundred years or so something interesting happens. For example, in the sixteenth century, B. C., one of his ancestors, a Druid, set up a great idol for sun worship and died one morning while in the act of

land and started the royal line which produced 114 Irish kings in succession, besides supplying lineage to all the kings and queens of Scotland and a lot of British rulers, including Queen Victoria. By patient study of the record I discovered that one of John I's ancestors was a brother-in-law of King Solomon, having married a daughter of the same Pharaoh who gave another daughter to become one of Solomon's thousand wives.

Another ancestor still farther back lived in Egypt when the Israelites were there. His instinctive sense of justice and fair play led him to take sides with the downtrodden Hebrews, because of which he was driven out of

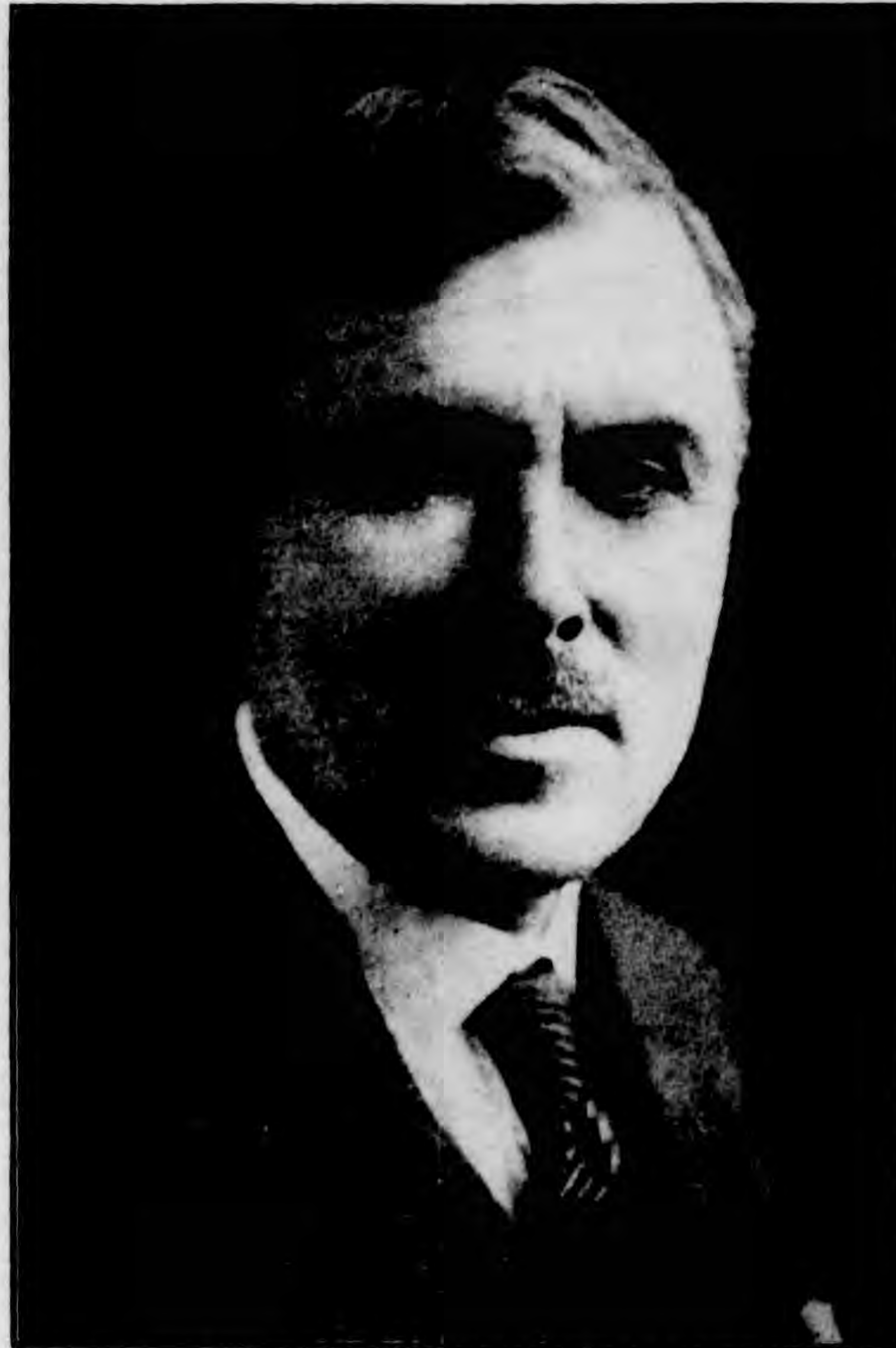
of teachers and opened the first college.

I began to feel a little anxious when I found myself so far back in history as the Tower of Babel, worrying whether I should be able to get back in time for this occasion. On second thought I concluded I might as well keep on and soon found myself meeting the familiar names found in the scriptures, Japheth, Noah, Magog, Methuselah and so on back to Adam, thus proving that our townsman is of highly respectable origin, according to the true fundamentalist tradition without any trace of anthropomorphic forest rangers in his family tree.

So much for origins. Now for the man himself. Naturally, from such a royal pedigree we expect something more than mediocrity. Emerson says "A man passes for what he is worth. What he is engraves itself on his face, his form in letters of light which all may read but himself." And we have read him. As he has moved among us during a third of a century we have noted his daily walk and conversation and we have not found him wanting in the elements which make up true manhood, sound character, and good fellowship. Unswerving Scotch honesty, a keen sense of justice and uncompromising defense of a righteous cause, loyalty to friends, fairness to opponents, and though stalwart in opinions, possessed of enough of that subtle afflatus from the mystic stone of Blarney Castle to make him a good mixer and insure him a multitude of devoted friends and the respect of his enemies.

Says Emerson again, "What hath he done?" is the divine question which searches men. Time will not permit a rehearsal of the activities and achievements of this red headed, red blooded, Scotch-Irish human dynamo. Suffice it to say that after doing a variety of other notable things he put Michigan on the map as a fruit growing state and has for years back been helping to boost Battle Creek to its proper place in the sun as the model city for the enjoyment of health and happiness, and has put every citizen of this town under obligation to him for his efficiency, his devotion to the broad interests of the town, his liberal views of civic opportunities and obligations and his cordial support of every forward looking plan or measure. Every enterprise for which he has labored has received the impress of sterling worth of 100 per cent. validity. But these words are needless. As an eloquent Methodist divine once said, "A real man can neither be praised nor insulted." He stands solidly on his own feet, justified by his own intrinsic merits. And so, my friends, I offer no idle words, eulogy or compliment to our beloved citizen, but with you simply look upon him and behold a real man whom it is a delight to honor. Will you rise to do homage to an Irish prince and a royal good fellow? Salutis.

It takes about 1500 nuts to hold an automobile together but it takes only one to scatter it all over the landscape.



John I. Gibson.

worshipping the sun, maybe of sunstroke. John's ancestors seem to have been rather pious in those days, although the record of successions reads pretty regularly "slain by his ancestor," "torn asunder by his predecessor," "slain by his nephew," "assassinated by his brother," etc.

But this royal line did not originate in Ireland; that is, it was not indigenous to the soil—sui generis, so to speak—but was an importation from Spain, thence from Egypt, originally from Scythia, according to the record, which meant, as nearly as I can find out, anywhere in the great unexplored wilds of Northeastern Europe. It was as late as Solomon's time before the Gibson ancestor, Heremon, arrived in Ire-

Egypt by Pharaoh, went to Africa and founded Carthage from which came the familiar Irish name McCarthy. The grandfather of this ancestor was a contemporary of Moses before he left Egypt, and the intimate family history notes that this ancestor, Gathelus by name, had a green scar on the back of his neck where he had been bitten by a serpent, the wound being healed by Moses by a touch of his rod.

But perhaps the most noted of all the ancestors of our honored guest was Niul, who displayed the family genius for organization by founding a school of languages in the valley of Shinar, just after the confusion of tongues at the Tower of Babel. He picked a few of the best languages, trained a faculty



## O. K. Dairy

A complete line of dairy produce is handled by the O. K. Dairy Company, Inc., one of the largest milk dealers on Staten Island. The main office of the concern is located at 37 Barker street, West Brighton.

The products are delivered over ten routes, which extend to all parts of the Island, with the exception of Midland and South Beaches. The entire south shore from New Dorp to Tottenville is covered daily.

The firm has been in business for more than eleven years and has built up a fine reputation for reliability, honesty and quality products. There are three grades of milk: Grade A, Grade B, and Certified. The Certified is especially recommended for children, as it is rich in strength-building content.—*Staten Island Advance*.

## Two New Herds for Larkspur

F. R. Carpenter of Hayden, Colo., reports the sale of 15 Ayrshires to Joe W. Lockhart, Larkspur, and 12 head to L. M. King of the same address. Included among the cattle that figured in this transaction are several daughters of Ravinia Peter Pan 24th, a grandson of Beuchan Peter Pan and Ravinia Spicy John.

The territory about Larkspur supplies the Frink Creamery Company with the raw product for their cheese factories. Ayrshires are proving of outstanding value in the development of dairying in Colorado, according to E. R. Frink.—*The Agricultural Digest*.

## Production at Ulsterday

Twenty-five members of the sales force of the Farmers' Co-operative Milk Company, who were the guests of Miss Grace Roberts yesterday afternoon at the Ulsterday Farms, Highland, were shown the methods of production of Certified Milk.

Kingston distributors were also present, and luncheon was served in the afternoon, the guests returning at 6 o'clock.—*Poughkeepsie Eagle-News*.

## High-Spots at Cleveland

"Dry Ice!" Probably no exhibit at the Cleveland show attracted more attention than did that of the makers of "dry ice." The exhibit was constantly surrounded by a crowd of interested people who listened most attentively to what the exhibitor had to say. And he surely could talk! He knew his subject thoroughly from beginning to end, and was able to tell about it in a manner which held the attention of his listeners for all the time they had to give him. He showed a variety of containers for the product, illustrated a variety of uses, and there was a big block of "dry ice" on display at a temperature something lower than 100 degrees below zero. It was so cold that even slight moisture in the atmosphere rolled down the block in little clouds of vapor. The public was warned not to touch this exhibit with bare hands. If "dry ice" will do all that is claimed for it, and do this steadily and consistently on an economic basis, it will bid fair to revolutionize refrigeration.

All the dairymen—and especially those who are mechanically minded—were drawn irresistibly to the new bottle-capping machinery. One of these machines puts on a tough paper cap, which is made safe and kept airtight with a twisted wire. At the end of the twisted fastener this wire has a little loop to be used as a handle in untwisting the wire and taking off the cap. This method of bottle capping means to producers thoroughly satisfactory protection for the milk. It is safe, tight, and convenient, and easy for the user to handle.

Another bottle-capping machine constantly surrounded by a crowd of interested onlookers applies a paraffin saturated cap which is thoroughly air and moisture proof, and fastens this tightly with an electrically soldered wire. Beyond the soldering point an end of the wire is left loose, and a slight pull upon this wire end releases the wire from the solder and loosens the cap. Apparently this cap is also safe and tight, and it certainly is very easy to handle. The machine for making it is a marvel of ingenuity, showing how many difficult problems may be overcome by an inventor determined to succeed. The process performed by this machine required solution of problems in mechanics,

metallurgy, chemistry, electricity and the making of paper.

The third bottle-capping machine which drew the attention of many interested, applies a heavy papier mache cap so tightly over the bottle head that it appears to become an actual part of the bottle. There is no question but what this cap is both safe and tight, though not so easily detached as some; but to many would appear to have advantages fully offsetting the slightly greater effort required to remove the cap.

None of the three caps described above can be replaced by hand after removal. They, therefore, furnish full and complete protection against fraudulent refilling of bottles with inferior milk.

So many new improvements in machinery and refinements in processes were exhibited at this show there is not room here to touch upon any considerable number of them. Later on they will be written up for CERTIFIED MILK.

## Save the Bulls

It is unfortunate for the dairy industry that good bulls are sent to the butcher along with the mediocre and scrubs when their service is no longer needed in the herd. A careful estimate, says Dr. J. C. McDowell, of the Federal Bureau of Animal Industry, shows that really high-class dairy bulls are going to the butcher at the rate of one every eight minutes from daylight to dark every day in the year. How to stop this great slaughter and keep these bulls for a lifetime service is one of the great problems in dairying today.

A study of cow-testing association records shows which are the good bulls and which the inferior ones. But, unfortunately, by the time these records are available most of these bulls have been slaughtered. Doctor McDowell says that it is of little use to learn how good a bull was after he is dead, so he is urging that some system of exchange be started at once among owners of well-bred bulls in order that such animals may be kept until the daughters have demonstrated their sire's true value.—*Milk Producers Review*.

# An Appreciation of Clarence W. Barron

By Aaron Hurdy Ulm

(Reprinted from the Dearborn Independent)

Most newspapers, like nearly all mundane enterprises, reflect the souls of single individuals. In the case of *The Wall Street Journal* and its associated mediums of news distribution that individual is Clarence W. Barron, who exults in being classed as only a reporter. He rarely visits his office; but sometimes his suggestions in messages in letter, notes, telegrams and telephone number well above 50 as counted in a single day at the New York office. He treats all the world as his "news beat"; yet his is the predominant spirit of the establishment.

He rambles through Europe every year or two, stumbles afoot over real estate sub-divisions in Florida, studies petroleum and revolution in Mexico, saunters among cane mills in Cuba and manufacturing plants everywhere and writes always as a reporter of the facts.

Next to reporting, his passion is for people, all kinds of people. He is probably on intimate footing with more leaders and more kinds of men throughout the world than any other American.

His creed is:

"I believe in service and I believe in happiness. The laws of service are the laws of happiness and the laws of happiness are the laws of service. I know no other happiness. There are no other laws."

He is an adherent of the Swedenborgian faith, and has written much about it. He is also a farmer, cultivating much land in the vicinity of Cohasset, Massachusetts, where he operates a dairy for supplying certified milk to insure the lives of children. He is the country's largest importer of Guernsey cattle. In his Boston home there are eighteen telephones, with a private exchange, which is always busy when Mr. Barron is there.

He has had most to do with formulating the theory of news which is adhered to by the Barron organization.

"News is a creation out of facts," he says. "Hence its proper presenta-

tion calls for skill, honesty, devotion to the spirit of service, and for firm adherence to truth in its proper use. No newspaper can publish everything that happens, nor, usually, all details having to do with what happens. Hence there must be selection. The newspaper that aims chiefly at pleasing or entertaining its readers cannot always publish the truth no matter how it may adhere to facts. To exaggerate or to set forth only those facts which you think will please or entertain your reader is to misstate.

"In presenting financial news we let the facts tell all. We have never indulged in prophecy. You can never say positively what is going to happen in any specific instance, for too many unseen forces enter into the shaping of even the slightest occurrence."

Mr. Barron adhered to the rule of "facts only" even in warring on gigantic evils of speculation, as when he arrayed himself against the Lawson-Rogers operations in Amalgamated Copper a quarter of a century ago. When the stock was being whipped up to unjustified heights he merely published what his investigations showed to be its real worth.

He was then a comparatively poor man. They tried to stop him.

"The only way in which you can keep me from presenting facts," he said, "is to put me out of business. But I can still earn eighteen dollars a week as a stenographer." Facts won out.

"I object particularly to pessimistic prophecies," he says, "for predictions tend to confirm themselves. Suppose the President of the United States should say that a bear market is coming. It would come just because of the prediction in so powerful a quarter."

"The pessimist has not the same right of expression as the optimist. No one has the right to damage another's property or to retard another's progress by damning it with pessimistic prophecy.

"Every business man is building for the future and one who follows bear-

ish predictions had better stop. Remember that the sun is always shining somewhere. In my fifty years' study of finance I have never known a time when prosperity didn't exist in the United States, in some kinds of business or industry or among some concerns. We control too many of the world's basic products for the outlook to be other than good for this country. Here are some of the figures: Petroleum, 73 per cent; cotton, 58 per cent; zinc, 43 per cent; copper, 58 per cent; steel, 52 per cent; iron, 51 per cent. The full list is a long one.

"If there is one thing that the schools and the public need it is knowledge of the A B C's of finance. There is not a problem of finance which does not affect everyone's pocketbook. And none is difficult to understand; for each is mainly a question of debits and credits or of present assets and future demands.

"The craziest of ideas is that of individual monopoly, particularly of ideas or facts. The more a man knows and thinks he gains by keeping his knowledge to himself, the more he loses. The more he expresses his knowledge, the more he knows whether it is sound and the more he adds to it through exchanges.

"A possibly more foolish notion is that wealth postulates poverty, that you can grow rich only by making or keeping someone else poor. Wealth is nothing but the accumulation of wages, and the better the wage the greater, naturally, the accumulation. Suppose the wages of Orientals equaled those of Americans. What this would mean in terms of consumption of goods we produce is almost unimaginable. Such would mean still better wages and more accumulation of wealth in this country.

"Another foolish notion is that power derives from material things. True power comes from within, not from something outside. It is inward determination. Happiness does not come from selfish accumulation. It comes from service.

# Dr. Anderson, Apostle of Physical Education

By HENRY M. STEGMAN

**W**HEN Dr. William G. Anderson of Yale urges the utility of exercise, he emphasizes and illustrates his words by his own superb physique. At threescore and ten, he has the biceps of a blacksmith and a chest "like a barrel," as the expression goes. Most noticeable is his carriage, which Apollo himself might envy. Eminently fitting is it that such a man should be the foremost apostle in this country of physical strength and vigor. His part in this branch of education covers half a century and subtends a wide angle of usefulness.

He is chiefly known as director and professor in the department of physical education at Yale, where he has been for thirty-eight years. But his work has been far more extensive. He has made valuable investigations on various subjects bearing on his specialty, and he has organized several important forces for forwarding physical education in this country. He has given numerous courses in summer schools of different universities and other institutions; through these, together with his contacts with tens of thousands of students at Yale, he has been able to influence directly many young people.

Equally interesting is what he has done with his own individual life, how he labored to build up his own body and how, based on this physical vigor, he has done a vast amount of mental work, especially along the lines of getting college degrees when in middle life.

Dr. Anderson was born in St. Joseph, Mich., September 9, 1860. His was the good

fortune to be the son of a minister, for the eugenicists now tell us that this heritage is likely to make for success in life. At the age of nine or ten, while living in Jamestown, N. Y., he saw a neighbor boy exercising on a horizontal bar. This was the beginning of a devotion to gymnastics which lasted many years. While attending the Roxbury Latin School in Boston, he had a welcome opportunity to work in the Y. M. C. A. gymnasium, under the direction of R. J. Roberts, then a foremost teacher in this field. Intention to enter Harvard or Amherst was frustrated by circumstances; instead the youth went to the University of Wisconsin. After two years there, he taught for a time in county schools.

## Becomes a Physician

In Cleveland, Ohio, he combined teaching in the Y. M. C. A. with the study of medicine in Western Reserve University. In 1883, he won his degree. A year of practice in Columbus, Ohio, was merely an interlude. A summons to Adelphi Academy, Brooklyn, N. Y., to teach physiology and physical education launched him on his real life work. Yale sent for him in 1892 and has kept him ever since. First he was associated with Dr. Jay Seaver as director of the new gymnasium and also medical examiner. Later, after Seaver's death, he became director and a full professor. He likewise teaches first aid at the Yale School of Forestry and has long been a member of the Yale Board of Health.

While in Brooklyn he organized a number of activ-



*Dr. William G. Anderson*

ities. He planted the seed of the Brooklyn Normal School of Physical Education, taking the institution with him when he removed to New Haven. This he sold later and it is now known as the New Haven College of Physical Education. He called together a few men to form the American Association for the Advancement of Physical Education. Its original membership of thirty-five has now grown to between three and four thousand.

At that time, physical education in the colleges was undeveloped and not coordinated. So Dr. Anderson invited the directors of physical education in the leading colleges to come together in New York. They there formed the Society of Collegiate Physical Education, which is still flourishing. At an annual meeting of the National Educational Association, held in Saratoga, he secured the establishing of a physical education section of that body.

In 1886 began a connection with the parent Chautauqua in New York State which lasted for twenty-one years. Bishop John Vincent, founder of this memorable institution, brought in Dr. Anderson to take charge of the physical training. He formed clubs for boys and girls and likewise organized the Chautauqua Society of Physical Education, which has had a wide influence for good.

#### **To Europe for Study**

As Europe had a long start on this country in the matter of physical education, Dr. Anderson has journeyed there five times to learn what he could. He studied mostly in Germany, although Sweden gave him much that was valuable. From the latter country he brought the fancy diving which is now so popular in the United States—the swan, jackknife and others. He had been an exceptional swimmer since his youth. One early exploit was to swim fifteen miles in the Mississippi River, aided only by a very sluggish current.

Until he was forty, Dr. Anderson kept up his proficiency as an acrobat, doing double somersaults and the like. At the age of fifty, he experimented with himself to learn how responsive his muscles still were to exercise. In a year he increased his biceps from twelve and one-half to fourteen and one-half inches. They are now thirteen and one-half, although for a number of years he has taken no special training. They would still do credit to a lifter of heavy weights.

In that twelvemonth, his chest girth, then normal, increased four inches, from thirty-six to forty inches, where it has since remained. His waist measurement was then thirty-four inches. It is now thirty-six. Up to the age of fifty he weighed one hundred and thirty-five pounds. The year of special exercises increased his weight twenty pounds, and the last two decades have

added another ten. A reduction in weight of ten pounds would not be bad, the doctor admits.

The doctor's fine posture adds to his apparent height. He is really five feet nine inches. The added weight was in part due to adopting Fletcherism to the extent of thoroughly chewing all food. He lays stress on the need of eight hours of sleep.

The theories of Horace Fletcher on eating led about twenty-five years ago to experiments in New Haven with a number of soldiers. In these Dr. Anderson was associated with Professor Chittenden of Yale giving the men their daily exercise. By means of this research, a scientific quietus was put on the old notions about the need of a heavy protein allowance. The standard of ten per cent is now pretty well established.

#### **Elementary Calisthenics**

The doctor has conducted summer courses in the Universities of Utah, California, Southern California and Montana, and at the Kellogg School of Physical Education of Battle Creek College. He made a short stay in Battle Creek recently and gave the guests of the Battle Creek Sanitarium a wonderful talk on the care of the body. His personality heightened the effect of his words. He suggested four simple exercises as a good beginning or foundation. First was to stand very erect for one minute. It is surprising how many muscles are involved in this. If you try it the first time for two minutes, you will feel decided fatigue.

Group two consists of raising the arms sideways to full height. This widens and deepens the chest. Number three is to stand with the feet well apart, with arms raised sideways to shoulder height; bend the trunk up and down right and left; then twist to right and left. These movements strengthen the muscles of the abdomen and the waist girdle, and send the blood coursing through the vegetative organs, the liver, kidneys, spleen, stomach, pancreas and the large and small intestines.

Fourth comes running in place—that is, without advancing. Children do not need this; they are active enough. Adults may replace it with rapid walking. A swift pace for even two or three blocks will make you feel that the heart is beating rapidly. Gentle exercise longer continued will not develop the heart and lungs so effectively as will this rather violent form. Four miles an hour Dr. Anderson considers rather fast walking.

Exercise is not at all a mathematical affair in which certain factors give certain results. Heart weakness renders great caution necessary. People of middle age and beyond who lead sedentary lives should be especially careful and be guided by a physician. The American temperament

tends to go to extremes and much harm has been done, many deaths have been caused, Dr. Anderson believes, by over-exercise. Admirable as is the basic idea of Walter Camp's "Daily Dozen," these have probably been used injudiciously and hence injuriously by many men and women. This famous group of exercises arose from a class conducted by the Yale physical director in New Haven in the World War. A hundred leading citizens, too old to go to the front, formed a senior reserve corps and took exercises with him every morning. Walter Camp was one of these. He thereupon got up his "Daily Dozen," from which in one year he made fifty thousand dollars.

### Physical and Mental Strength

Dr. Anderson has for many years made a special study of psychology. One thing he has learned is that a vigorous circulation of the blood throughout the body will, by insuring a good supply to the brain tissue, improve its quality. This does not mean that a man becomes more intellectual, but rather that his intellectual machinery works better. The doctor left college before receiving his degree. At the age of thirty-six he set about completing his college work while still carrying his regular duties. Year by year he advanced, receiving in turn his A.B., A.M. and finally an M.Sc. A crowning achievement was the doctorate of Public Health (D.P.H.) attained at Harvard at the age of fifty-two. Various honorary degrees have since come to him.

Most men and women of even thirty who have had two years of college work would shrink from the idea of pursuing their studies in addition to earning their daily livelihood during nearly twenty long years of steady grind. They would regard the task as impossible. The successive degrees won by Dr. Anderson under such trying conditions, speak primarily for his ambition and indomitable will power. But they likewise teach the lesson that a strong body will back up the brain for the severest mental effort.

Dr. Anderson expressed himself as in hearty accord with the ideas of Dr. Kellogg and the Battle Creek Sanitarium about right living. He is particularly strong on the importance of posture on which Dr. Kellogg has likewise been so insistent for half a century. Many persons who

make some effort to stand erect, forget that there is a proper posture when sitting at a desk reading or writing.

The Yale director dwells not on exercise merely, but upon a well-rounded physical life—care of the eyes, teeth and other organs—the whole body; proper regard for the appearance; the cultivation of a clear, agreeable voice. He doesn't pretend to have an antidote for worry, but believes that the person who is vigorously well and strong is better armored to fight it than one who is weak and ailing. He has never smoked a cigaret in his life and is disgusted at the prevalence of smoking among women. He drinks nothing alcoholic. Athletes at Yale are forbidden tobacco. They are urged to give up coffee.

### Modern Student Tendencies

Dr. Anderson has been making some interesting studies on the physical differences between Yale men of today and those of a quarter of a century ago. He finds the recent students are a little taller, due probably to their standing better. They weigh a little more and have a slightly larger chest girth. Otherwise there has been no definite change. In a number of cases, figures were compared of fathers and sons who had been at Yale, beginning thirty-five years ago. Here little difference could be noted. But Dr. Anderson is hopeful that the children of the present generation of students will definitely surpass their parents physically. This expectation is based on the spread of physical education in the primary and secondary schools, the colleges and universities.

To the suggestion that sports are being commercialized in our leading universities, Dr. Anderson cited the fact that although Yale athletics, chiefly football, bring in about a million dollars a year, no one makes money out of the sport. The profit is used to support fourteen other sports which from their nature cannot earn much money. So the net result is that hundreds are enabled to take part in their favorite game.

Dr. Anderson is not aware that the college youths of today are markedly different from those of several generations ago as regards morals and strong drink. But he notes a growing interest among them in the care of the body.

