

dorsal surfaces shows vesicular eruption, the vesicles being of various sizes, from a small pea to a dime. Some have clear contents, others purulent. Some are surrounded by inflammatory areolæ, and in some areas desquamation is taking place. Scratch marks are very noticeable. The feet show a similar condition. During his prolonged stays in the house almost everything in the way of treatment has been tried; at the best with only temporary relief.

BLOOD RECORD—JUNE 12, 1899.

Reds	5,128,000
Whites	14,000

DIFFERENTIAL COUNT—JUNE 12, 1899.

Eosinophiles	29.2 per cent.
Neutrophiles	32.8 per cent.
Small lymphocytes.....	32.8 per cent.
Large lymphocytes.....	5.2 per cent.

DIFFERENTIAL COUNT—JUNE 17, 1899.

Eosinophiles	44.3 per cent.
Neutrophiles	31.3 per cent.
Small lymphocytes.....	20.3 per cent.
Large lymphocytes.....	4.1 per cent.

DIFFERENTIAL COUNT—JUNE 25, 1899.

Eosinophiles	36.25 per cent.
Neutrophiles	29.25 per cent.
Small lymphocytes.....	32.5 per cent.
Large lymphocytes.....	2 per cent.

JUNE 30, 1899.

Reds	5,163,000
Whites	9,000

DIFFERENTIAL COUNT.

Eosinophiles	39.25 per cent.
Neutrophiles	39.25 per cent.
Small lymphocytes.....	19 per cent.
Large lymphocytes.....	2.5 per cent.

A few days after this the patient left the house and did not re-enter until early in September. He had asked for his discharge on account of his great improvement, and applied for readmission on account of the onset of a fresh attack.

SEPTEMBER 5, 1899.

Reds	5,808,000
Whites	9,700

DIFFERENTIAL COUNT.

Eosinophiles	29.3 per cent.
Neutrophiles	36 per cent.
Small lymphocytes.....	31.3 per cent.
Large lymphocytes.....	3.4 per cent.

In all these counts the so-called transitional forms have been classified with either the small or the large lymphocytes, depending on the size of the cell and the size and staining activity of its nucleus. The September count has shown but one marked difference from the observations of June: while in June the eosinophiles were very small, with their granules closely packed together and the nucleus somewhat deeply stained, those of the last observation are normal in size and in the distribution of their granules, many indeed being apparently broken down, with the granules widely separated from the cell and nucleus. Looking on the small compact cells as "young" eosinophilia, and taking into consideration the fact that the patient was improving greatly in June, we would advance the theory that the improvement of the dermatologic condition was accompanied by strenuous attempts at regeneration of the blood. Bearing in mind the trichinæ eosinophilia, a piece of muscle was excised from the gluteal mass and carefully examined for this parasite, after hardening, but no evidences of its present or former residence could be found. So far as we have been able to find, but one other similar case is on record, that of Cabot¹, and his eosinophilia is not nearly so great as in our own case. It is as follows:

Eosinophiles	19 per cent.
Neutrophiles	47 per cent.
Small lymphocytes.....	25 per cent.
Large lymphocytes.....	8 per cent.
Myelocytes	1 per cent.

While we do not claim that this one case, even when taken in conjunction with that of Cabot, is conclusive in any way as regards the possible blood changes of dermatitis herpetiformis, we have wished to place the case on record that similar investigations may be made by others and a definite working basis be established.

HAVE WE IN NATURE A BASIS FOR A SCIENCE AND ART IN MEDICINE.*

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Inasmuch as medicine has to do with natural forces, and as natural forces are uniform and according to law, the inquiry has often come to mind, have we a basis for a science in medicine? Other sciences, as physics, chemistry, astronomy, navigation, etc., have come to their present position through long years of struggle and search. Now they present themselves before the tribunal of public opinion, and find universal acceptance. No one would question the validity of the principles on which they rest; no schisms exist among their followers.

It is the purpose of this paper to show that the conditions with which the physician deals have such uniformity of phenomena and facts that the subject may be properly termed a science, and that such conclusions may be reached, and practical results attained, as to be unquestioned by any intelligent inquirer, and that when those principles are applied to practical use for the curing of disease, it may appropriately be styled an art. Hence the terms "science" and "art" of medicine are properly applied to these studies, so that when the principles are fully accepted, all will be guided by them.

In former years the curriculum of a medical course was styled the science and art of medicine. Have we grown beyond this division, or not reached it yet? It is an accepted fact that these questions pertain, first and all the time, to the conduct of a vital force, the nature of which is beyond our knowledge. Yet the laws by which it acts and the uniformity of its results are such as to establish the basis of our claim, corresponding with other kindred sciences as before stated. I am aware that in these reflections I present nothing new, or bring forward no new laws; I only attempt to so present the facts already established as to afford hope for more scientific and classified arrangement of the principles involved. A science is man-made. It is formed from a knowledge of the laws of the phenomena of Nature. It grows and grows, slowly, as the range of knowledge is extended. It grows not by the study and search of one, but of many. It is the agreement of repeated testimony that interprets phenomena and establishes principles. Therefore the subject of medicine takes in a wide range of knowledge, and includes principles from all the natural sciences. All sciences may be called on to pay tribute to the science of medicine. It is the most composite of all. Its origin dates from the earliest of the world's records. It gathers in its march every available principle, and any material that contributes to the maintenance of living tissues in their normal way. Hence Nature makes no special provision for either forming or repairing the different parts of the body. She has her type for every tissue and in her beneficent design seeks to

¹ Cabot: Clinical Examination of the Blood, 2d edition.

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maintain the type of every organ and part, as also the whole organism.

The question raised is: Have we in Nature a foundation for the science of medicine? This question does not find an affirmative answer among all. Even many of the most learned, in other and kindred sciences, look on the practice of medicine as one of empiricism, having no established principles on which the art rests.

To further develop this question, we say that a science must rest on principles or laws of Nature, which all recognize as established. Have we such laws directing the forces of life, that the science of medicine can rest on them? If so, what are they? No one to-day doubts this, as observed in the facts of anatomy. Every species of living being in its anatomic structure presents uniformity. The geologic processes also, which are but the forces now acting, are equally uniform. The scientist observes that all matter exists under law; that all vital phenomena are the resultant of a force which acts according to law, always uniform where the conditions are uniform. The laws of life are present, and have been from the very earliest dawn of creative power. Hence Pope uttered the accepted scientific truth, when he said:

The Almighty cause
Works not by special, but by general laws.

It is the province of the scientist to observe the facts of phenomena, and detect the laws which govern them, which laws become the corner-stone of the science.

Physiologic science, together with histology, sees the cell as the prime spark in which all life starts. It is endowed with the life principle of all biotic changes, as the atom is endowed with the force and law of all physical changes, as observed in the science of chemistry. The science of medicine becomes intelligent, when it interprets physiology as a discourse on the combined biotic changes observed in all living tissues. It sees the little pellucid vesicle by a power of its own, when fructified and warmed by a system of cell activity, undergoing segmentation, forming the germinal membrane, which by mysterious foldings and unfoldings and growth, repeats in the being, the story of its ancestors.

Histologists have shown that all tissues of the body are but a combination of cells, and that the tissues combine to form organs. They also show that each cell has a life of its own, and the cell takes on normal change through the process of nutrition. The different organs are therefore normal and perform their appropriate function. If the conditions of nutrition exist throughout the organism, there is health. This statement seems to be conclusive without argument. If in certain cells or groups of cells, the conditions are not favorable for normal nutrition, there is change from the normal; there is disease. The doctor is required. Has he any law or systematic guiding principles that will assist him in guiding the life forces back into the normal?

This simple mental picture of the power that directs all life processes becomes the prime subject of inquiry. It does not matter that we can not analyze the essential power that started and continues the process. We can not analyze the essential powers of magnetism, of heat, light, electricity, chemical affinity or crystallization. Yet, regarding the phenomena produced by each of these agencies, we form principles or laws of their action, and reason of the several processes, and call that scientific. We know of the uniformity of life processes and the laws that govern them, and quite fully understand the conditions of their activity. In these facts we find the foundation for the science of medicine.

Thus far we have been dealing with Nature and her laws, and we do not question the scientific principles noted. The science of medicine in its principal application is for correcting defects in the living processes. It constitutes the art of medicine, and like all other arts finds its guiding principles traced in the laws which underlie the science. If there are no principles, no laws of phenomena, the art is blind, and the attempt to administer relief is empirical.

Such was the art of medicine before the accessory sciences were established. This was a dark period in the history of medicine. Mankind suffered great distress, having no guiding principles. Then there was the "pestilence that walketh in darkness." Plagues prevailed on the earth, uncontrolled. We know the essentials of life and health. In them we have the principles on which must rest the art of medicine, and the science of hygiene.

The art of medicine involves the treatment of disease under scientific guidance. The first problem that we meet is, "What is Disease?" To answer this question we can only give a negative reply, as compared with the normal. When all of the organs of the body perform their functions normally, there is health. When any organ or group of organs ceases to functionate normally, there is disease. Nutrition is a term which indicates a complex, and yet an elementary, process in all the living tissues. If nutrition is normal in every part, there is health. No part can be affected without its disturbance. Any agent which disturbs the nutritive process or any part is a cause of disease. In our physiologic knowledge of the minute processes of life, we can determine the conditions of this essential and elementary process. If so, and if our reasoning is correct, this becomes the first step toward the settlement of all problems as to the treatment of disease. Herbert Spencer and Sir James Paget have accepted this reasoning and hypothesis. Paget has shown from specimens in the Pathological Museum of London such tracings as illustrate defects in the several agencies involved in the process.

The sciences of anatomy and physiology present the health conditions and functions. Pathology notes the diseased changes which occur because of certain abnormal conditions. The art of medicine is called on to discover the disturbing agent, remove it, and apply such therapeutic means as can be devised for correcting the disturbance. This would seem to be a simple problem, yet its answer involves a large range of inquiry, and includes research in all the different sciences.

Suppose one attempt to treat an abnormal process by name, having no knowledge or regard for the normal; it is obvious how blindly his course would lead him. Here have been found the most serious errors in the art of medicine; in the arbitrary naming of a disease we tend to lose sight of the normal process of which the disease is a departure.

Then, too, it is not uncommon in practice to confine treatment to the leading symptoms, and seek their relief without tracing back the symptom to its course and seeking to relieve the primal cause of the trouble. The modern, popularly named disease, "la grippe," is an illustration. In it many a poor victim has succumbed to its on-march, because the symptoms or the name have been treated, ignoring the primal organic difficulty in disturbed secretions which, having been relieved, afford a substantial cure.

The name and character of a disease should be correlated with the organ or group of organs suffering.

When all the organs perform their functions normally, there is health. If one or more organs cease to perform their functions normally, there is disease; call it what you choose. You must guide the abnormal back to the normal. If one would intelligently treat disease, he must know the normal structure and function. Bichat defined life to be the "sum of the forces that resist death." He recognized the complex process of construction and destruction going on, and in the balance of one or the other was life or death. Both are natural. It is as natural to die as to live. Histologists have shown that all tissues of the body, of whatever composition or texture, are made up of the cell, and that each cell has a life of its own. The vital force as manifest in it is not different from that shown in the whole body. In the growth and development of the cell, the tissues are formed. From the tissues, organs are formed, and in the combinations of organs the organism is formed, through which the complex functions of life are produced. In the elementary cell there is growth, development, and assimilation, which process extends with the cell to the different tissues of the whole organism. This process is spoken of in physiologic language as nutrition, and includes the whole complex process of life—metabolism. If nutrition, with all that it includes, is normal, there is health; if abnormal, there is disease. This statement is properly regarded as a truism, and may be accepted as fundamental in the succeeding inquiries.

The next step in our inquiry is: Are the conditions of nutrition so definitely known that we can analyze and detect the *materies morbi*? This inquiry is a rational one. The conditions of normal nutrition, as given by Paget and others, are: 1. The right state of the blood, which involves the processes by which all nutritive material is transformed into blood, the blood-making and blood-purifying organs. 2. A near supply of blood to the part to be nourished. 3. A normal and non-disturbing environment. 4. A constant continuance of the nerve relations with the different parts of the body. No part can maintain an independent existence apart from the whole organism.

We recognize these statements as general principles which no one would question; and when these conditions are all present, the normal physiologic functions will be carried on, and the condition is one of health. If any of them are disturbed, or not present, normal nutrition is disturbed: there is disease. The disturbing influences are not uniform, neither are the life forces or resisting forces uniform in the different persons; hence the phases of diseases are not uniform, and can not be classified with scientific accuracy as one would classify the plants of a garden. The same symptoms are not met in the same form of disease: they are as varied as the changing figures in a kaleidoscope, hence unreliable for scientific guidance of treatment. One must, therefore, treat disturbed organs, rather than various symptoms; for it is essential in the art to consider the differences in each case and adjust treatment to correspond. In the art of medicine one of the most difficult problems is the adjustment of the therapeutic means used, to the differences observed in each case.

Are not the same problems present in every art? The photographer adjusts the sensitive plate in the camera to the varying shadings of light; the seaman, because of differences in currents of air and water, can not abandon his compass and chart of reckoning. Rather, in the storm and danger, they become his only hope and require constant consultation. The physician deals with matter and force, and as differences appear, judgment

must detect and modify them so as to meet the conditions of health.

The cause of disease may be in the blood, yet the most minute search may fail to detect it; yet the discriminating power of the tissues records it with precision.

The theory of disease must rest on physiology; or, as the term implies, the joint forces involved in the living tissues in nutrition. So far as the science of physiology is established, the principles to be used as a guide in the art become known. Before physiology became a science, the art was necessarily empirical. The conditions were favorable for all forms of superstition, which did prevail, and even do to this day where the empirical methods prevail. Since physiology has become established, all therapeutic guidance should be found in it as indicating all of the biotic processes. The names given to disease are in no sense guides to the treatment, unless there is associated with them the nature of the disturbed process. Disease is not an entity to be exorcised by charms, or antidoted by some specific. As all life processes are slow in accomplishing their purposes, so diseases come on slowly. The antecedent may have come on gradually, though with slight defects, when by certain exposure the explosion takes place which calls into requisition the care of a physician. This is a common oversight among patients, and often among physicians. Then it is essential to name the disease to the comprehension of patient and friends. The name may be so misleading as to create many misapprehensions as to its real nature. The name commands the whole attention, so that the abnormal phenomena are lost sight of in treatment.

Referring now to the scientific principles which are applicable for guides in administering to the relief of those parts that suffer, we must constantly carry in mind the conditions of normal nutrition, of which the disease is a defect. This involves attention to the blood-making, the blood-purifying organs, proper and digestible food for nutriment, right secretion and excretion, right digestion, right air for the lungs, pure water to meet the constant demands as a vehicle and accessory agent for all the phenomena. In a very large sense we are water machines. The particles composing the regularly formed crystal can not be carried to their place in the crystal, except they be held in solution and free to move. Food, water, air, are in never-ceasing demand. All or any of them being absent or inappropriate in quality, or insufficient in quantity, become a cause of disease. If disease exists they become unquestioned remedial agents, and meet a common demand from all living tissue.

What is a medicine? Any agent which is required to secure or aid the normal function of the organs of the body in health or disease. A therapeutic agent is an assistant rendering service to one suffering. The doctor, who is familiar with the science of anatomy, histology, physiology and pathology, has laws and principles which make him capable—if he has judgment—of applying scientific means as therapeutic agents for relief of the diseased parts. He is an artist, even if he only administers advice and the use of the most common articles of diet. He advises it scientifically, according to accepted principle. If he imposes on the credulity of his patient, or ignores the authority of established principles, he is not to be regarded as a rational physician, but a quack.

There is a common error among some doctors, many patients, and commercial medical men, that doctors or medicines cure diseases; that unguents heal; that poult-

tices draw; that quinin cures ague, mercury, syphilis; that specifics cure diseases which have been arbitrarily named with no reference to the nature of the disease or the cause which produced it. This notion is so absurd as to hardly merit condemnation; yet the idea is so common in journals and in practice that it is worthy of attention. Medicines modify functions; Nature heals. The doctor adjusts the broken bone and keeps the fragments at rest; Nature unites them. He provides the conditions; Nature is the beneficent healer. It is well if he consents to patiently study Nature's way, and then kindly acts as a therapist in its literal and liberal sense.

Reverting to the conditions of normal nutrition, and recognizing disease as resulting from a change in those conditions, we can, if we critically examine these disturbed conditions, detect the cause of the disease, which at once presents the indication for the first principle of treatment—the removal of the cause. In attempting this we are, in all idiopathic disease, shut up to physiologic inquiries. Here our guiding principles give assistance. The right state of the blood holds the first place as a factor of nutrition.

We now pass in review the blood-making and blood-purifying organs, and inquire if each of the silent processes of secretion and excretion, assimilation, imbibition, is normally carried on. Unquestionably, in these elementary processes there is the most common cause of idiopathic disease. The chances are that, except with the greatest scrutiny, the beginning of the disturbance may be missed. The most minute special care, therefore, becomes essential. Because of the passive character of these processes, they become easily disturbed when the whole chain of metabolism becomes disturbed and the results are revealed in distinct and remote parts. No class of organs is more important for the general health than the digestive; none are more obviously under the control of the physician. The right supply of blood to the part is not interfered with, except by obvious causes. The first being normal, the continuance is probable, except by some defect in the physiologic processes named.

The third condition of nutrition, as given, pertains to the environments, which are usually quite subject to the care of the doctor. He can so adjust the essential conditions as to avoid excesses and accidents; maintain appropriate temperature, and so adjust the activities as to promote the most perfect growth and development toward the type of being for which we were designed. Every individual has his own type of being. Every individual has a certain quantum of energy at his command, and it becomes his privilege and duty to so use it as to secure the highest development, and the most perfect use of the powers given. Every mechanism has a certain capacity for use. Every fiddle-string has a certain number of vibrations, when it breaks; every engine, a certain number of miles to travel, barring accidents. It is said that a well-designed and well-constructed engine has a capacity of about 400,000 miles, then it undergoes general repair, after which it is put to inferior service. Having run about 300,000 more, its destiny is the scrap-heap. This is, to a certain extent, a type of human life. The biography of an engine of which an accurate record is kept becomes one of the most interesting comparisons with the individual life. The engineer becomes an important therapist in administering to the efficiency and endurance of the engine. His care for the engine is not unlike that of the doctor to the human body. He is not alone called on to give medicine, or remove a diseased part, but so to advise and instruct as

to avert sickness and calamity. The life processes which are disturbed require correcting.

The fourth and last duty of the physician, to maintain nutrition and health, is the maintenance of the nerve influence throughout the different parts of the entire organism. Here are the most obscure and incomprehensible relations. The entire mechanism, with its automatic or God-given forces must work in harmony. It is through the nervous system that this harmony prevails. The cerebrospinal, ganglionic and special sense nerves, with the various reflexes, become the only physical means for interpreting the mental and spiritual influences in man.

Science has not given all we may yet hope to know of these mysterious relations. In a general way we may claim that the whole life phenomena are subject to and under the control of the nervous system; yet we may with equal force maintain that if all the other functions are normal, this will also be normal, or disturbed by some external influence. Hence we must always note the mutual relations of the different organs or parts, as they affect each other.

It seems to me that if from the preceding my thought is grasped, you will be able to catch a glimpse of the indications for treatment of every form of disease in its relations to the physiologic processes, in which the law of life is fully presented. With such established principles and unquestioned theories, can any one question the scientific basis of the principles of medicine? How can there be any schism? If any one can find a new guiding principle, it finds its place and is gladly welcomed. If the principle, so-called *similia similibus curantur*, is a law of Nature, it should be demonstrable, and I am sure all scientific students should be able to perceive and appreciate it. Laws of Nature are not alone revealed to a certain class, but become manifest to all seekers.

Having thus in a very general way pointed out the phenomena of the life forces of the body, we claim that in them we gain a knowledge of the scientific principles to which we may appeal in our attempt to avert or control disease. This is the art of medicine.

In these inquiries it must be borne in mind that neither medicine nor any agent at our command can produce a new force, or bring any new agency into use. It can only modify, diminish or increase the activity of the forces now acting. Medicine does not, in any but a very limited extent, antidote a poison or cure disease. It modifies certain functions and contributes, to a very limited extent, to the increase of excretion and the elimination of poisons. The laws of astronomy, of physics, of navigation and electricity are apparent and simple, when discovered. On them the whole sciences pertaining to those subjects rest. As physicians we need not worry lest some fad, as homeopathy, osteopathy, hydro-pathy, "Christian Science" or faith cure impede the triumph of medical science, and seek the field of legislation for protection. The people are able to see when we treat on the laws of certainty for scientific guidance. The most sacred interests of man are involved. Therapeutics has always been, and is to-day, a very obscure subject: obscure because few or no guiding principles have directed to the remedy or remedies to be used. There has always been the empirical method in use. To-day we ought to have reached the ground of the rationalists, in which the truly scientific physician recognizes the departure from the normal, and has at hand means that give rational assurance of appropriateness for relief. If the therapeutic means given are guided by

accepted physiologic principles, the ground of all controversy will have been removed. As well might the sailor attempt his art by ignoring the science of navigation. Empiricism under such guidance would give way to the rational methods. Schools should lay first and deep the foundations in the essential scientific principles, and then allow the student to apply them in following the art. Such a standard for the art of medicine would reduce the number of doctors, by exacting greater requirements and extending general intelligence among the people, and put the practice of medicine where it belongs, on rational grounds.

In this scheme I present, in outline at least, a survey of the science of medicine as it is to be under scientific guidance.

Therapeutics.

Cold Water Irrigation of Large Intestine for Catarrhal Jaundice.

Simon Baruch, the author of "Hydrotherapy," has found an excellent adjunct in the treatment of catarrhal jaundice in irrigation of the large intestine. He was led to its application in this disease by the publication of Dr. Krull, who treated eleven cases of catarrhal jaundice by simple cold water irrigations of the intestines. After failure with other treatment, which almost invariably had included the Carlsbad waters, these irrigations succeeded, first, in relieving the constipation, and later, in re-establishing the hepatic norm. Dr. Lowenthal reports, in the *Berliner Klin. Woch.*, 1886, forty-one cases of catarrhal jaundice, of which all but one demonstrated good and rapid effects from intestinal irrigations. Four irrigations of one or two quarts, at a temperature varying from 54 to 64 F., increasing three degrees daily—one quart sufficing for children—were needed on an average for each case. In all cases the fecal evacuations, sometimes diarrhea, followed the irrigations: these ceased if the succeeding irrigation was of a somewhat higher temperature. Gray or colorless clay-like masses were evacuated after the first treatment; after the third, the feces became slightly yellowish, and after the fourth usually brown. Gastric pains and oppression, headache, etc., ceased and appetite returned; the icteric hue disappeared once after the first, twice after the second, irrigation. In seven cases pruritus disappeared after from the second to the fourth treatment. The skin began to clear up, but continued dark for a long time. Other reports of similar results are found in recent literature, confirming the value of this *hydriatric measure*, so that it may be regarded as established.

He can testify from personal experience to its beneficial effect in catarrhal jaundice, and to its failure in jaundice from gall-stones. Contrary to Krull's method, he has begun with tepid water, and reduced its temperature daily, and this method has recently been approved by Stadelmann, who has investigated the "cholagogue" action of these irrigations. Once in twenty-four hours, Baruch places the patient in the knee-elbow position and pours from one to two quarts of water of 70 F., into the rectum, from a fountain syringe. The patient is induced to retain the fluid as long as possible. On the following day the temperature of the water is increased two degrees and this decrease is continued until 60 F. is reached. From two to six irrigations are sufficient to produce the desired result. The gastric and hepatic pains ceased after the first injection, appetite soon returned and jaundice disappeared more or less rapidly, but that most distressing symptom, pruritus, was not relieved.

Dr. Robert C. Kemp, who has done so much for the perfection of rectal irrigation, its rationale and its clinical applications, offers the following deductions from his observations for clinical purposes:

When increase of pulse tension is to be avoided in irrigations, the temperature of the water should be 101-104 F.

When a rapid increase of pulse tension is desired, together with improvement of cardiac action, rectal irrigation at 110, gradually increased to 120 F., is advisable.

Cold irrigation, being a temporary stimulant, increases blood-pressure, but later depresses. Hence it should be employed with caution. Irrigation with cold water is dangerous when prolonged. Low irrigation is useful in proctitis, prostatitis, etc.

In hemorrhage, irrigation at 110-120 F. secures the most rapid result, improves the pulse, and relieves shock.

In duodenal jaundice, cold high irrigation for a very short period, alternated with hot irrigation with the glass-tube irrigator, as suggested by Dr. Minor, has proved useful, as well as in chronic constipation.

Treatment of Tubercular Glands.

The following practical rules for the treatment of tubercular glands are given by Sebileau in the *Journal des Praticiens*, September, 1899 (*Ther. Gaz.*, January, 1900):

Bicycle exercise for an hour in the morning followed by a cold sponge with dry friction and a breakfast of boiled milk, bread, butter and eggs. Several hours are then to be spent quietly in the sunshine. Before and after each lunch the patient may walk a short distance. The diet should consist largely of roast and boiled meats, fish, boiled milk, and eggs; green vegetables should be partaken of sparingly. After an afternoon nap there should follow an alcohol rub and passive exercise to the muscles of the trunk.

Two or three drops of Fowler's solution is beneficial once or twice a day. A small dose of cod-liver oil should be given fifteen minutes after lunch and dinner. If this causes indigestion, pancreatin will allay it. As a nerve tonic, the following is of value:

R. Glycerini	3ii
Sodii phosphati.....	3ii
Calcii phosphati.....	3ii
Ext. cinchonæ.....	3iv
Vini malagæ.....	Oii

M. Sig.

Surgical intervention will undoubtedly be necessary in the disease, but this treatment is beneficial in building up the system.

Fluid Extract of Lemon in Malarial Infection.

E. Dimattei has been testing the value of fluid extract of lemon as a prophylactic in malarial regions, in Catania, Italy, the entire personnel of the railroad having been placed under his orders for several years. He announces that the results are most encouraging (*Gazzetta degli Ospedali*, January 7). From 1890 till 1894 the number of persons in the service of the railroad who were affected with malaria amounted to 66 per cent. With lemon treatment the percentage fell to 32 in the next three years, and to 25 in 1898.

Tabetic Atrophy of the Optic Nerve.

DeWecker asserts, in *Ann. d'Ocul.*, 1899, 1, that specific treatment does not affect tabes favorably. It even accelerates its development during the incipient stages. In every patient with gray atrophy who has taken a course of specific treatment, the sight diminished at once. This coincidence is too frequent and too striking not to signify that the treatment is directly responsible for the lowered vision.

Irritable, Hacking Cough of Phthisis.

R. Codeini	gr. iv
Acidi hydrocyanici, dilut.....	3ss
Spts. chloroformi.....	3iss
Syrupi limonis.....	3i
Aquæ, q. s., ad.....	3iv
M. Ft. emulsum. Sig. A teaspoonful frequently when cough is troublesome.	

—Murrell.

Spray for Room Occupied by Consumptive.

R. Gualcol	10 parts
Eucalyptol	8 parts
Acidi carbolici.....	6 parts
Menthol	4 parts
Thymol	2 parts
Olei caryophylli.....	170 parts
M. Mix and dissolve.	

This, used freely, in addition to free ventilation, purifies the air and is very refreshing.

—Yonge.