
SOME THOUGHTS

ON A

New Remedial Source.

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SOME THOUGHTS

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NEW REMEDIAL SOURCE,

WITH A WORKING HYPOTHESIS SUGGESTIVE OF A MORE RADICAL
TREATMENT OF CHRONIC DISEASES; ALSO SOME THERA-
PEUTIC DEDUCTIONS FROM COMPARATIVE PATHOLOGY.

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"The philosopher should be a man willing to listen to every suggestion, but determined to judge for himself. He should not be biased by appearances. Have no favorite hypothesis. Be of no school, and in doctrine have no master. He should not be a respecter of persons, but of things. Truth should be his primary object. If to these qualities be added industry, he may, indeed, hope to walk within the veil of the temple of nature."—*Faraday, Life of*, by Bence Jones, vol. i., p. 225.

..... "Disciples do owe unto masters only a temporary belief, and a suspension of their own judgment until they be fully instructed—and not an absolute resignation or perpetual captivity."—Bacon, *Adv. of Learning*, vol. i., p. 45.

PROEM.

The problem of the ætiology of chronic diseases, notwithstanding the most liberal interpretation of the *psora*-theory of Hahnemann, is still awaiting solution. The radical treatment of these diseases, in spite of the large number of so-called *anti-psoric* remedies, yet remains to be discovered.

The necessity of a knowledge of the fundamental cause, or causes, of all chronic diseases, to a full and symmetrical growth of his system of therapeutics, was early recognized by Hahnemann. His attempt to

furnish this desideratum has been variously estimated and commented upon by his disciples and others. Those of his disciples, more Hahnemannian than the master, regard it as presumptuous and unnecessary to inquire as to the essential nature of disease, and content themselves with mere "symptom covering" in the treatment. An acquaintance with pathology by these physicians is regarded as superfluous and misleading, and if asked the nature of a disease they are treating they will reply after the manner of Prof. Guernsey, in a recently published case, to wit: "The parents asked me what was the matter. I said, 'Did you not see how he began at 4 P.M., and screamed and moaned and tossed and twisted, with one leg drawn up? Was not that plain to be seen, and was not that enough? That is all one need to know about it for certain purposes in making a prescription; these conditions told me what medicines he needed. Do you understand?'" And he added further that "modern pathology can *never* give us the remedy to cure any case of illness."

We are all familiar with the opinion of the late eminent Carroll Dunham on this question—expressed in his inaugural address to the World's Homœopathic Convention—and the war of words it gave rise to! We need not reproduce this discussion here; but it has borne good fruit, not only in calling attention to the position of modern chemistry, physiology and pathology, but in directing attention to the divergence from the philosophy of Hahnemann of the very men who are claiming to teach his doctrines as he himself taught them. The truth is, in order to insure progress in our science, we must retrace our steps, and understand, with Hahnemann, what we have apparently for some time lost sight of, *the necessity* of determining the essential nature of chronic diseases, if we would more successfully treat them. As we have already stated, in our opinion, Hahnemann did not succeed in untying this *Gordian knot*, though his effort in this direction, considering the state of medicine and its collateral sciences at the time he wrote, is worthy of the highest genius.

Let us here review briefly his consideration of this subject—its full discussion we will enter into at a future time from the standpoint of comparative pathology—and examine its issue after a lapse of fifty years before introducing our own views upon the same. The subject of chronic diseases early engaged the attention of Hahnemann, for he discerned, with the intuition of genius, that in the successful management of them his new system of therapeutics would be put to the severest test. He found that their treatment, "even when apparently conducted strictly according to the doctrines of the homœopathic art," was most unsatisfactory. "Their commencement was cheering, their progress less favorable, their issue hopeless." And then he asks, "Whence this inferior success, this absolute want of success in the prolonged treatment of non-venereal chronic diseases?" Hartmann tells us (*Chronic Diseases*, vol.

i., p. 3), "When Hahnemann first commenced treating chronic diseases according to the homœopathic method he had developed his doctrine to a considerable extent; a large number of drugs had already been proven by him and his disciples, and he had become satisfied that, in spite of the general superiority of the homœopathic healing art, the treatment of chronic diseases by that method was unsatisfactory in the end."

His disciples suggested that this want of success might be owing to an insufficient number of medicines properly proven. But Hahnemann dissented from this view, as, despite the continual additions to the *materia medica*, no corresponding progress was noted in the treatment of chronic diseases.

Quick to perceive this unfortunate gap, and to understand its significance—which many of his disciples have not done—Hahnemann, like a true philosopher, immediately set to work to bridge it over if possible. On this problem his thoughts were engaged, he tells us, "day and night" from 1816 to 1827. As the result of his labors, in 1828 his remarkable work on *Chronic Diseases* appeared.

Apropos of these Dr. Dudgeon informs us: "His reflections led him to the conclusion that the cause of the constant recurrence of chronic diseases after the symptoms had been removed by the homœopathically-selected remedy, and their recurrence with new and grave symptoms was that the homœopathic physician in these diseases had not merely to do with the morbid phenomena actually present, but that these phenomena only represented a portion of the deeply-seated fundamental malady, whose great extent was manifested by the new symptoms that appeared from time to time; and unless he knew this fundamental disease in the full extent of all the symptoms peculiar to it, he could not hope to discover any medicines which should correspond in their peculiar pathogenetic effects to the whole fundamental malady, and, therefore, he would be unable to cure it in its whole extent."

This fundamental disease, or *materies morbi*, Hahnemann, after entertaining the "coffee theory" and the "itch theory," termed *psora—herpetic diathesis* of the French. This malady he considered as at the bottom of seven-eighths of all chronic diseases, the remaining eighth being of venereal origin.

Whenever this disease is partially destroyed on the skin, without any previous cure of the internal psoric disorder ("especially if it be of somewhat long standing and have attained to any extent"), being effected by means of the internal employment of its specific remedy, "This internal disease then bursts forth rapidly, often in a frightful manner, in the form of phthisis, asthma, insanity, dropsy, apoplexy, amaurosis, paralysis," etc., etc., "and it not unfrequently occasions sudden death."

In 1803—*i. e.*, twenty-four years before he promulgated his *psora theory*—it will be remembered, Hahnemann wrote an essay upon the action of coffee in which he ascribed the production of a multitude of chronic

diseases to the action of that all but universal beverage, and he confesses that he thinks he had ascribed an exaggerated importance and gravity to its use; "since his discovery of psora as the cause of so many chronic diseases he is inclined to attribute to that agent the production of most of those affections he had imputed to coffee."—*Dudgeon*.

Hahnemann's mind was a progressive one, and displayed all the characteristics of the true philosopher—attacking again and again, undismayed by repeated failures, the riddles of nature. Concerning the value and limitations of this psora theory as the ætiological factor in chronic diseases, and the pathological basis for remedial indications, we must opine with Dr. Dudgeon when he writes: "I am prepared to go a certain length with Hahnemann in his psora theory, in the widest sense of that term—*i. e.*, not confined to the mere disease *itch*; and I will readily admit that the sudden suppression of many cutaneous diseases will produce derangements of greater or less gravity of internal organs. But this admission does not go nearly the length of Hahnemann's psora theory, which would derive all non-venereal chronic diseases from psora.

"I think one other great error in Hahnemann's doctrine of chronic diseases is in his non-recognition of hereditary maladies." Not only does he never in any place speak of hereditary diseases, but he distinctly alleges that every person affected with a non-venereal chronic disease must, at one period of his life, have had the itch at one time or another, however slightly; and he argues in a most vicious circle on this point. Certain medicines, he says, cure these chronic diseases that we meet with in persons who have avowedly had the itch, and these medicines we term antipsorics; if we succeed in curing chronic diseases with these medicines in persons whom we cannot ascertain to have ever had the itch, we may, nevertheless infer that they have at one time had the itch, because we can cure them with antipsorics.

It would seem to follow from this that as none of these seven-eighths of all chronic diseases are curable "save by the use of a certain set of medicaments, that were mostly unknown or unused before Hahnemann's time, 'no such chronic diseases were ever cured before the promulgation of his doctrine in 1828.'" Yet Hahnemann in 1797 published in his essay entitled *Are the obstacles to certainty and simplicity in practical medicine insurmountable*, "a case of well-marked so-called psoric disease consisting of ulcers on the legs, that had lasted for forty years in an old *bon vivant* of a Colonel. The sole treatment consisted in wrapping up the legs in a flannel roller, immersing them daily for a few minutes in cold water, and afterwards dressing them with a weak solution of corrosive sublimate. This old gentleman, whom the later lights shed on pathology by the psora theory would have inevitably condemned to die of apoplexy or some other horrible disease, under such irrational treatment, wonderful to relate, got well, and, still more wonderful, remained

so for many years, during which, Hahnemann says he had an opportunity of observing him."

A modern accredited writer on homœopathy, Jousset, treating of the relative merits of Hahnemann's pathology and therapeutics (*Clinical Medicine*, p. 6) quotes approvingly from Tessier as follows: "The doctrine of Samuel Hahnemann may be divided into two parts, viz., pathology and therapeutics. Term for term, the one comprises all his errors and the other all his truths. So that in speaking of the pathology or the errors of Hahnemann we mean the same thing; and the therapeutics or his truths are also identical. Consequently, in what is called Homœopathy there is the hemisphere of error and the hemisphere of truth." To us the above statement appears more epigrammatic than scientifically correct; more sweeping than satisfactory. We think it would be more in keeping with the facts, as interpreted by us, and as we shall hereinafter attempt to show, to rather say, that the results of Hahnemann's labors—so far as they form a system—are not fully rounded like a sphere, but have a segment missing, not only on the side of pathology, but of therapeutics as well.

We are aware that Hahnemann before promulgating his psora theory—and we might add "coffee theory," discouraged investigations with a view of ascertaining the causes of disease, and even ridiculed the older physicians for efforts made in that direction, saying, "They fancied they could find the cause of disease, but they did not find it because it is unrecognizable, and not to be found, since by far the greater number of diseases are of a dynamic (spirit like) origin and nature, their cause therefore remaining unrecognizable."

Yet later, we find Hahnemann actually developing a theory of the origin of all chronic diseases. "And we shall find that this doctrine," writes Dudgeon, "and this I say, without thereby implying its fallacy, is an attempt at a dogmatical explanation of the essential nature of a vast proportion of the maladies that affect mankind, and as all Hahnemann's views and doctrines were made subservient to his therapeutics, this pathological hypothesis of his was the foundation of a peculiar therapia, differing in some essential particulars from what he had heretofore taught." Here we would call attention to the characteristics of Hahnemann's mind again. We find him not the infallible *vates* or seer that some of his disciples of to-day and the past—who have carried his teachings in some departments farther than he himself intended—would have us regard him—but a diligent philosophical searcher after truth, willing to reject a theory or hypothesis the moment further reflection or experience convinced him of his error. For our own part we much prefer the Hahnemann of the *Chronic Diseases* to the same of the early editions of the *Organon*.

Let us now skip over the half century intervening between the publication of the *psora theory* and the present time, and see what this theory

has done—with the aid of a greatly augmented materia medica—in the treatment of chronic diseases.

Turning to page 57 of Jousset's work on *Clinical Medicine*, we find the following unequivocal language addressed to his class of students. He says: "To save you from disappointment in the future, let me tell you that chronic diseases are incurable." Professor R. Ludlam, the translator of this book, emphasizes this *ex cathedra* statement by one of his own, which we shall notice with similar ones in the proper places.

Dr. H. I. Ostrom, in a thoughtful article in the *New York Medical Times*, February, 1886, on "Induction in Therapeutics," expresses his dissatisfaction with the existing state of Medical Science, in the opening paragraphs, to wit: "Our present knowledge concerning the nature of disease, and the action of drugs—the two premises of the syllogism, the treatment of disease—is so limited as to exclude therapeutics from the exact sciences, but by no other means than the most carefully conducted investigations and experiments in all that pertains to these two premises, can we hope to establish the healing art upon the scientific recognition that the importance of its relation to human society demands."

Over against these assertions let us put for a moment by way of contrast the following from Dr. D. Dyce Brown (*The Reign of Law in Medicine*, p. 13). He says, speaking of Hahnemann: "The Organon of Medicine is worthy of the greatest genius, and he has literally left almost nothing for his disciples to do but carry out his principles. Seldom has such a complete work been done by one man, and this while grim poverty was staring him in the face." This prevailing belief—amongst homœopaths—that the far-reaching philosophy of Hahnemann has left little or nothing to be discovered is misleading and dwarfing—and will account for our want of real progress in the knowledge and treatment of disease.

To assert that Homœopathy as a science has not as yet attained to the growth promised ere this through the genius of its therapeutic laws (?) is to be guilty of a truism. To affirm, notwithstanding these laws enabling prevision, that no discovery of importance since Hahnemann's time has been made thus, goes without saying. Our progress thus far, as we may say, has been inevitable. It is without feature of epochal importance. It is the combined labor of the majority of the profession. It is characterized by industry rather than brilliancy. In short, it is an advance of the utmost importance without the aid of genius.

"The individual withers, and the world is more and more."

The majority of contributors to our current and standard literature grind in the mill of a truism, and nothing comes out but what was put in. Changes are rung on the most hackneyed subjects *ad infinitum*, *ad nauseam*, without a single new idea or thought being offered to give them an excuse for being.

The future of Homœopathy as a science is indeed most promising.

We are but just beginning to learn of the wealth of the remedial sources at our command, and how it may be best made available. But entire fields in Etiology and Pathology as well as in Therapeutics, still remain *terra incognita*, which by the aid of our therapeutic laws, should in the near future become familiar to us. Aside from the invaluable assistance afforded us in the provings of drugs and the matching of their symptoms to disease, this law or laws should prove a mighty instrument to guide us in prosecuting medical research *in general*.

The old school of medicine has been charged with plagiarizing homœopathic therapeutics, and, without doubt, there is truth and justice in the arraignment, yet it speaks very poorly for the efficacy of our "stolen thunder" when one of their representative men—J. Syer Bristowe, M.D., in an *Address in Medicine* before the British Medical Association in 1881, asks, "What grounds of reason or experience have we to justify the belief that for every disease an antidote or cure will sooner or later be discovered?" and he declares it to be "Utopian to expect that diseases generally shall become amenable to therapeutical or any other treatment." Richard Hughes, M.D., the eminent English physician and thinker, if we may judge from his writings, has for a long time been persuaded that there are gaps existing in our therapeutics, which our present methods of advancement can never reach.

How else are we to interpret the following from his oration on *Hahnemann as a Medical Philosopher*, p. 10, to wit: "Another Descartes may arise in medicine, whose perception in special fields of knowledge may be keener, and who may leave his mark more clearly traced on certain branches of our art. But Hahnemann, when once his method shall have won the acceptance we claim for it, will ever be reckoned the Bacon of therapeutics—the fruitful thinker who taught us what was our great aim as physicians, and how we should best attain to it."

If, as we have been told, Hahnemann "has literally left almost nothing for his disciples to do but to carry out his principles," we cannot imagine where a Descartes could find a relationship existing between the algebra and geometry of medicine, that was not already well known on which to inaugurate a new era, or base a claim as a discoverer. Certainly, out of the stock-work of drug provings and the verification of their symptoms in disease, another Descartes could not very well arise; yet one thing is very certain, in our opinion, viz.: That we may gather up in our *Materia Medica* not only twelve hundred remedies from the present remedial sources—with only the law of *similars* to guide in their selection in disease—and the majority of chronic diseases will still remain as incurable as they are now.

"A true faith in medicine," writes Dr. Kidd (*Laws of Therapeutics*, p. 95), "is possible only to those who see natural laws of cure. When accurate observation and experience corroborate the exactitude of law, faith in medicine becomes unswerving and perfect. It is, indeed, truth

that is wanted, and not one-sided advocacy or partial exaggeration—not only truth, but all truth.”

Dr. J. P. Dake, writing concerning the outlook for therapeutics in his late able work on *Therapeutic Methods*, p. 190, believes, that “The prospect for the discovery of more reliable principles to guide the therapist, and for the more ready acceptance of what is established as true, is encouraging.” “Yet, at the present time,” writes Dr. J. D. Buck, “our boasted homœopathy has for its proudest boast, that it kills a few less than its heroic rivals. Whatever it can justly claim more than this, is a pittance of its proud and beneficent inheritance. Our law of cure, when rightly understood and correctly applied, will cover every diseased condition, and the apprehension of every diseased condition, whether manifested objectively or subjectively, depends on a thorough knowledge of physiology.”

And now a few words, before turning to our subject proper, relative to the proper instruments with which to prosecute scientific research.

The official organ of the pure Hahnemannians—*i.e.*, those claiming to follow the teachings of Hahnemann to the letter (*The Homœopathic Physician*)—has, for its motto, the following, from one of the last articles which Dr. Hering wrote: “If we ever give up the strict inductive method of Hahnemann, we are lost, and deserve to be mentioned only as a caricature in the history of medicine.” We are not a little surprised, not only that Dr. Hering should write the above, but that *The Homœopathic Physician* should accept it apparently so literally; for, every student of the writings of Hahnemann knows that he largely used the deductive method, and it is notorious, that Dr. Hering, both in early professional life, and in late, almost wholly ignored the inductive method, *quod vide* Dudgeon’s *Lectures on Homœopathy*, Hering’s late writings, etc.

The Baconian, or rather the Aristotelian method of inductive reasoning (*vide* J. W. Draper’s *Intellectual Development in Europe*, vols. i. and ii., pp. 176, 175) has been sharply attacked by Professor Jevons, *The Principles of Science*, etc., p. 576, as follows: “Bacon’s method was a kind of scientific bookkeeping. Facts were to be indiscriminately gathered from every source and posted in a ledger, from which would emerge in time a balance of truth. It is difficult to imagine a less likely way of arriving at great discoveries.” “All induction is but the inverse application of deduction, and it is by the inexplicable action of a gifted mind that a multitude of heterogeneous facts are arranged in luminous order as the result of some uniformly acting law.” “Hypothetical anticipation of nature is an essential part of inductive inquiry, and it is the Newtonian method of deductive reasoning combined with elaborate experimental verification which has led to all the great triumphs of scientific research.”

Professor Whewell writes (*History of the Inductive Sciences*, vol. i.,

"Epoch of Kepler"): "We may venture to say that advances in knowledge are not commonly made, without the previous exercise of some boldness and license in guessing. The discovery of new truths requires, undoubtedly, minds careful and scrupulous in examining what is suggested; but it requires no less such as are quick and fertile in suggesting."

J. S. Mill teaches (*System of Logic*, vol. i., p. 580): "Deduction is the great scientific work of the present and of future ages. The portion henceforth reserved for specific experience in the achievements of science, is mainly that of suggesting hints to be followed up by the deductive inquirer, and of confirming or checking his conclusions."

Sir John Herschel, writing on the combined use of the inductive and deductive methods, says: "They form an engine of discovery, infinitely more powerful than either taken separately, and that which promises the most for research."

Professor Tyndall (*The Forms of Water*, etc.) insists upon the use of the imagination in the prosecution of science. And Professor Hæckel (*History of Creation*, vol. i., p. 79) says: "If we consider and compare the most important advances which the human mind has made in the knowledge of truth, we shall soon see that it is always owing to philosophical mental operations that these advances have been made, and that the experience of the senses which certainly and necessarily precedes these operations, and the knowledge of details gained thereby, only furnish the bases for general laws. The purely empirical naturalists, who do not trouble themselves about the philosophical comprehension of their sensuous experience, and who do not strive after general knowledge, can promote science only in a very slight degree, and the chief value of their hard-won knowledge of details lies in the general results which more comprehensive minds will, one day, derive from them."

In pursuing one's inquiries, it is necessary that one should have faith in one's work, in one's convictions, and be not afraid to express them. The time is past when

"Men grow pale lest their own judgments should become too bright,
And their free thoughts be crimes and earth have too much light."

"No one," writes John Stuart Mill (on *Liberty*), "can be a great thinker who does not recognize, that, as a thinker, it is his first duty to follow his intellect to whatever conclusion it may lead. Truth gains more even by the errors of one who, with due study and preparation, thinks for himself, than by the true opinions of those who only hold them because they do not suffer themselves to think."

Opposition does not always mean defeat. Time will decide, if we be in error. Hahnemann, the "Columbus of Rational Therapeutics," persecuted by apothecaries and physicians, may now inquire after the manner of his great prototype in physical science—

Were you at Leipsic? No?
 We fronted there the learning of all Germany;
 All their pathologies, all their posologies.
 Guess-work they guessed it, but the golden guess
 Is morning star to the full round of truth.

Tennyson's Poems: *Columbus*.

A NEW REMEDIAL SOURCE.

"To discern likeness amidst diversity, it is well known, does not require so fine a mental edge as the discerning of diversity amidst general sameness. The primary rough classification depends on the prominent resemblances of things; the progress is towards finer and finer discrimination, according to minute differences."—George Eliot, *Impressions of Theophrastus Such*.

"It is unnecessary at the present day to insist upon the importance of a knowledge of chemistry, and particularly of physiological and pathological chemistry, to be the student of medicine. Physiological chemistry promises much even in the treatment of disease; for, it is beginning to be seen from the investigations of the molecular constitution of different bodies, that there exists a distinct connection between their specific atomic grouping and their physiological action."—T. Cranstown Charles, M.D., etc., *Physiological and Pathological Chemistry*, London, 1884.

"Amongst the organic proximate principles which enter into the composition of the tissues and organs of living beings, those belonging to the class of proteid or albuminous bodies occupy quite a peculiar place, and require an exceptional treatment." "They are indispensable constituents of every living, active animal tissue, and indissolubly connected with every manifestation of animal activity."—Arthur Gamgee, M.D., etc., *Physiological Chemistry*, vol. i., p. 5.

"On the other hand the inorganic substances are exempt, as a general rule, from chemical change. The large proportion of them are reabsorbed from the tissues in which they were deposited, and discharged unchanged with the excretions. They do not, for the most part, participate directly in the chemical phenomena of the living body, but rather serve to facilitate by their presence the necessary changes of nutrition in other ingredients of the animal frame."—Dalton, *Human Physiology*.

The attempt of Schüssler to introduce, as an abridged system of therapeutics, the inorganic tissue formers has not resulted in enriching the materia medica to the extent hoped for—nay, claimed—by its author, much less supplanting the elaborate system of minute and varied drug symptomatology created by Hahnemann and his immediate followers.

Schüssler's sweeping assertion that these twelve inorganic tissue remedies are quite sufficient "to cure in the shortest way all diseases that on the whole are curable," certainly displays a narrowness of mind and a lack of impartial judgment not usually found in a true philosopher. Had he included in his therapeutic system the proximate principles of all classes, he would have, we believe, with his superior knowledge of chemistry, reclaimed a *terra incognita*, upon which we can only hope to throw an uncertain light, and carried our school of medicine to a point which "our friends, the enemy," with their present scientific method are incapable of ever attaining. It is on this line, so abruptly terminated by Schüssler, that we will endeavor to turn our thoughts at this stage of the subject.

"The organic substances," Schüssler tells us, *New Treatment of Disease*, p. 11, "are only influenced by inhaled oxygen, and by the inorganic salts. Nitrogen and carbon, therefore, remain useless as therapeutical agents. If in the animal organism nitrogen should or could be wanting, then albuminous substances would be wanting, of which nitrogen is an integral part." Without entering into consideration of Schüssler's objections to the organic physiological constituents for therapeutic purposes, we will now give a brief outline of some of them, going more into detail when we come to consider the treatment of disease.

The works of Flint, Carpenter, Foster, Dalton, Kirk, Landois, Bennet, on physiology, and of Gamgee, Charles, Vaughan, Kingzett and Liebig on physiological chemistry, and of Thudichum on the *Chemistry of the Brain*, have been consulted for the following:

ALBUMEN OF BLOOD.

This substance is the most abundant inorganic ingredient of the blood-plasma, where it exists in the proportion of 53 parts per thousand.

CHOLESTERINE.

Is very widely spread in the body. It occurs largely in the cerebro-spinal axis, and in nerves, and is also present in the blood. Cholesterine is likewise found in yolk of egg, in the spleen, in certain dropsical fluids, pus, atheromatous deposits and strumous cysts and in many lipomas, goitres and tubercular deposits. It is possibly excreted in the bile, forming the chief ingredient of biliary calculi. According to Bibra, "it forms about one-third of the cerebral fat along with the fats constituting one-half the total solids of the white substance and more than one-fifth of the solids of the gray. . . . It seems to be, without doubt, absorbed from the substance of the nervous system by the blood transported in this way to the liver, and thence discharged with the bile into the alimentary canal." (Dalton, Flint.) The physiological relations of cholesterine are obscure as compared with those of true fatty substances. It crystallizes in large thin rhombic tablets.

HÆMOGLOBIN.

As the principal constituent of the red corpuscles of the blood of vertebrate animals, healthy human blood contains on an average twelve per cent. of hæmoglobin. It exists not only in the blood corpuscles, but also in some muscles and in solution in the blood of some invertebrates.

KERATIN

Is found in all the tissues developed from the ectoderm or horny layer of the embryo. It seems to be the chief component of epidermic structure, and is closely related to albumen, yielding, like it, leucin and tyrosin.

LEUCIN

Belongs to the fatty bodies and is found normally in many of the organic tissues, particularly the pancreas, spleen, lungs, brain, etc. It is a constant decomposition product of the albumen and nitrogenized substances, as horn, etc. When pure it forms very thin, white, glittering, flat crystals.

TYROSIN.

Almost all products furnish this body under the action of strong oxidizing agents. It is prepared with facility from horn, nails, hair and the skin. Together with leucin it is one of the products of normal pancreatic digestion. It is found in diseased epidermis, thickened nails and atheromatous cysts; also preformed in the substance of the liver, spleen, kidneys, suprarenal capsules, thyroid and salivary glands and in various degenerations of these organs.

KREATIN.

This is a neutral crystallizable substance which exists in the muscular tissue, both voluntary and involuntary, of man and animals, its proportion in human muscle being, according to Neubauer, about two parts per thousand. It has also been found in minute quantity in the blood, the brain and the kidneys.

KREATININ.

This, which is simply a dehydrated form of kreatin, occurs normally as a constant constituent of urine and of muscle extract. It acts as a powerful alkali, forming with acids and salts compounds which crystallize well.

SARKOSIN.

This substance is formed from kreatin. It is not itself a constituent of muscle, and is of interest on account of its derivation. It forms in large colorless, rhombic prisms, which are soluble in alcohol and in water.

XANTHIN

Mixed with hypoxanthin is met with in different parts of the organism, as in muscle, spleen, pancreas and liver. Its formation precedes that of uric acid, from which it differs in containing one atom of oxygen less. First discovered in a urinary calculus and called xanthic oxide. Sarkin or hypoxanthin is found in muscle generally in the proportion of about 0.02 per cent.; it is also present in the spleen, liver, thymus and in the blood and urine of leukæmia, generally accompanying xanthin.

CARNIN.

Discovered by Weidel in extract of meat, of which it constitutes about one per cent., though doubtless it is a regular constituent of muscle. (Gamgee.) It crystallizes in white, very irregular crystals.

INOSIT.

This saccharine body is met with in the muscle substance of the heart, and in most of the organs of the body, as the brain, liver, spleen, lungs, kidneys, etc. It crystallizes in brilliant little lamellæ, somewhat like those of cholesterine.

CYSTIN.

Of the well-known organic constituents of the urine, this is the only one which contains sulphur. It is sometimes found as the sole or principal constituent of urinary calculi of men and of dogs. At other times it may be detected in urinary deposits or in solution in the urine. The liver is supposed to have some influence over the formation of cystin. It is probable that it results from the splitting up of the albuminous constituents of the food.

URIC ACID

Occurs sparingly in the human urine, abundantly in that of birds and reptiles where it represents the chief nitrogenous decomposition product. It occurs also in the blood, spleen, liver, and sometimes is the only constituent of urinary calculi. The chief product of its decomposition is urea.

GUANIN

Has been found in the human liver, spleen and fæces, but does not occur as a common product. It is related to xanthin, hypoxanthin and uric acid. It has been found combined with calcium in the scales of some fishes, and has also been extracted from the muscles, liver and pancreas of man.

ALLANTOIN

Is one of the oxidation products of uric acid which on oxidation gives urea.

We would just mention the alcohols and fatty acids in passing:

CEREBRIN.

This is one of the non-phosphorized nitrogenous constituents. Besides occurring largely in the brain it is also found in the axis cylinder of nerves, in the yolk of egg and in pus corpuscles, etc. Is more abundant in the white than in the gray substance of the brain. It may be regarded as a nitrogenous glucoside. Is undoubtedly a constituent of the medullary layer of nerve fibres. Cerebrin forms a soft, light, amorphous, moderately hygroscopic powder.

LECITHIN.

This substance is present in nerve tissue, particularly the gray substance; also in the yolk of egg, semen, blood corpuscles and serum,

milk, bile, etc. Also occurs widely spread throughout the body. The lecithin of brain forms a colorless, slightly crystalline powder.

PROTAGON

Forms the principal part of the white substance of Schwann. (Foster, Charles.) Liebreich, who discovered this substance in the year 1865, gave it the above name, as indicating it as the first definitely ascertained specific constituent of brain. (Gamble.) It is a crystalline body containing nitrogen and phosphorus.

NEURO-KERATIN.

This is the same sulphur-containing body that is found in the epidermic structures, such as hair and nail. The central and principal nervous system are developed from the same layer of the blastoderm as the epidermis, and one point in common which remains between them is the fact of their both yielding keratin. Like keratin it yields much tyrosin, but less leucin. It forms a yellow powder.

PHRENOSIN

Is the substance prepared by Thudichum (*Chemistry of the Brain*). It is white, tasteless and odorless, and crystallizes, from absolute alcohol, in white rosettes.

Many substances, it will be observed, have been omitted from the above list. Allusion will be made to them when treating of the different diseases. Some of these preparations we have just furnished to Messrs. Boericke & Tafel for trituration. Others will follow as soon as they can be obtained from the laboratory of E. Merck, Darmstadt. And now a word in explanation of the immaturity of thought shown in our work. We had not thought of writing out our views on this subject as yet until a recent interview with the editor of this journal and a reading of the late address of Dr. Billings (U. S. A.) on "Medicine in the United States and its Relation to Coöperative Investigation," decided our doing so, knowing the difficulties attending the practical undertaking of the work unaided. We regret to be able to offer at this time no data resulting from the crucial test of experiment in the place of new hypothesis. When opportunity shall present for practically testing our views, we shall not feel that we have lessened our obligations in the least to carry our views to decisive issue by invoking coöperation therein. In preparing this installment of our communication to the RECORDER we have labored at a disadvantage due to the limited time allotted us in order to appear in this issue. We trust, however, that nothing essential to the clearness of treatment will have been omitted. Our plan has for its object at this time chiefly the stimulating of thought on a most important subject, viz., the nature and treatment of chronic diseases.

CARCINOMA.

The New York Medical Journal and Obstetrical Review, July, 1882, p. 110, contains, under the caption "The Radical Cure of Cancer," the following communication, to wit: "The undersigned, who, in October last, was delegated to receive competing essays on the subject of the radical cure of malignant disease, announces that three essays were presented. In the consideration of their merits the assistance of Dr. George B. Shattuck, editor of the *Boston Medical and Surgical Journal*, was invoked, and it has been decided that no essay is worthy of a prize. The same subject—namely, 'The Probability of the Discovery of a Cure of Malignant Disease, and the Line of Study or Experimentation Likely to Bring Such a Cure to Light'—is proposed for essays to be presented in competition not later than the 1st day of December, 1883, to the undersigned, who, with such assistance as he may select, will be the judge of their merits. For the best essay on the subject a prize of \$1000 will be given, the right being reserved to withhold the prize in case no essay of sufficient merit be presented. For the donor, J. Collins Warren, M.D., No. 58 Beacon Street, Boston."

This communication we have thought it worth while to quote in part, as interesting from its frank avowal of the little known at the present time concerning a radical treatment of the disease under consideration; and when we learn from a recent publication that none of the essays called out by the above prize, and one of 10,000 francs, offered a few years since by *L'Académie de Médecine* of Paris, for a similar purpose, were deemed of sufficient merit to claim them, we think it is in order to ask the question, Is the intimate nature of cancer, then, so hopelessly environed in obscurity that any attempt to throw light upon it, or to search for remedies more efficacious in its treatment, must result in a mere waste of time and labor? The results of centuries of investigations into this subject by the brightest and most philosophical minds in the profession have only tended to render the confusion worse confounded, and the answer to our query would, therefore, seem to go without saying.

The obstacles in the way of the attainment of a better knowledge of cancer would appear to be insurmountable, in view of the fact that neither the thirst for fame, pecuniary rewards, nor the greatest incentive of all—the desire to be of service to mankind—has been rewarded by the discovery of a rational treatment of this class of affections.

But what has homœopathy, with its endless resources, its boasted law of cure, its voluminous *Materia Medica*, and its superior instruments of research, to say in the premises? Can it do anything but echo the melancholy verdict of the dominant school of medicine? At present we cannot see that it can. To sustain this point it may be well to make a few citations. Doctor Kidd, writing in *Laws of Therapeutics*, p. 193, makes this very encouraging statement: "In an extensive practice dur-

ing thirty years, with a large number of unsuccessful cases, I have been three times encouraged as to the possibility of curing cancer." Professor Lilienthal writes, *Homœopathic Therapeutics* (a work of forty years' practice), p. 79: "There are no remedies yet for cancer. The individuality of the patient, the cause of the affection, and the concomitant symptoms, may aid us in selecting the remedy *which for the time being will alleviate the suffering*" (italics are my own). Dr. H. I. Ostrom, at p. 278 of *A Treatise on the Breast*, has this to say: "I would be only too willing to believe that surgery will not always be obliged to bear the opprobrium of being able to offer nothing better than the knife for carcinoma, but at present this is unfortunately true; after the stage of activity begins, the period at which a correct diagnosis is possible, medicines will palliate, but seldom cure." The same writer, in an article on "The Relation Between the Treatment of Tumors and Their Diagnosis," in *The New York Medical Times*, November, 1886, recapitulates his views as follows: "Those growths that have their origin in inflammation, and find their histological prototype in granulation tissue, even when this continues wholly embryonic, may, in a limited degree, be under the influence of the dynamic force of drugs, and that the instances in which such means have been effective in removing tumors illustrate and prove such a genesis and such a drug action, while those growths that have been called pathological new formations, that are in no sense connected with repair, and that find their histological prototype in the embryonic cells of the tissues that compose the neoplasm, are not susceptible of the dynamic power of drugs, and that the failure of such means to remove a given tumor affords one proof of its true neoplastic nature, and is, other things being equal, a justification for operative interference. Upon these premises it may be assumed that medicinal means should be exhausted before resorting to the knife, but such an assumption is unwarranted. Experiments in medicine, where positive knowledge can serve as a guide, are without sanction, and can under no circumstances enter into modern surgery." Let us compare this statement with the foregoing: "Notwithstanding this grave outlook, to medicine must we turn for a cure if one is possible at this stage of its development." It will thus be seen that carcinoma has forever been *logically* relegated to the class of incurable diseases.

The history of carcinoma we need not enter into. Suffice it to say it is the same intractable, painful, fatal malady to us as it was to Hippocrates, Galen and Paulus Ægineta. This disease, as is well known, is not communicable, no instance being on record where it has been transmitted from one individual to another. Nor is it inoculable on man, or any of the lower animals. The theory of its origin in an accidental poison is inconsistent with any of the facts bearing upon the subject. Its alleged venereal descent is also untenable. Again, cancer is not derived from without, as a parasite, as some maintain. Its histological character

is well known, and its independent existence and growth can be otherwise explained. The assertion that malignant disease is caused by traumatism will not sustain an examination. We may readily admit, however, that where a strong predisposition to the disease exists external violence may serve to start it into activity at the point injured. This statement likewise applies to the smoking habit, for cancer was known centuries before tobacco was introduced as a luxury. Apropos of the reports (very commonly believed among the public) that General Grant's condition was due to cigar smoking, the *British Medical Journal*, March 14th, 1885, makes the following sensible remarks: "A little knowledge of pathology is sufficient to demonstrate that smoking cannot cause cancer, although the irritation of a pipe sometimes sets up ulceration of the lip, which, when of very long standing, may become cancerous, provided that the patient has a hereditary tendency to cancer. There is no evidence whatever that cigar-smoking causes cancer of the tongue." A history of improperly treated, or latent *psora* (*diathèse herpétique* of the French) has been invoked as a cause, but without sufficient reasons, and the so-called *anti-psoric* treatment is utterly without effect in staying its progress. Moreover, cancer occurs in animals not subject to this diathesis; and Dr. Crisp has even discovered the disease in the pike. The supposition that cancer is a blood disease is altogether too vague, and is apt to discourage all search for its cause. Carcinoma is almost independent of most of the diseases of the body. It has been observed, however, that organic affections of the heart are rare amongst cancer patients, as is also tuberculosis. The effect of erysipelas upon some cancers is remarkable. When this disease sweeps over a cancerous ulcer every trace of the original disease is removed, but in a few days, or weeks at most, its well-known character reappears. The most common concurrent affection with cancer is some form of innocent tumor, thus marking, to our mind, a state of altered nutrition, which only requires an element heterologous to the tissues to develop into malignant disease. That cancer is a growth of the body, though a misdirected and morbid one, is borne out by the analogy of other tumors, and is certain when its minute structure is demonstrated. The heredity of cancer cannot well be doubted. Mr. Sibley, who has made a special study of this question, traced it in one of every nine, and Mr. Paget in one of every four cases. We do not, of course, mean to say that the actual disease is transmitted, but only a tendency to it.

Observations concerning heredity in general have in recent years, in the hands of Francis Galton (*vide Hereditary Genius, English Men of Science, Their Nature and Nurture, and Heredity*), been reduced to a science. Brown-Séquard, at a meeting of the French Academy of Sciences, March 13th, 1882, presented a communication on experiments made on guinea pigs, which prove that accidental affections of the parent are sometimes transmitted to the offspring.

In connection with influence of the emotions upon nutrition writes Dr. Tuke (*Influence of the Mind upon the Body*, p. 276): "Its generally recognized effect in inducing cancer should be mentioned, a predisposition in the system being probably necessary. Bichat maintains that cancer of the stomach frequently owes its origin to powerful emotions—'l'impression vive ressentie au pylore dans les fortes emotions, l'empreinte ineffaceable qu' il en conserve quelque fois'."

Velpeau, writing on cancer (*Marsden's Translation*, p. 116), says: "I ought to say as much of the moral condition, sadness, chagrin, distress of mind, mental agency of all kinds, so much blamed by the public and even by certain observers, have no share whatever in the production of cancer, and if we be permitted to notice such cases, it is rather to please the patient than to fill up a scientific void." Dr. Richardson, in his well-known work on *Diseases of Modern Life*, makes no allusion whatever in the chapter on "The Reel of the Passions," to the fact that these states of mind are in any way responsible for the production of cancer.

Walshe writes, *On the Nature and Treatment of Cancer*, p. 155, "Much has been written on the influence of mental misery, sudden reverses of fortune, and habitual gloominess of temper on the deposition of cancerous matter." "It should be recollected that cancer is very rare before the thirtieth year, and that the number of persons fortunate enough to reach that age without having suffered under disappointed hopes and wasting grief is in all probability comparatively small." But what shall we say of the ætiology of cancer in the lower animals? Surely an emotional state in them can influence nutrition to but a slight extent. Imagine, if you please, "Rab" (*Rab and His Friends*, by John Brown) the victim of malignant disease as the result of prolonged grief over the death of a friend; anxiety, worry, anger, etc. (For information concerning cancer in the lower animals, *vide Pedigree of Disease*, by Jonathan Hutchinson; *A Treatise on Cancer*, by Robert Mitchell, London; recent volumes of the *Journal of Comparative Medicine and Surgery*; *American Veterinary Review*, April, 1884; *A Treatise on Diseases of the Dog*, by J. W. Hill, London.)

The late Dr. Willard Parker, in his treatise *On Cancer*, "A study of three hundred and ninety-seven cases," says: "It is a noteworthy fact that a majority of my cases occurred among people in good circumstances, many of them wealthy and living luxuriously, and that, as a rule, the most rapid and malignant cases were those surrounded with the greatest comforts." "Lower animals are much more subject to the disease when in a state of domestication than in their natural wild condition." Walshe writes (*Ibid.*, p. 156): "Wherever the disease" (cancer) "is particularly rare it may be remarked that a low state of civilization prevails; wherever social organization is of a highly perfect kind, there cancer flourishes. May we then infer that, as has more than once been contended, cancer, like insanity, follows in the wake of civilization, and that, as

the ferment of a high state of social advancement is among the most active causes of destruction of intellect, so, too, it plays a prominent part in generating one of the most terrible physical evils to which humanity is subject?"

Dr. Walter Whitehead, in a recent address before the Birmingham (England) Medical Society, called attention to the alarming increase of cancer in England and Wales during the past fifty years, and predicts that if the disease continues to increase in the same ratio in thirty years cancer will be about the only disease physicians will be called upon to treat.

The health of persons usually attacked by cancer is remarkably good. This is strikingly shown in the tables in Dr. Parker's work just quoted from. Mitchell writes (*A Treatise on Cancer*, London, 1879, p. 99): "Cancer, though so terribly fatal a disease, is, I believe, itself the offspring of health. Health, the good health of the individual, I hold to be an almost necessary precursor of cancer. In its rise and development in good health it forms an exception to all the received and acknowledged laws that govern the accession of all common and simple diseases."

C. H. Moore says (*The Antecedents of Cancer*, p. 54): "Cancer is eminently a disease of persons whose previous life has been healthy," and "that there is probably no disease surpassing it in the pedigree of health, and that it may be looked for in long-lived families."

Let us now see what deductions may be drawn from these facts. Why cancer is so rare a disease before the age of thirty? Why it usually selects the most healthy persons? Why the liability to the disease declines after the age of fifty, and why it may be looked for in long-lived families?

Dr. Charles writes (*Physiological Chemistry*, p. 15): "In early life the nutritive powers of the tissues are more active than the oxidizing processes, and so growth and development occur. In adult life they are nearly balanced, and more or less of an equilibrium is maintained; but in old age the processes of nutrition are defective and the wasting processes are in excess, and accordingly a failure occurs in tissue regeneration, and in the maintenance of the animal temperature."

Landois, writing on the "Equilibrium of the Metabolism" (*Physiology*, vol. i. p. 477), says: "As long as the body continues to grow" (the full stature is reached about thirty—but not the greatest weight, Landois, Thoma), "the increase of the body corresponds to a certain increase of formation, whereby the metabolism of the growing parts of the body is greater than that of the parts already formed. Conversely during senile decay there is an excess of expenditure from the body."

Thus it may be seen—regarding carcinoma as due to misdirected or hybrid growth of a part—that, the metabolism of the growing parts being in excess of those already formed—is, so to say, a means of pro-

tection against cancer until between the period of full growth and senile decay—the metabolism being then more in equilibrium) when the disease is most rife.

We have seen that cancer is most prevalent in those who live luxuriously—and most rapid in its course in those surrounded with the greatest comforts—and who naturally eat to excess of nitrogenous food.

Upon this observation, the following from Foster (Physiology, p. 599) may have some bearing. He says: "The characteristic feature of proteid food is that it increases the oxidative metabolic activity of the tissues, leading to a rapid consumption, not only of itself, but of non-nitrogenous food as well." "But it must be borne in mind, that by the very nature of its rapid metabolism, the proteid food must tend to load the body with the so-called extractives—*i. e.*, with nitrogenous crystalline bodies. How far these are of use to the body, and what part they play, is at present unknown to us." "When in excess these nitrogenous products may be highly injurious as indicated by the little we know of the connection between the symptoms of gout and the presence of uric acid."

Professor Ziegler (*Text Book of Pathological Anatomy*, p. 360) sums up his views of the ætiology of cancer in the following general statement, to wit: "The entire behavior, anatomical and biological, of tumors justifies us in regarding them as formations more or less emancipated from the matrix tissue. It is true, they draw their nutriment from the organism, and cannot grow without its support. In other respects, however, they behave like independent growths isolated from the rest of the organism. It is in this independence or quasi-isolation that the ætiological difficulty really lies. How does the neoplasm thus assume properties distinct from those of its surroundings? We believe the phenomenon is *ultimately due to some change affecting individual elements of a tissue*" (italics my own) "whereby they are rendered dissimilar to their neighbors. The change is manifested especially in this—that the normal checks to the indefinite growth of the proliferous cells are inoperative or inadequate, either because the formative and productive energy is increased, or because the restraining influence of the surrounding structure is diminished or from both causes together."

What now, let us inquire, are "the individual elements of a tissue" that may become subject to special change, "whereby they are rendered dissimilar to their neighbors"? We know that they cannot be the "inorganic acids, bases and saline compounds, which properly rank as constituents of the body, for they are, for the most part, applied to its construction in the forms in which they were introduced into the food; and they reappear under the same forms in the excretions."—Carpenter. We must therefore conclude that it is in the *organic* elements of a tissue that this marked change or influence occurs, whereby a peculiar state

of altered nutrition is induced that rapidly goes on in its work of destruction and death.

"In the *Journal de Médecine* of Brussels"—*New York Medical Record* some time since—"Doctor W. Rommelaere publishes a series of clinical observations illustrating a new fact in the pathology of cancer. He finds in thirty-four cases that in persons subject to cancer, the amount of urea daily eliminated progressively diminishes until it is below twelve grams. By studying the urea eliminated in cases where doubt exists between gastric ulcer and cancer, a diagnosis can be made. In twelve cases of gastric ulcer the daily elimination of urea was about twenty-five grams."

Of the value of these observations we are not now in a position to speak. They may be incomplete, worthless, or of great diagnostic value. They furnish, at any rate, a hypothetical waif, that may point to the discovery of a new ætiological and therapeutical world. Although we may probably never be able to penetrate, as it were, into the mechanism of the body and there take cognizance of the changes—chemical and otherwise—continually taking place; yet the "scientific imagination" may be able to do so; and this may be all that is needed for practical purposes.

Now as urea is the principal product of the retrograde metamorphosis of nitrogenous material, the question of interest naturally arising is this: what became of the large amount of urea not eliminated in those thirty-four cases of cancer? That it was not retained in the body as such, we must at once concede, for no mention is made of any of the well-known symptoms that would have followed had such been the case; and we cannot but conclude that owing to some local or other disturbance too little understood to enter into here, the proper balance between the evolution and the involution of the tissues is lost, and that the oxidative changes that should have resulted in the production of urea, or of those constituents which precede its formation, did not take place, and the result of this is, misdirected work, and a heterologous growth of a part, which is termed cancer.

From this view of its genesis, it would seem that malignant disease has usually, if not always, a merely local manifestation, and that the tissues of the part are the essential factors of the new growth. The way in which the general system becomes involved in cancer is simply a process of progressive infection from the primary growth and is now well understood by pathologists. Cancer returns after operation in an immensely large proportion of cases; in 520 cases observed by Mr. Sibley at the Middlesex Hospital, the recurrence took place in tissues not ordinarily the seats of primary cancer.

To argue that recurrence after an operation proves a constitutional origin, proves too much, since this may be also alleged of benign tumors. We think the philosophy of their recurrence may be explained either

on the theory of "Unconscious Memory in Disease" (*vide* the work of this title, by Charles Creighton, London, 1886), or by the inhibitory influence of the cerebro-spinal nerves.

And now a few words showing the lack of unanimity of opinion on this subject in general. Dr. H. F. Formad, in an exhaustive paper on the ætiology of tumors, "Transactions of Pathological Society of Philadelphia," September 1879 to July 1881, has classified the various theories relative to the origin of these tumors and has given under each heading the names of the pathologists who have supported the hypothesis.

1. *Predisposition and Inflammation Theory.* Virchow, S. D. Gross, Woodward, Samuel Wagner, Birch-Hirschfeld, Cornil and Ranvier, Perls, Tyson, Fritz, S. W. Gross.

2. *Dyscrasia Theory.* Rokitansky, Paget, Billroth, Simon.

3. *Embryonal Theory.* Cohnheim, Thiersch, Waldeyer, Lücke, Masse, Hasse, Ebstein.

4. *Idiopathic or Spontaneous Theory.* Rindfleisch, Stricker, Nancrede, Payne.

5. *Nervous Theory.* Vanderkolk, Lang, Snow.

Treatment.—"There can surely be no ground for doubting that, sooner or later, the pharmacologist will supply the physician with the means of affecting, in any desired sense, the functions of any physiological element of the body. It will, in short, become possible to introduce into the economy a molecular mechanism which, like a very cunningly contrived torpedo, shall find its way to some particular group of living elements and cause an explosion among them, leaving the rest untouched."—Professor Huxley. *The Connection of the Biological Sciences with Medicine.* *Trans. Int. Med. Congress, 1881, p. 96.*

Had Hahnemann made no other discovery than that medicinal power could be liberated from *apparently* inert substances by the processes of trituration and attenuation, it would have been sufficient, when its importance to the healing art became fully known, to have immortalized his name.

It is now well known to Homœopathic physicians that the physiological constituents of the tissues have an elective affinity, as remedies, for the parts where they are normally found. Schüssler has done an important work in calling special attention to, and demonstrating this fact. *Vide The Biochemical Treatment of Disease by the Inorganic Tissue Cell Salts*; O'Connor's translation.

The organic substances which we shall here call attention to—Keratin, Tyrosin, Leucin, Kreatin, Kreatinin, Sarcosin, Carnin, Inosit, Melanin, Hæmatin, Hæmin, Sarkin (and probably others) are normal constituents of the tissues, and of the class giving birth to cancerous growths, therefore they have an elective action on these several tissues, and it is not a scientific gratuity to affirm that the remedy indicated will, "like a very cunningly contrived torpedo, find its way to the particular group of

living elements, and cause an explosion among them, leaving the rest untouched." In other words, it will reinstate, if we may be allowed the expression, the polar equilibrium of the cells of the part, and thus will a cure take place.

This therapeutic law, the elective affinity an element of a tissue has for the tissue or group of tissues of which it is a normal constituent, will have a limited but very important application. It will apply in all progressive, non-infectious, non-contagious, non-inoculable diseases—*i. e.*, in diatheses, in tissue degenerations, in diseases, in short, that present but few characteristic symptoms, and these, even when fully met by the ordinary remedies, surely return, often aggravated by their temporary removal. This rule of remedial selection cannot be said to be consonant with the law of *Similaris*; yet it discovers a law *within* this law, that promises much toward the advancement of the healing art.

For fear our meaning may not be fully apprehended, we would say here that this mode of treatment is not *Isopathic*—*i. e.*, administering the *product of a disease* for the cure of the *same*, which can never accomplish anything—but is as purely *Homœopathic* (?) as the selecting of Calc. carb. or Calc. phos. for the over-distended, parchment-like skull of the infant; and many similar illustrations. But the extended application of this principle to the diseases we shall consider, and with the substances briefly alluded to, has never, we believe, been even suggested before.

Relative to the specific indications for the above remedies in cancer, we can only say that experiment must decide to what form or forms they severally belong.

Venturing to generalize, we would suggest for ephtheliomata—Keratin, Leucin, Tyrosin. For scirrhus—Tyrosin, Kreatin, Karnin, Sarcosin. For encephaloid—Kreatin, Kreatinin, Hæmoglobin. For melanotic cancer—*Melanin*, Kreatin, Hæmin, Hæmatin. For colloid cancer—Leucin, Sarkin. For osteoid cancer—Leucin, Tyrosin. For innocent tumors—The proteids and the carbo-hydrates. For semi-malignant growths—both the crystallizable and non-crystallizable proximate principles.

Provings of these substances will doubtless furnish additional information for their specific applications.

Having now, as we believe, offered plausible "suggestions by which a search for a cure for cancer may be instituted," we will turn to the consideration of another important diathetic disease.

"It is becoming clear that a vast class of diseases will be proved to be errors of chemical action—interferences caused either by want of regulation or by the generation within the body of substances that increase or diminish or change the oxidation which is necessary for the working of the body."—H. Bence Jones, M.D., F.R.S., etc., *Applications of Chemistry and Mechanics to Pathology and Therapeutics*.

"Drugs act upon protoplasm; but in so doing they make manifest that which is

otherwise ascertained to be true, that all protoplasm is not the same protoplasm. They do not affect all parts of the body indiscriminately and alike, but select one or more organs or tissues or regions, and there expend their power. The *elective* action of drugs is no novelty," "but it receives very little recognition in the orthodox school of medicine, and even in homœopathic philosophy has hardly taken the place it deserves."—Richard Hughes, L.R.C.P., etc., *Pharmacodynamics*, 4th ed., p. 60.

The subject of treatment of cancer having been brought rather abruptly to a close in the preceding installment of this article, it may be well briefly to reopen this important question and consider also the treatment of innocent and so-called semi-malignant growths.

To complete the class of atypical epithelial tissue formations the colloid, alveolar or gelatiniform cancer should be mentioned. By some writers this form of growth is considered to be only a scirrhus or encephaloid that has undergone colloid change, while others regard it as a distinct form of cancer. It is found most frequently in the stomach, in the intestine, ovary, peritoneum, breast, parotid, etc.

The remedies indicated will be those mentioned for other forms of cancer, but with the addition of Mucin. *Mucin* is characteristic of the endo-derm, *i.e.*, of the intestinal and glandular epithelium. It is contained in the cement substance of the connective tissues, but it is especially abundant in the embryonic condition of these tissues and in the jelly-like variety. It is met with also in the cement between the cells of the epidermis, and is likewise one of the excretion-products of the epithelial cells lining mucous surfaces, and of the secreting mucous cells of the submaxillary and sublingual glands. (Landois, Charles.)

Authorities being so widely at variance in the classification of tumors, it will be extremely difficult, if not impossible, at the present time to more than approximate to correct indications for the remedial proximate principles by the rule of elective affinity we have proposed. To illustrate this embarrassment, Green writes (*Pathology and Morbid Anatomy*, p. 177): "The question of genesis of carcinoma involves that of the genesis of epithelium generally. It is maintained by most histologists that epithelium can originate only from epithelium, and that the epiblast and hypoblast are the sources from which all epithelium is subsequently derived. Others admit that epithelium may originate also from connective tissue. A like difference of opinion exists as to the source of the epitheloid cells of cancer. By many—as Waldeyer, Thiersch and Billroth—they are regarded as originating only from pre-existing epithelium. Others—amongst whom are Virchow, Lücke, Rindfleisch, and Klebs—maintain that they may be derived also from cells belonging to the connective tissue. It is believed also by some—as Köster—that many cancers originate from the endothelium of the lymphatics—*i.e.*, specialized connective-tissue corpuscles."

It may thus be easily seen that remedies indicated, from one standpoint, in the sarcomata, from another will be called for in the carcino-

mata; also that the treatment of innocent growths may, in certain cases, be not unlike that for malignant disease.

Type of Fully Developed Connective Tissue (after Green).

(a.) Type of Fibrous Tissue.—Fibroma.

(b.) Type of Mucous Tissue.—Myxoma.

(c.) Type of Adipose Tissue.—Lipoma.

(d.) Type of Cartilage.—Chondroma.

(e.) Type of Bone.—Osteoma.

(f.) Type of Lymphatic Tissue.— $\left\{ \begin{array}{l} \text{Lymphoma.} \\ \text{Lymphangioma.} \end{array} \right.$

Following is a list of preparations that, according to the law of elective selection, would seem to be indicated in the above tumors. After isolation the substances are placed in a desiccator with either sulphuric acid or calcium chloride, to extract the H_2O , and then triturated for medicinal purposes.

(a.) *Fibrin, fibrinogen, elastin, myosin.*

(b.) *Mucin, globulin, vitellin, serine.*

(c.) *Stearin, glycerin, fatty acids.*

(d.) *Chondrine, collagen, chondrogen, elastin.*

(e.) *Ossein, chondrogen, gelatin.*

(f.) *Neuclein, globulin, xanthin, syntonin.*

The above substances may probably be found more efficacious in cancer than the ones we have suggested: e.g., Scirrhus (a), Encephaloid (a) (b), Epithelioma (a) (f).

Type of Embryonic Connective Tissue.—Sarcomata.

Mucin, fibrinogen, fibrinoplastin, elastin, sarcosin, sarkin, carnin, myosin, kreatin. Green, writing on the "Development of Tumors" (*ibid.*, p. 116), says: "What determines the ultimate development of the young cells, why they produce such various forms of growths, is as far from our knowledge as what determines the ultimate destination of the cells in the embryo."

These physiological preparations will, we believe, in the great majority of instances be found sufficient to cure, both innocent, semi-malignant and malignant growths; yet only by the crucial test of experiments, aided possibly by provings, shall we be enabled finally to determine for each several type the corresponding remedies with scientific accuracy. As Hughes tells us: Drugs do not affect all parts of the body indiscriminately and alike, but select one or more organs or tissues or regions and there expend their power; so it will be necessary to individualize the remedy as well as the kind or class of tumor in order to insure complete success in the treatment.

The philosophy of action of these medicinal physiological substances would seem to consist in restoring normal vital activity to tissues diseased from either a *plus* or a *minus* of their characteristic constituents. In systemic affections, of course, this rule of elective selection cannot be so obvi-

ously applied: yet the break in the chain of normal oxidation will frequently be announced by the presence in the urine of abnormal ingredients which often will indicate the nature of the disturbed nutrition and furnish the means for its cure; not, be it understood, on isopathic principles, but by restoring the equilibrium of the metabolism resulting in waste or overproduction of certain tissue elements and consequent disease. In undertaking this necessarily very imperfect study of cancer, the difficulties besetting us were fully appreciated by the late eminent Dr. Woodward (Assistant Surgeon U. S. A.) in "*The Toner Lectures, on the Structure of Cancerous Tumors and the Mode in which Adjacent Parts are Invaded*" (1873). In the preface he says: "After much hesitation as to a suitable subject for such an occasion as this, I determined to invite your attention to certain considerations with regard to cancer, a disease which merits study both because of the considerable mortality it produces—more than six thousand deaths annually in the United States—and because of the obscurity which surrounds every question connected with its origin, its nature and its treatment." And he adds, further on: "I shall make no attempt to solve this most difficult of all pathological problems. The time has not yet come for any one to tell why cancers originate or how they may be prevented or cured."

This statement, coming from a recognized authority on the subject, certainly challenges admiration for its frankness, however much we may deplore our ignorance; a fit commentary on which is the opinion of the late Professor Gross (*A System of Surgery*, vol. i., p. 257) that "the science of the nineteenth century must confess, with shame and confusion, its utter inability to offer even any rational suggestion for the relief of this class of affections." Though the time may be still far distant when it shall be possible to say precisely to what influences cancer is due, or what will certainly cure it, yet it nevertheless is high time that strenuous efforts were being made with new weapons to crush the secret out of this the most terrible disease that afflicts humanity.

In dealing with so recondite and evasive a theme we have not hesitated to avail ourself of the methods sanctioned by science for such purpose, the most strategic of which is in anticipating nature; in other words, of bringing before the mind "multitudes of relations in which the unexplained facts may possibly stand with regard to each other, or to more common facts."

Whether or not we have finally approximated to correct conclusions, the crucial test of experiment must, as we have said, determine. If it shall be found that we have not pointed out the solution of this difficulty, so much at least will have been accomplished by exclusion that we shall begin anew our inquiry, feeling that only by such assaults can this subject be gradually stripped of its obscurities and the truth finally joyfully laid bare. We are prepared to appreciate and take courage from the statement of Faraday that "the world little knows how many

of the thoughts and theories which have passed through the mind of a scientific investigator have been crushed in silence and secrecy by his own severe criticism and adverse examination; that in the most successful instances not a tenth of the suggestions, the hopes, the wishes, the preliminary conditions have been realized."

It may be mentioned here that forty-two of these physiological preparations have just been triturated by Messrs. Boericke & Tafel, Philadelphia, and may be procured of this firm.

