SINGLETON (J.W.)

DR. ISAAC CASSELBERRY

AND HIS

WRITINGS.

BY J. W. SINGLETON, M. D.,
OF SMITHLAND, KY.

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THE man who volunteers in the cause of public enlightenment, and devotes the best part of his manhood, and the most industrious and energetic efforts of his mind, to the boundless fields of research, for which our honored profession is so much distinguished; who, as a thinker, an investigator, and as a writer, makes known to the world any important truth that may have been kept hidden in the arcana of nature, or perfects an idea that may have met the partial acceptance of the votaries of truth, into a living, glowing and beautiful reality, for the benefit of his race, deserves and should receive the undying gratitude of the whole human family.

The last half century has been a period of as great revolution in medical opinions as in political and religious matters. It is yet within the memory of the older practitioners of the Healing Art, when "the Practice of Medicine" could not claim the

dignity of a science in the estimation of enlightened christendom; when men and women relied upon the superstitious, black arts of lying knaves and devil-agents for the prevention and relief of disease, and witchcraft in some form or other constituted the chief essential principle of all remedial invocations over the suffering form of our fellow-creatures. Those diabolical ministers to the sick and afflicted claimed to hold the power to "call spirits from the vasty deep," and exorcise the Satanic influence that had sickened frail mortality. Yet men believed; disease had its self-limitation, and left the tenement of clay at its own will and pleasure, and empirics were thus lauded to the skies. The teachings of Hippocrates and Sydenham, the text-books of true Conservative Medical Science, were laid aside, and one ONE-IDEAISM after another sprung up, held its day, and at length died the death of a dog, with no friends to weep over the ditch in which its remains were thrown. One error after another found its warm advocates and deluded fanatics, until mankind grew sick of the contest between truth and falsehood, and clamorously demanded truthful investigation. If all the ink that has been used to propagate and sustain error, was collected in one vast reservoir, the leviathan of the deep might swim for leagues in its night colored depths, or hide itself too deep for plummet's sound to reach. If all the parchment and paper that has been stained with the ink of dishonest thought could be gathered up and packed away in one vast magazine and set on fire, the conflagration would almost wrap a continent in devouring flames. The love of dogmatism is a characteristic profanity of the human mind, however that mind may have been a spark of Divine intelligence in its original essence. Whenever we embrace any so-called new system or creed, we endeavor with might and main to make certain isolated facts and congenial fancies subserve the purpose of bolstering up our darling theory, which may be radically false in conception, and calculated to do injury to the cause of true progress. There are two very prominent characters in this world from which we pray the good Lord to deliver us;—first, a man who believes a

thing blindly, because another man believes it; secondly, a man who is wilfully obstinate and dogmatic in his own original notions and opinions; yet, my readers, it is a melancholy fact that the world is nearly filled up with two such classes. The true character of a man, "an honest man," which Pope defines to be "the noblest work of God," is that which is ready to acknowledge the merits and prowess of others, and as an independent thinker and investigator to claim and exercise the inalienable right of self judgment in the freest and most fearless manner. As Plato defined man to be "the hunter of Truth," (so aptly quoted and elegantly applied by Prof. H. F. Campbell, of Georgia,) so "the search after truth" should be conducted without fear, favor, or affection for any preconceived opinions or delusions, and with the unshaken purpose of following faithfully the road to truth wherever the search may lead us; in a word, to

> "Seize upon Truth where'er 'tis found,
> On christian or on heathen ground."

But there was a time in the history of medical opinions when men dare not attack any well-established popular delusion, however it might be in violation of the first principles of common sense, of reason, and the teachings of humanity. There was a time when to come in conflict with public sentiment was to insure to the presumptious innovator, certain, swift and inevitable destruction. But the times are changing. A few "chosen spirits" have come forth to fight the battles of truth with the weapons of fearless investigation, and woe be unto him who tries to impede the onward course of this glorious Spartan band, for with the wisdom of Athens and the courage of Sparta, the contest must be decided in their favor. However, the conflict is now in full blast. Already the cohorts of error are giving way, beating a hasty retreat from the scene of strife, and "to the victors belong the spoils." The times are changing. The world has entered into the womb of regenerated thought and been "born again," and will soon be fashioned into the free and independent attributes of perfect manhood, to be clad in the

beautiful habiliments of philosophy and science. The human mind is emerging from the thraldom of the past, and is going into business on its "own hook." We like the change amazingly. There is something extremely glorious in feeling that a man belongs exclusively to himself, and can devote himself and his time to the welfare of his fellow-beings in his own way;—can volunteer even in the cause of scientific enlightenment, and find his reward in having written "the truth, the whole truth, and nothing but the truth," and thereby having performed his whole duty, he is accepted to be an agent in the hands of Providence to redeem and enlighten mankind.

The medical periodical press of the American Union presents some remarkable evidences of exalted merit on the part of its editors and contributors, of men whose *works* have stamped themselves upon the minds of this generation, and shall "still live" in the imperishable records of good and great things "that were not born to die." Among those who have contributed papers containing ideas and suggestions of inestimable value to American medicine, there is none more worthy of general consideration and esteem than ISAAC CASSELBERRY, M. D., of Evansville, Indiana. We propose to review somewhat in detail his writings, from his first commencement as a writer down to the present day, being so fortunate as to have them in our possession, and having read and studied them with deep interest and great profit.

Dr. Casselberry has been for several years an occasional contributor to some of our best medical periodicals. He is not a voluminous writer, but what he writes and publishes, is, by most laborious research, fully prepared before being sent to press. His essays are strikingly original in many respects, opulent in elevated thought, and elaborated in a strong, forcible and eminently philosophical diction. The chief purpose of his papers is to demonstrate the correlation and mutual convertibility of the vital and physical forces, and the mode in which a *disturbance* of these forces causes disease. His essays upon this subject are worthy the attention of American pathologists,

for Dr. C.'s investigations in this department of science have thrown much light on the subject. The editor of the *Memphis Medical Recorder*, in his number for Sept. 1857, has a learned review of Dr. C.'s two monographs—one on "Quinine in Fever," and the other in regard to "The Use of Water in the Treatment of Fevers." Dr. Wright very justly remarks that, "much credit is due to Dr. Casselberry for the boldness and industry with which he has striven for some years to throw upon pathological subjects some light derived from this source." The correlation of the physical forces has been clearly established by the labors of Faraday, Carpenter, and others of Europe, and by Draper, Bache and Jones of America. The latter gentleman in his excellent paper on "Malarial Fever," published in the twelfth volume of the Transactions of the American Medical Association, has *confirmed* the investigations, observations and experience of Dr. Casselberry. We beg to refer the reader to the July number of the *American Journal of the Medical Sciences*, for 1855, from which we glean the following ideas. It is a marvel of research intellectually and scientifically, and will well repay an attentive perusal and study. Although the theory of the correlation of the physical forces has been fully established by these authors, yet in physiology and pathology we hear of them in a general recognition of their truth in standard books on these subjects,—no one attempting to show their bearing upon the details of physiology and pathology. "The correlation of the vital and physical forces presents a wide and fertile field for physiological and pathological researches, which Dr. Casselberry has nearly to himself."* Dr. C. has been cultivating this fertile ground with a most commendable degree of industry. His writings should receive the most careful attention and respectful consideration of every friend of true progress in medical science.

We will present the reader with some of the chief points in his deep and original essays. We perform the task with

* Memphis Medical Recorder, Sept. 1857.

pleasure, since we are pleased to recognize in Dr. C. the sterling qualities of an independent thinker—just what every man should possess who pretends to enlighten the public on all important matters. We have mentioned the first paper the Doctor wrote, and the journal in which it was issued. It was entitled "An Inquiry into the Physiology of the Nervous System." In this the correlation of the vital and physical forces was formally stated and elaborately discussed. He briefly recapitulates the theories which demonstrate most clearly the correlation of the *physical* forces, and then endeavors to show by able and forcible argument, that the *vital* is in like manner correlated. We make some extracts in confirmation of his position on this subject, which cannot fail to be of interest to the student of nature—*the scientific physician.*

(Page 59.) "All of the external forces are in this manner transformed by the organic nervous force into the different organic forces or processes manifested in the human organism."

"Vitality in man is produced and maintained by the organic nervous system. The highest production of vitality in any individual plant or animal is the production of an organic substance or being, capable of beginning in a new individual the wonderful circle of phenomena which characterize the life of a parent. There are two incident actions necessary to accomplish this—the elaboration of an *ovule* or organic cell by the female, and the infringing upon that cell of another cell, the *spermatozoon* secreted by the male. The spermatozoon transfers the incipient force to the organic processes of the ovule, in which it produces a series of transformations of the present cell, which result in embryotic development." And thus he reasons by analogy: "As the pollen is the specific form for the embodiment and transferrence of organic force from plant to plant, so is the spermatozoon that of the organic nervous force of animals." These propositions are ably supported by a concise analysis of the anatomy of the ganglionic system of nerves, in which reference is made to many distinguished authors. Dr. C. has shown himself complete master of the subject under considera-

tion. He also gives a clear and concise exposition of the mode he thinks embryotic life is developed on page 61 of same paper: "The *creation* of organs in the embryo is precisely identical with *nutrition* of organs in the adult." The italics are ours to call special attention to the beautiful harmony of nature evidenced in his theory. Still further: "The original organic cell of the ovule receives the organizing force of the spermatozoon, and reproduces from the surrounding amorphous matter, *by assimilation*, a vast number of similar cells, with their fragmentary appendages of tubular nervine. These occupy the points which will be afterwards occupied by the various peripheral organs. The cells are provisional centres, and act independently. They eliminate organic nervous force from the material blood, and construct the tissues at the terminations of their tubes, or nerve trunks, just as in the adult body." These propositions are manfully sustained by reference to cases of monstrosity (see page 61–2). We would just here remark, in our humble opinion, never was an abstruse subject—one more difficult of general comprehension than this of embryotic development—made plainer to the understanding of the medical reader.

The existence and function of provisional cells or centres, which disappear entirely when their use is fulfilled, are well recognized in general and special anatomy, and therefore the conclusion at which the Doctor arrives is not only logical, but authentic in the highest degree. If the doctrines so ably and eloquently advanced by the essayist, be admitted, the present theory of the circulation of the blood must be modified in some respects. For if we concede to the organic nervous force original supremacy in the formation of tissues it controls, over the circulation, it must follow as a necessary consequence. Nutrition and secretion are created and sustained by the independent actions of the blood cells, as fully shown by Hall and Lawrence's cases. Now we would ask where the blood cells obtained *power* to act, if they did not get it from the organic nervous system? From what other source could they obtain it?

Read what Dr. C. says on page 62–3 touching the question of

the heart and its offices:—"The heart is a muscular organ. It is usually regarded as the motive power of the circulation. But no physiological fact is more clearly proven than the existence in the lower class of animals, as well as in plants, of some power independent of the *vis a tergo*, by which the circulating fluid in man is caused to move through the vessels. This power seems to originate in their ultimate tissues, and to be closely connected with the state of nutrition and secretory processes, since any thing which stimulates to increased energy accelerates the circulation, while any check to them occasions a corresponding stagnation." The proposition is elegantly sustained by the arguments adduced. Since the publication of this "Inquiry," Dr. H. F. Campbell has published his noble paper on the Excito-Secretory System of Nerves. His labors go far to confirm the position held by Dr. Casselberry, and both writers may be considered brilliant medical lights of the nineteenth century. The efforts of these gentlemen to enlarge the domain of scientific research, bid fair to produce more glorious fruits to the honor and dignity of our profession than scientific men have ever yet imagined. All honor to their noble aspirations. Let us do them honor by following them into the boundless territories of uncultivated truth, that they by their own labors are rapidly organizing into flourishing states. Though we may not live to enjoy the happy consummation so much desired in the annals of scientific knowledge, still our children will rise up and bless the memory of the fathers who nobly devoted their time and talents to the weal of unborn millions.

In the April number of the *American Journal of the Medical Sciences*, for the year 1856, Dr. Casselberry published a paper on the "Causes of Fever," in which he discusses the effects of cold and heat, and the mode in which they influence the human organism. On page 375 may be found the following paragraph to which we respectfully call the especial attention of the profession, as it embodies many thoughts worthy of constant recollection. He says:—"The transmutation of animal heat into organic force is always sufficient to maintain the skin at a

normal temperature, when the blood is in a normal condition. The incessant animal electricity which is *negative*, is attracted and transmitted into mechanical force by the *positive* electricity of the vapor of the perspiration, and expelled from the skin with the vapor. The sensitive nervous branches distributed to the external, partake of the increased nutriment supplied to all the tissues by the augmented activity of the automatic functions. The automatic nervous force is communicated to the elementary constituents of the blood in the blood cells, of all the tissues in the form of nutritive attraction and effete repulsion; the sensitive and excito-motory nervous elements are therefore elaborated and appropriated to coalesced tissues of these structures, in an equally increased quantity. The nervous structures are endowed with augmented force. The sensitive functions are performed more acutely, and the excito-motory more vigorously.

An impression which would excite a sensation or motion in these tissues in this condition, would not be recognized by them in an ordinary normal state. Hence they are much more influenced by any disturbing cause. This increased susceptibility of these nervous tissues to the force of a disturbing cause, is often manifested in an individual in a high temperature, by facilitating the production of sudden and dangerous local congestions, or determinations of the blood." The doctrine advanced in the preceding paragraph is exceedingly important to the student of science, both in a physiological and pathological point of view; because the correlative of the vital and physical forces are distinctly recognized, and the mode in which the organic nervous force acts on the blood, is clearly indicated. "The automatic (the Doctor should now write it according to the nomenclature of the distinguished Dr. Campbell—Excito-secretory,) nervous force is communicated to the elementary constituents of the blood in the blood cells of all the tissues in the form of nutritive attraction and effete repulsion."

It is highly necessary that this last proposition should be sustained, for upon this *hinges* the whole subject of correlation, of nutritive attraction, by which the circulation is influenced to

a greater or less extent. Dr. C. ably and manfully sustains himself in the position he has taken, and the investigations of others since he published the interesting paper now under consideration, confirm his theory, and bear him out triumphantly in spite of all opposition. This decision is of far more importance than one would think upon a cursory view of medical theories, which are so freely and so often advanced by almost every tyro in medicine; for it places the physiology and pathology of the blood under the dominion of the organic nervous system. Admit this nervous system to have this power over the blood, and that the nervous force may be correlated and transmuted by the force of heat, or any other disturbing force, and the production of disease without malaria may take place in the mode indicated in the subsequent pages of this essay, to which we will presently advert.

We would observe just here, in regard to this unsettled question of malaria, so-called: all that ever has been written on the subject of its remote origin, its habits, so to speak, and its tangibleness, has amounted to *nothing*. To be sure we know something of the *effects* of what we (from lack of better information) are pleased to attribute to a mysterious entity popularly called malaria; but we are fully persuaded that when we more perfectly understand the laws of physiology, the freaks of pathology, and the effects of heat and cold, the correlation of the vital and physical forces, and facts incident thereto yet undeveloped, we will be fully prepared to give up this *myth* called malaria. Dr. Joseph Jones, of Georgia, has given us, in the twelfth volume of of Transactions of American Medical Association, a labored and elegantly gotten up paper, upon the effects of malaria. It is a monument of erudition to his growing usefulness and greatness in the medical profession. But neither he, nor his distinguished patron, Jackson, nor any writer on the face of the earth can tell us satisfactorily what malaria is, *per se*. The celebrated Dr. Drake failed in this, and failure must inevitably follow every attempt to elucidate the subject to the clear comprehension of investigating minds.

But to resume our extracts from Dr. Casselberry's paper:

"When the atmosphere is rarified, a less quantity of oxygen is absorbed by the lungs at each inspiration. The blood cannot therefore long continue to be normally oxygenated. It would soon contain an excess of carbonaceous elements, unless their production be retarded, because they cannot be consumed by the oxygen of the air, and manifested in the form of the different automatic nervous forces. The affinity of the different elements of the blood for each other is diminished by the diminution of the absorption of a normal quantity of oxygen at each inspiration. The forces of all the organic processes is therefore retarded, because it is maintained by the normal cellular mutations between the elementary constituents of the blood, and whatever retards these changes diminishes this force." p. 376.

Now we conclude if heat has this influence, sudden vicissitudes must necessarily cause disease, with other attendant circumstances of the disturbance of the balance between the secreting and exciting processes, regulated by the automatic nervous force,—in other words, correlation. The Doctor does not believe in malaria, and yet from page 378 to page 382, he gives what he is pleased to style the literature of malaria. With all due deference to the Doctor's judgment, we cannot agree with him that malaria has any literature that is at all reliable, from the earliest authors down to the present day. On page 385 he gives an explanation of the gases of alluvion localities, but fails to find the fabled myth of the swamps and morasses, called malaria. On page 386 he gives his reasons for the carbon in the blood, under ordinary circumstances, by which the balance of health is disturbed, which is at once strikingly interesting and original.

In the July number of the *American Journal of the Medical Sciences* for 1857, Dr. Casselberry publishes a paper on "The Use of Water in the Treatment of Fever." This communication was also issued in pamphlet form, and was the subject of much commendation on the part of the medical press of America. Dr. D. F. Wright was then editor of the *Memphis Medical Recorder*, and gave the paper before us very favorable

notice. Dr. Henry F. Campbell, of Georgia, of the *Southern Journal of Medicine*, wrote approvingly of the article in question, and others of our friends of medical journals contributed their full quota of criticism and praise.

There is no department of the practice of medicine that has been overlooked or neglected by scientific physicians so much as the use of water in the treatment of disease. This neglect of, or inattention to, a most valuable therapeutic agent, has arisen from the abuse of *water privileges* by a species of remedial monstrosities called Hydropaths.

There is another reason for this failure on our own part to profit by all of the materials providentially provided for us, to relieve the ills to which human flesh is heir. The fact is, we are a little prejudiced against the use of water remedially. Some of us are afraid we might compromise to some extent the honor and dignity of regular medicine in subjecting ourselves to the charge of being water doctors, which in our opinion is synonymous with *water dogs*. But this should not deter us from the discriminating use of a remedy so potent for relief, under any circumstances in which the use of water, warm or cold, should be indicated.

This essay of Dr. C. on the use of water in the treatment of fever, is systematically, scientifically and philosophically gotten up by the learned author, and it deserves the earnest attention and most careful consideration of the "hunter of truth." The accomplished essayist starts out by giving the anatomy and physiology of the skin, the physiology of the blood, the offices of the skin, blood and lungs, and other observations necessary to the proper introduction of his subject. In speaking of the identity of the functions of the skin and lungs in very many respects, on page 4 of his monograph, he uses the following language:

"When the blood arrives in the external capillaries its elementary composition is not the same as when it is returned from the lungs into the left side of the heart, because it is a living and growing fluid. From the time the organizing force of the

automatic nervous branches at the mouths of the absorbent vessels begins to act on the organizable elements of the food and drink until the blood is conveyed to the tissues it is designed to nourish, it is in a state of constant growth, when it attains maturity and is appropriated. Every tissue of the organism is nourished by its own capillary vessels designed for that particular purpose. The living circulating mass supplies the material out of which the automatic nervous force of these vessels elaborates and appropriates the nourishment of the tissues. When the blood is normal the different forms of the automatic nervous force readily obtain a supply of nutrient material; and all the functions of the organism are performed with comfort and regularity."

It is seen that the Doctor keeps up his theory of correlation and automatic nervous action fully. We give another extract. In referring to the pathology of the skin, he says:

"The degree of lesion between the elements of the blood in the external capillaries depends on that of the electrical disturbance, and that of the resistance to the force of this disturbing cause offered by the organism. It may be slight, when it will soon be removed by the superior force of the different forms of the normal automatic nervous force in these vessels. But each time this lesion is produced by an electrical disturbance in the atmosphere, the less the degree of resistance offered by the organism; so that by the frequent repetition of the electrical disturbance, although it may not be, at any time, increased in intensity, a diseased state of all the elements of the blood will be gradually produced. This is fully evinced by the ordinary symptoms of fever.

"The disturbing force of electricity may be of sufficient intensity and duration to produce a diseased transformation of all the tissues in a few hours. Then the most malignant symptoms of fever are manifested. When fever is produced in the former mode, by the gradual disturbance of the normal relations between the elements of the blood, the skin is either hot and dry, or cool and bathed in perspiration." p. 5.

Although we think he attaches too much importance to the so-called electrical disturbance, so generally accredited by many writers, still we must admit that as in the condition of health

the integrity of the vital organs is sustained by the prompt and efficient action of the nervous system, as the nerves to all intents and purposes are the telegraph wires of the body; still we see no reason why we can not yet hold to the old notion that the mysterious laws of vitality regulate the various conditions of animal life in health, and an altered state of those laws in various ways will produce disease. We are unwilling under the present aspect of scientific knowledge to apply to the disturbing force the name of electrical disturbance. Dr. C.'s theory is ingenious and beautiful, and we hope the day is not far distant when the question will be settled, pro or con, whether electricity has any thing to do with animal life, in the state of health or disease. It is a theme towards the investigation of which the medical philosopher should direct his untiring efforts and study:

"When the elements of the blood are abnormally transformed, the albuminous undergo imperfect molecular development. The organizing force of these elements attracts the oxygen of the atmosphere imperfectly, because of their deficient molecular arrangement in the pulmonic and cutaneous capillaries. A limited quantity only is absorbed. This oxygen is an important nutritive constituent of the albuminous compounds. They cannot attain perfect molecular growth without its elementary combination with the other elements of the protein compounds. When, from any cause, this combination is imperfect, the molecular development of the protein compounds must therefore partake of this imperfection. The automatic nervous force, which is manifested between the elements of these compounds in the form of nutritive attraction, is increased in some capillaries, decreased in others, and perverted in all."

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"A *bilious* derangement cannot, therefore, be produced without a *previous* lesion of the circulation in the external capillaries. All the tissues are formed by the organizing force of the automatic nervous system out of the organizable material of the maternal blood during embryotic life; and, after birth, they are nourished and sustained, decomposed and removed by the varied and different forms of this force. Cells are the agents which it employs to perform all its functions in the organism. Throughout

every tissue they obey the mandates of this force. Hence what they do, whether normal or abnormal, indicates the *state* of this force in its multiplied forms. Their physiological productions and pathological manifestations should, therefore, be attentively observed and assiduously studied." p. 8.

The following paragraph is remarkable for its sound philosophy:

"The blood is diseased by a lesion of the organizing force between its elements; many of its cells neither grow nor mature; they contain organizable constituents; these are not organized normally by normal forms of the organizing force; but abnormally, by perverted forms of this force; they aggregate and constitute either congestion or inflammation, or both, in the great depuratory glands. There is a lesion of nutrition; the supply of nutritive material is proportionally diminished; only a small number of new recruits are mustered into the service of the organism; these have not been trained to obey the commands of the organizing force; they too often desert and seek association among the tumultuous host governed by chemical force. There is not a sufficient quantity of normal cells which undergo normal molecular changes to maintain a perfect equilibrium between the process of waste and repair. Their quantity must be increased. How can this be done? Not by the introduction of nutritive elements; but by the depuration of those which already exist among among the other elements of the blood. This can only be accomplished by molecular changes of these elements, by which the effete are elaborated and separated from the nutritive." p. 9.

"The existence of imperfectly combined oxygen in the external capillaries will, for this physiological reason, be instantly evinced by the sensation of pain and increased heat of the skin and the manifestation of involuntary muscular motions, while a proportionate quantity of uncombined oxygen in the visceral capillaries, which have not these nervous endowments, would only excite the sensation of *thirst and oppression.* The imperfectly combined oxygen should, therefore, be consumed by molecular combination in the external capillaries and be removed by secretion, so that the sensitive and excito-motory systems would be in a condition to lend compensatory assistance to the

automatic in the depuration of the blood in the other depuratory glands. How can the removal of the imperfectly combined oxygen of the atmosphere in the external capillaries be accomplished? By the use of *water.* Its temperature and its mode of application must be governed by the state of the different forms of the automatic nervous force. This is indicated by the augmented or diminished quantity of blood in the external capillaries; by the temperature of the skin; by the mechanical force of the muscular action of the heart and arteries; by the state of the venous system, whether congestion exists in any of the great depuratory glands or not; by the decreased and per verted, or the increased and perverted, sensibility of the sensitive nervous system; by the irregular and involuntary muscular motions of the excito-motory system; by the lesion of the nutritive process; and by those of secretion." p. 10.

"The low temperature of the water increases its capacity for animal heat and electricity, and promotes the affinity of its elements for each other. When it is applied and retained upon the skin, it attracts animal heat and electricity, and causes the secretion of an increase quantity of cutaneous glands. When the aggregated heat and electricity are thus removed, the different forms of the organizing force assume increased activity; water is absorbed and decomposed; the molecular changes, which then ensue, are the same as those that transpire when warm water is employed." p. 11.

We conclude our extracts by quoting a paragraph from page 13 of this essay before us, and we are sorry that we have not space to embrace a more extended notice of the paper for this number of the Journal. But we refer the reader to the whole article itself, to be found in the *Amer. Jour. of the Med. Sciences* for July, 1857:

"Physiology teaches that cells are the agents the automatic nervous force employs to produce molecular changes in the blood; that they generate and develop, control and distribute animal heat and electricity; that a tissue is a good or bad conductor of these forms of matter according to the facility and rapidity with which this force can produce molecular changes; and that the capacity of every tissue for the generation, devel-

opment, and distribution of animal heat and electricity always bears a relation of equivalence to the quantity and the degree of rapidity which the cellular changes of its nutritive materials may transpire. Hence the fluids and the soft solids produce more of these forms of force or matter, and are better conductors of them than the skin."

The next paper published by Dr. C. was in the Sept. number of the *Nashville Journal of Medicine and Surgery* for 1857, and with which most of the readers of the Journal are familiar. We advise those who have not read it to get it and read it, for it is in every respect worthy of its distinguished author. Dr. W. K. Bowling said of it in the November number, 1857: "We call the attention of the reader to an ingenious, learned and powerful article of this author (Dr. Casselberry) in the original department of the September number of this Journal."

Following this came from his pen a series of papers entitled a "Historical Review of the Causes of Epidemics." "Natura obessa studiosis, delegit arcana Hor." These articles constitute a complete history of the causes of epidemics from the time of Moses down to the present day, giving the dates of their existence, where they occurred, and what they could reasonably be attributed to. This history was published in seven consecutive numbers of the Journal, from November 1857 to May 1858, and has been read in all parts of the American Continent by the medical profession, and also by the general reader. The "History" in question is a wonderful production of patient study and research, and a monument to the profound erudition of its author.

Its chief object was to prove the effect that great natural convulsions, such as storms, volcanic eruptions, earthquakes, and cometary influences have upon the production of epidemic diseases in both man and beast. Dr. C. has in this "History" brought forth an array of testimony in confirmation of his belief in such influences fully establishing his position without fear of successful contradiction. Though the history is not in all respects capable of being practically applied to the

every-day duties of the practitioner, yet it contains much with which we should all be acquainted, because it furnishes to us reliable data by which we can be enabled to judge the future by the past, whenever any of these remarkable phenomena should make their appearance in the heavens above or in the earth beneath, we may reasonably anticipate what will follow the wild freaks of nature's elements.

Dr. Casselberry published another paper in the American Journal of the Medical Sciences for April, 1858, on the "Use of Iron in Fever." This is a subject of which we trust the whole profession, old and young, is thoroughly informed upon. Too much reliance cannot be placed on the many preparations of iron in building up the system, and warding off the distressing consequences that so often follow attacks of fever in alluvion localities. We shall conclude our notice of this monograph by making one single quotation, in which the reader will always agree with Dr. C.:

"When we contemplate the effects of the climate of the alluvion districts in the south-western States in the production of an impoverished condition of the blood, the frequency with which this state of the blood is met with in these localities, and its injurious consequences to the organism when allowed to continue, the value iron in the promotion of the growth and maturity of the blood-cells, and the consequent removal of this condition of the blood, can scarcely be sufficiently appreciated."

"History shows that Quarantine Laws are futile," is the title of another paper, by the same author, published in the August number of this Journal, 1859. It contains most conclusive arguments against the popular humbug known as *quarantine laws.* The experience of the world in the past, the dictates of common sense, and the plainest teachings of reason, are all opposed to quarantine as conducted in many of our seaports and ports of entry during epidemic visitations, because there is no discrimination between diseases that are contagious and those that are not contagious. The local origin of constitutional diseases, and the constitutional origin of local diseases is over-

looked in this quarantine law, and there is one indiscriminate barrier set up against all diseases, to the very serious detriment of comfort and absolute loss of valuable life. Quarantine laws, as they exist at the present day, are behind the intelligence of the age, but there are very few medical writers bold enough to say so. We commend Dr. Casselberry for his courage and resolution in telling the truth regardless of consequences.

"Ancient Marriages of Consanguinity," by the same author, published in the Journal for November, 1859, is an article upon which much labor has been bestowed, and goes far to confirm the opinion that is fast gaining ground, that Dr. C. is one of the most accomplished medical historians in America of his age. The facts elicited in this paper are of little practical importance to the profession. Dr. Bemiss' elegant contribution to the Transactions of the American Medical Association for 1858, which we may be permitted to style *modern* marriages of consanguity, with all its learning and systematic arrangement, if it does not succeed in securing legislative enactment against the marrying of relations, it will prove a failure. It does credit to the head and heart of the man that produced it, and ought to awaken the minds of legislators to a true sense of their duties and responsibilities to those by whom they are elected to govern.

This monograph of Dr. Casselberry's tells us of the incestuous marriages of the Egyptian and Syrian Princes and Princesses, but as they were exceedingly sensual and corrupt, we have concluded that the less we have to with them the better. No doubt the Doctor himself, upon "sober, second thought," will agree with us.

We have finished our task of a cursory review of Dr. Casselberry's writings, and though we may not endorse every thing he has said in the articles reviewed to *the letter*, yet we do most emphatically the *spirit* of all he has written. As it is impossible for one individual to agree with another in all things, and that differences of opinion among the various members of society must and will exist, even for the sake of vanity if for nothing else; still we hail Dr. Casselberry's writings as among the

brightest evidences of the time that the individual members of the profession will think for themselves, unawed by the schools and uninfluenced by any other motive than that "the truth, the whole truth, and nothing but the truth," should be made known to the profession for the benefit of mankind. Within the past few years his essays have been written and published. In that time Campbell of Georgia has lighted up the pathway to an unexplored department of scientific knowledge. Pending this, Forbes, Holmes, Bigelow, Flint, and others, have nobly advocated the doctrines of "conservative medicine," and the investigations and masterly productions of Jones of Georgia, tend in the same direction. New lights have sprung up in the van of our profession. A bright era is dawning upon us. Shall we impede the car of progress in its onward march to the goal of perfection, or shall we put our shoulders to the wheel and then call on Hercules.

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