MEDICAL DECADENCE.

DR. H. A. HARTT ON REFORM MEASURES.

IMBECILITY OF MODERN PRACTICE—HOMEOPATHY—RECKLESS ABANDONMENT OF ANCIENT METHODS—EXPERIENCE, AND NOT THEORY, THE TRUE GUIDE—A LARGE PROPORTION OF CHRONIC DISEASES CURABLE.

Henry A. Hartt, M. D., of No. 142 East Thirty-fourth-st., read a paper on "The Prevention and Curability of Chronic Diseases" at a meeting of the New-York Medical Library and Journal Association, held on Jan. 8. An abstract of the paper was published in THE TRIBUNE at the time, but inasmuch as the subject is one of grave importance, both to the medical profession and to the community, the full text is reproduced below.

THE PAPER.

I have been requested by several eminent physicians of New-York to give to the profession and the world the general results of my observation and experience during the 42 years that I have been engaged in the study and practice of medicine.

I was educated in Scotland, at the University of Glasgow, in what may properly be styled the heroic school, wherein I was taught that the lancet was to the physician what the sword was to the warrior. In those days the chambers of the sick were scenes of combat, in which blood flowed almost as freely as upon the battlefield. The great ruling idea was the necessity of depletion. It was demanded for every ailment and for every accident, and the fear that haunted the mind of the conscientious practitioner, in almost every case, was that he had neglected to take away a sufficient quantity of blood. When the veins had yielded up the last drop it was safe to abstract, then followed counter-irritation in its severest forms by means of the fly-blister, the tartar emetic ointment, Granville's lotion, the issue by caustic potassa, and by nitric acid, the seton, the moxa, and the actual cautery. To these were superadded, in many cases, a succession of drastic purgatives and hydragogue cathartics. As soon as the powers of the system were sufficiently reduced, the aid of mercury was invoked. The strongest preparations of the medicine were preferred, and it was generally considered necessary to push it to the extent of producing salivation, which was regarded as the only evidence that it had affected the system. It cannot be denied that these measures were generally effectual in subduing inflammatory affections in their most violent forms, but it is equally certain that they sometimes also destroyed the patient. I do not remember any case in my own practice in which they proved positively fatal, but I can recal an instance in which a man was carried by the use of the lancet so near to the gates of death that an indelible impression was made upon my mind, and ever since I have exercised more caution in its employment. The patient lived at the distance of 25 miles from my residence, and I was obliged to travel by night, through a burned forest, in the most terrific thunderstorm I ever saw. I reached my destination at 2 o'clock in the morning, and found that the patient had been suffering for several days from a severe attack of pneumonia. The length of time it had existed, and the ravages it had committed on the powers of the system, suggested a doubt with regard to the propriety of depletion. But I had never seen nor heard of an instance of recovery from this disease without it, much less had I been informed that it has a natural tendency to a cure, and having no leeches, or leeching apparatus, at hand, I opened a vein in the arm, but when I had obtained about half a pint of blood the patient fell back in a faint, from which he rallied slowly, and then only to gasp and pant for hours as though life had fled come, in spite of the most powerful stimulants. He had not fully recovered from this condition when I was obliged to leave him, and 36 hours elapsed before I could see him again. I shall never forget the anxiety I felt on his account during that period. I found him, however, decidedly convalescent.

There may have been a time in which the stamina of mankind demanded and bore this violent treatment. But that era had passed, and it was no longer required. The strain had become too great. A reaction was inevitable, and it came, and like reactions generally, *it has gone entirely too far.* The pendulum has swung to the other side. It has been powerfully aided by a remarkable change which has taken place in the type of disease. It is impossible to deny that acute diseases do not now make their appearance in the same violent form that they did 30 or 40 years ago. An inflammation of fever which was then attended with a pulse of from 120 to 160 full and bounding, gives us now a much softer pulse of from 96 to 108, with all the other symptoms correspondingly mild. I have obtained the testimony of many distinguished physicians, in both this city and elsewhere, who all agree with me upon this point. It may be difficult to ascertain the causes of this variation in the character of acute diseases, but the fact remains.

The reaction in question received also a great momentum from the changes produced in the constitutions of men by the progress of our civilization. As nations advance in commerce and the arts, they acquire habits of ease and luxury, and lose in proportion their moral and physical force. Their powers of endurance are weakened, and there is a general revolt against everything that is painful, disagreeable, or unpalatable. They would take from fire the property of giving pain though every child that should be born thereafter should run the risk of being burned to death, and they would extract from every medicine its nauseous taste though every man might be poisoned by using it as an article of food. They lose sight of the great fact that in both the moral and the physical departments of nature, the violation of law is followed by punishment, and that all remedial measures are necessarily disciplinary, and, therefore, distasteful, and so they demand of their spiritual advisers that they should prophesy smooth things, and cry "peace, peace," when there is no peace, and of their medical advisers that they should treat them only with rose water, and lemonade. In perfect harmony with this new spirit of luxury and folly came homeopathy, holding in its hand a vial of sugar pellets, and proposing to thrust aside at one fell swoop the accumulated results of the wisdom and experience of ages, and proclaiming the law of *similia similibus curantur* as the one great and only law of medical science. If the multitudes who embraced this heresy had paused to examine the subject, they would have seen at once that it is never by such sudden and revolutionary measures that any science or art is advanced; that, on the contrary, it is by the gradual addition of new discoveries of fact, and principle, and law that the great structure is slowly reared from age to age, never to be completed till time shall end. They would have seen also that which has been so ostentatiously put forth as the only law of medical science is not a law of medical science at all, but simply a law of certain classes of agents called stimulants and tonics. From time immemorial it has been known that if these agents are used in excess they produce a weakness of the parts upon which they operate, and that if these parts have become debilitated or congested, through cold or an injury, or any other cause, then these agents, in moderate doses, are the appropriate remedies. They would have seen also, in pursuing the inquiry, that there are other agents of vast importance which act upon the law of opposites, and others again which act upon principles different from either. In short they would have discovered that the laws which govern the action of medicines are varied and manifold, and that the attempt to restrict the science of medicine to one law, is just as ridiculous as the pretence that all the ills that flesh is heir to can be cured by one remedy. And, if they had chosen to go still further, and examine into the *practice of the founder* of the system, they would have met with facts which would have both amused and astounded them. For instance, in his work entitled the "Organon," he says: "In a sudden affection of the stomach, with frequent nauseous eructations, as of spoiled food, accompanied with depression of mind, cold at the feet, hands, etc., if the patient should only smell once of a globule of sugar the size of a mustard seed, impregnated with the thirtieth dilution of pulsatilla, then he is cured in the space of two hours." Now, Prof. Simpson of Edinburgh, in his admirable work upon Homeopathy, has shown that this thirtieth dilution of pulsatilla, according to the prescribed formula, is one grain of pulsatilla dissolved in an ocean of alcohol equal to several globes, the diameter of which would reach from this earth to the nearest fixed star. If Hahnemann had declared that he was the Emperor of Germany, or the King of the Cannibal Islands, he would not have made a statement a whit more preposterous or incredible. And yet, in a later work, he affirms, as the result of his matured experience, that a dose of the two-hundredth dilution is the best dose for all diseases, both acute and chronic.

IMBECILITY OF MODERN PRACTICE.

And now I come to the inquiry, what have the faculty done to withstand homeopathy and resist the spirit of the age? Have they studied and weighed the modification which has occurred in the type of disease, and carefully adjusted their methods to meet that modification? Have they manfully stood up for the dignity of the science, purged it of its errors, and under its venerable banners, in the name of God and humanity, despised the blandishments of fashion, rebuked the effeminacy of the times, and insisted upon a vigorous and effective system of treatment? It is not my province to prefer a charge against my brethren, or to impugn their motives, but I am bound to declare my solemn conviction that the practice of medicine, at the present day, is sadly deficient in force and vigor, and that if it continues much longer in its downward course it will become as weak and powerless as homeopathy itself. This imbecility has already begun to produce its legitimate fruits. I have reason to believe that there are men of eminence in the profession, distinguished for their knowledge of pathology and skill in diagnosis, who, when they come to the great object of their art, confess their want of confidence in the power of medicine to cure disease. The young men come forth from the laboratory and lecture-room with their minds fully stored with every kind of technicality, and lore, but, when they are called upon to grapple with the terrible realities of professional life, they hesitate and know not what course to pursue.

The imbecility of modern practice is most strikingly shown in the *prevalence of chronic diseases, and in the general skepticism, both in the profession and out of it, with regard to their curability.* The first point, I believe, is universally admitted, and requires no argument. If there were any doubt on the subject I think it would be dispelled by the fact, which was mentioned to me by a friend who visited Wiesbaden last Summer, that there were at least 25,000 persons there who had come to avail themselves of the remedial power of the waters. With respect to the general disbelief in the curability of chronic diseases, I think it can easily be established beyond dispute. There are special institutions for certain forms of chronic disease, but, as far as I know, there is not in the world a hospital for the treatment of chronic diseases generally. It would be a most unjust and unwarrantable reflection upon the Christian benevolence of mankind to suppose that the sufferers from these terrible maladies would be left thus unprovided for, if it were not generally conceded that they could not be cured. And what means the almost universal practice on the part of physicians of ordering them off to different parts of the world for change of air—a policy which was at one time confined to the rich, but which now is often extended most ridiculously to the poor, who have not a penny to carry them away? I cannot but regard it as a most humiliating confession of the impotency of their art. The utter hopelessness into which the patients themselves ultimately fall is another proof of the discouragements they meet with on every side. A man will not readily accept the idea that he is the victim of a life-long disease. He goes from place to place, consulting physicians, charlatans, and clairvoyants, and using nostrums of every description, and grasping convulsively at every straw that is thrown out to him, till finally he resigns himself to his fate, and the voice of an angel itself could not awaken within him a spark of hope. In some severe cases the mind becomes a wreck, and the man loses all moral power, and can no longer make the slightest effort for his own deliverance. One of the saddest spectacles I ever saw was that of a poor fellow who was lying in a basement on a miserable cot, to which he had been bound by the chains of rheumatism for seven years. At night he could not sleep, but tossed about, as far as his stiffened and painful limbs would permit, in perpetual agony. By day he slept a little, and felt no pain except on motion, and then he cried aloud. I pitied him and offered to treat him gratuitously, but he promptly and positively declined, saying, "Greenwood is my only refuge and hope." I saw an old man recently whose lower limbs have been greatly weakened by the action of the rheumatic poison on his spinal cord, so that for two years he has scarcely been able to walk even with crutches. He has become utterly indifferent to every earthly object, himself included. I asked him if he would be willing that I should treat him if he were sure that I could cure him at once, so that he would be able to throw away his crutches and walk about the next day as well as he ever did. "Way," said he, "that would be a miracle." "Would you allow me to perform that miracle upon you?" "Well, I don't know. I'm not sure that I would."

In order to satisfy myself more fully upon the subject in question, I have made inquiries of physicians and others. I asked Dr. B——, chief of the medical staff of one of our most prominent and useful institutions, what his opinion was with regard to the curability of chronic diseases. He replied, "The fact that they are chronic shows that they are not very curable." A few years ago I inquired of a medical officer of the Department of Charities and Correction the number of patients that were admitted every month with chronic rheumatism, chronic bronchitis, and asthma. He told me that, on an average, they received 30 with rheumatism, 24 with bronchitis, and from 12 to 24 with asthma. I then asked him, "How many with rheumatism are cured?" He replied, "None." "How many with bronchitis?" "None." "How many with asthma?" "None." "What then," I said, "do you do with these unfortunate patients?" "We relieve them, and the first fine day we discharge them, and take care not to receive them back again if we can avoid it." The resident physician of one of our largest hospitals informed me that the officers of that institution would not receive cases of chronic disease at all. I inquired the reason, and he replied: "First, we cannot be sure of curing one of them; secondly, we cannot hope in the most favorable circumstances to cure more than 8 per cent; and thirdly, it would take very long to restore even that limited number." I asked a physician of great ability who had been in good practice for several years, what he thought were the chances of cure in the most favorable cases of chronic disease. His reply was, "A happy possibility." A gentleman recently consulted Dr. B—, a prominent physician of Brooklyn, with reference to a relative who had suffered from rheumatism for many years. He said that he would not undertake to treat the case, for he could not cure it, if he were to obtain a fee of $50,000. He added that the best thing the patient could do would be to go where there was no rheumatism. Alas for the fate of the sufferers from rheumatism! Asthmatics and others may find a refuge in some favored regions on this globe, but they who are afflicted with this disease must henceforth be remanded to some other sphere. This advice reminds me of an anecdote told me by a friend of mine who has never married, and who, like bachelors in general, has a morbid tendency to scrutinize all his sensations, and who has not, therefore, for many years been entirely free from pain. He met one day a clergyman of his acquaintance, and in reply to the usual salutation, remarked that he felt very well with the exception of a pain in his back. "Ah," said the sympathizing pastor, "that is very distressing, but it is a comfort to think that when you reach that house not made with hands, eternal in the heavens, you will have no more pain in your back."

SKEPTICISM OF A DISTINGUISHED SURGEON.

I called one day upon my friend Dr. R—, one of the ablest surgeons in this city, to request him to visit with me the child of Mrs. T—, who had been accidentally shot in the head by his brother. I found the Doctor just recovering from an attack of rheumatic gout, which had continued ten weeks. He had been subject to the disease, at intervals, for many years. I inquired how much of the time during the ten weeks he had suffered severe pain. He replied: "I suffered agony for four weeks." I said, "Why do you not allow me to cure you?" "Cure me! that is impossible; I have tried everything." "You are going to see a child with me to-day," I said, "whose mother is a living witness to the fallacy of your opinion." After our consultation upon the case of the child, he questioned Mrs. T—, with regard to herself. She told him that she had suffered from rheumatic gout in its worst form for five years, and had been perfectly cured by an equal length of time. "Have you had no return of the disease whatever?" "None." "You were fortunate," he said, "to fall into the hands of Dr. Hartt." But although the Doctor has had the opportunity to enjoy a similar good fortune, he has thus far declined to avail himself of it.

The following extract, a minor editorial of THE TRIBUNE'S, is, I think, as appropriate as it is amusing:

Apropos of rheumatism. John Trotman of Wabash, Mo., was a great sufferer from this incorrigible infirmity. Physicians were in vain, and were likely to be, inasmuch as the complaint was rheumatism and the patient was 60 years old. So Mr. Trotman, in the absence of his wife, tied two flatirons under his chin and (a some unaccountable way) his hands behind his back, and then accoutered plunged into Peter's Creek, where he was found soon after quite free from rheumatism and from everything else except the flatirons. The man who undertook to watch Mr. Trotman, and who didn't watch him, hasn't been arrested, though he should be, and at least fined for mitigated manslaughter. The kind of rheumatism which they have in Connecticut doesn't seem to affect the mind, but it is very steady and lasting. A Judge of the Court in East Hartford is a man, age 66, who was excessively rheumatical. "How long have you had it?" says the doctor. "Forty years," responded the sufferer. The doctor left without prescribing. We cannot tell how much we should like to see even a partial list of the remedies to which during his life our Connecticut martyr has probably resorted. He has carried a full of mustard in hot celt pamalogo pockets; he has carried a bit of magnetized iron in his right foot; he has flatted, so to speak, in pain killer; he has put his trust in "cam-fire," and likewise in capsicum. Whatever things are hot or bracing, or tonic or nauseatical, he has resorted to; to the "king of pain" to the "ready and rapturous relief," to oils, to ointments, to poor man's porous plasters, to red flannel shirts, to galvanic braces, to epsoblisc, to herbs and roots and seeds—to all things which grow or flow, which are dosed from the bowels of the earth, which are extorted from the bushes, which drop from reports, which are rosy or pale in apothecaries' bottles; to powders, to tinctures, to decoctions, to pills, to essences, to panaceas, and to elixirs; to boluses and globules and infinitesimal dilutions; to hot rum and water, to cold gin and sugar, to brandy pluin, to sweats and to starvation, to flesh diet and to fish diet and to fowl diet—and so in vain.

A LONDON PHYSICIAN ON THE DECLINE OF MEDICINE.

An article appeared in *The London Lancet* in September, 1869, by Dr. Elam, entitled, "Medicine, Disease and Death," the object of which was to show that from the year 1838 to the year 1868 there had been a decline in the art of medicine. It was based on statistics derived from the annual reports of the Registrar-General, from which it appeared that the death-rate during the period above mentioned had increased about one in a thousand, which corresponded to 3,000 additional deaths in London alone, and to about 22,000 in the whole of England and Wales. It is not necessary to my argument to institute such a comparison, for I have admitted that grave errors existed in the practice of medicine at the time when the alleged retrogression began; but if the conclusion at which the author has arrived be correct, it demonstrates that excessive vigor is not so bad as excessive weakness. In this, as in other things, "to be weak is miserable." The nature of the profession demands strength—strength in the practitioner and strength in his art. It brings a man in perpetual contact with the sorrows and infirmities of human nature. He bears on his shoulders day and night the tremendous responsibility of life and health. The dearest interests and most sacred secrets of society are committed to his care.

The lovely infant, the prattling child, the blooming virgin, the ambitious youth, the idolized mother with all her blushing honors thick upon her, the strong man in his prime, and the hoary head of age, all, in their hour of trial and agony, come to him, and depend upon his wisdom and skill. What has he to do with fashion, or prejudice, or taste? Firm as a rock, yet gentle as a dove, he must resist every influence that would turn him aside from the path of duty, and carry out with inflexible integrity the inexorable laws of science. With philosophic candor and sense, in the spirit of the mighty Paul, he should "prove all things, and hold fast that which is good." He should of course be willing to make a reasonable trial of new measures or remedies, but the results of experience he should never surrender. And as the physician should be strong, so should there be strength in his art. Although the man that was born blind did not sin, nor his parents, still the great army of sufferers who have contracted their diseases after their birth, must receive, I fear, a harsher judgment. At any rate they are amenable to the charge of having violated physical laws, and we know that to those laws is invariably affixed a rigorous penalty. The great declaration that the way of transgressors is hard appears in this life with almost equal force to violators of law in every department, and it is not more certain that through sorrow and pain and self-denial the spiritual wanderer must go back to the regions of purity and love, than that, by a similar road, the pilgrim of disease must find again the priceless gems of health and happiness. I wonder it has never struck the advocates of expectancy and sugar pellets that nature has given to almost all medicines a nauseous taste, and to many of them a disagreeable odor; and that if the *vis medicatrix naturæ* is as effective and reliable as they imagine, the existence of such a vast array of remedial appliances in the world is a grand superfluity and waste. Now, disease is a positive thing, arising from the violation of law, and all analogy teaches us that its treatment must be both positive and painful. It is in vain to attempt to escape the decree. On the one side is Scylla, on the other Charybdis—*pain or death.*

DISREGARD OF OLD PRINCIPLES.

I have said that within the last forty years a change has taken place in the type of disease, and I firmly believe that if medical men throughout the world had modified their treatment so as to make it correspond thereto, and had employed all the facilities which the march of science has put at their command, neither homeopathy nor any other form of quackery could have obtained a foothold. But unfortunately some of the most important and effective measures—measures which had stood the test of centuries, were almost, if not entirely abandoned. Is it possible that our fathers were altogether mistaken with regard to the principle of depletion in cases of inflammation and congestion? They undoubtedly carried it too far in many instances, but was it not founded on a rational theory, and when employed in moderation was it not attended with the happiest results? It was originally suggested, I doubt not, by the spontaneous hemorrhages which so often occur in congestive diseases, and by the sudden and marvelous relief which they afford. I myself can bear witness to the magical effect produced both by general and local bleeding in numberless instances of acute disease. The abstraction of blood from the arm diminishes the force of the circulation, reduces the temperature of the body, and prepares the way for the more effectual employment of internal remedies. In pneumonia, in pleurisy, in peritonitis, in apoplexy, in puerperal convulsions, in inflammation of the brain, I have seen it produce immediate and striking alleviation of the most alarming symptoms. Formerly, when the lancet was almost universally employed in cases of apoplexy, the general rule was that the patient did not die till the third attack. The man is fortunate now who survives the first. Before the doctrine was taught that pneumonia has a natural tendency to a cure, it was treated both by general and local bleeding, followed by liberal doses of tartar emetic. I doubt very much whether Laennec or his followers ever had to record the terrible mortality from that disease which we have witnessed in these later years; and I can affirm most solemnly that I have treated it with almost uniform success. I was summoned not long ago, at the suggestion of a Catholic priest who had been sent for to administer the last rites of the Church, in the case of a man who had a severe congestion of the upper lobe of the right lung, and who had been treated with stimulants and left to die. It was too late for general bleeding; I therefore applied a dozen leeches over the part affected, and administered small doses of *potasse et antimonii tartras*, and in 24 hours his respiration and pulse were reduced to the natural standard, and in a week he was entirely cured. Local depletion in this manner reduces the force of the circulation and diminishes the quantity of blood in the congested part. I am persuaded that the profession have made a grave mistake in renouncing to so great an extent the practice of blood-letting, and I trust it will not be long before they will resume it in a moderate and rational form. The removal of a pint or three half pints of blood from the arm in the beginning of an acute inflammation, immediately followed by appropriate internal remedies, will often cut it short in 24 or 48 hours, whereas with less vigorous treatment it would probably continue for several weeks and possibly assume a chronic form.

The concession to the popular prejudice against mercury is one of the most lamentable features of the time. If there ever was a remedy for which the whole human race should be devoutly thankful it is this despised and persecuted drug. It has been made the object of the bitterest satire and ridicule, and thousands who have died for want of it have left the world with most mistaken feelings of enmity in their hearts against it. Like depletion, its priceless value led to its abuse. It constitutes an infallible antidote, *when properly administered*, to one of the most terrible diseases that vice has entailed upon humanity, and acts specifically as a stimulant upon one of the most important organs of the human system. The attempt to substitute in its place iodide of potassium in the one case, and bismuth and podophyllin in the other, would form a fit subject for merriment if it had not been attended with such mournful consequences. The alarming prevalence of syphilis to-day, and the acknowledged incompetency of modern practice to control it, and the frightful mortality among children from diseases of the chylopoietic viscera, I attribute to this unfortunate departure from the ancient landmarks. The error committed in former times with reference to this medicine was its indiscriminate employment in almost all conceivable diseases as an alterative, and to the extent of producing salivation, under the impression that this result was required as an evidence that it had produced its legitimate effect upon the system, and upon the particular affection for which it was administered. In my view of the subject, salivation is a provision of nature to guard against the excessive use of the drug, a sort of lighthouse to warn us from the rocks upon which we might otherwise run—an object which we should always steer away from and carefully avoid. In a future paper which I propose to publish on the subject of syphilis, I shall give my views at length on the use of mercury in that disease, and I will add at present only that I deem it invaluable as a remedy for congestion of the liver, and of the intestinal canal, for the purpose of purgation, in combination with other laxatives, and to promote the actions of the absorbents in various cases of recent deposit and effusion.

DISUSE OF COUNTER-IRRITANTS.

The most remarkable change, perhaps, that has taken place in the practice of medicine is the general disuse of counter-irritation. From the moxa and the actual cautery we have come down to the mustard leaf and ginger poultices. And yet I confidently affirm, as the result of my experience, that there is *no medicine in the world for internal administration* which exerts one-twentieth part of the power of counter-irritants over chronic inflammation. The bougie is not more necessary for a stricture of the urethra, nor are stimulating applications to an inflamed eye or throat or uterus than these powerful agents are to those internal congestions which cannot be reached by the probe or the syringe. It is strange that since we have ascertained the law of reflex action, by which alone their chief *modus operandi* can be scientifically explained, we have consigned them to the limbo of the past, thus recklessly setting aside at one and the same time the results of experience and the light of modern discovery. We know that a stimulant applied to the extremities of the nerves on the surface of any portion of the body is conveyed to the cerebro-spinal and ganglionic centers, and thence, by the law above referred to, is transmitted to all the internal ramifications of the complicated net-work to which they belong. We have thus, fortunately, the power of acting upon those deep-seated congestions which are inaccessible to the eye and the hand, and if we wisely follow the analogy and pursue the same principles of treatment which govern us in those that are external, our efforts will be crowned with similar success. In the case of an external congestion of a chronic nature it is occasionally requisite to use a powerful caustic, but as a rule the application of stimulants is sufficient to overcome the disease. In like manner an internal congestion of long standing may sometimes demand a seton or a moxa, but generally a milder counter-irritant will answer every purpose. In both cases, however, *it is absolutely necessary that the stimulating application should be repeated at short intervals and for a length of time.* As far as this proposition applies to external congestions, it will be accepted as a matter of course. An oculist, for instance, who should propose to cure a patient with granular lids by touching them once a month with a 10-grain solution of the nitrate of silver, or by making a similar application every second day for two or three times, or who, failing in his object after such preposterous experiments should throw up his case in despair, would justly be laughed at by his brethren throughout the world. But it is not a whit less ridiculous to attempt to master an obstinate bronchitis or spinal congestion by the employment of a mild counter-irritant once a month, or two or three times at shorter intervals, or failing therein to abandon the disease as hopeless.

There is a second principle upon which counter-irritants act which gives them a decided advantage over mere stimulants. By a law of the animal economy the existence of a sore on any part of the body causes the force of the circulation to be directed thither. Counter-irritants, by virtue of this law, determine the blood to the surface and so relieve internal capillaries in a state of congestion of their burden.

The learned and able Secretary of the Medical Library and Journal Association, Dr. Andrew H. Smith, has, I think, conclusively shown in a paper published in *The New-York Medical Journal* for April, 1872, that this effect is still further increased by the rapidity with which the blood flows through the vessels of the irritated part.

He says: "The question is not, how much blood the vessels of the irritated part will hold, but how much they will transmit in a given time. This will become evident when we consider that a given amount of blood passes through the capillaries of the body in each unit of time, and is transferred from the arterial to the venous side of the circulation, and that the quantity passing through any one part must affect that passing through the remainder of the body, since the latter must be the exact complement of the former. Thus, if in a given time four pounds of blood pass through the capillaries of the entire body, and one pound passes through the capillaries of the arms, it follows that three pounds must pass through the remainder of the capillary system. Now, if we plunge the arms into hot water, and dilate the vessels so that an additional half pound passes through them, the remaining vessels will transmit only 2½ pounds, and the tissues which they supply will be deprived for the time of one-sixth of their nourishment. It will be perceived that this is a matter entirely apart from the quantity of blood which might be contained in the arms if severed from the body. The consideration of the increase in the carrying power of tubes, in comparison with the increase in their diameter, involves some of the most interesting points in the mechanics of fluids. The resistance to the passage of the fluid being derived chiefly from the friction against the sides of the tube, will increase in proportion to the ratio of the circumference to the area of the section. Now, the circumference of a circle increases directly as the diameter, while the area increases as the square of the diameter. The friction is obtained by dividing the circumference by the area, and therefore decreases directly as the diameter increases, as is shown by the following formula:

Diam. a.	Circum. b.	Area. c.	Friction. $\frac{b.}{c.}$
2a.	2b.	4c.	$\frac{2b.}{4c.} = \frac{b.}{2c.}$

From which it appears that doubling the diameter of a tube quadruples its area, and at the same time divides the friction by two. But, great as is this disparity, it is immensely increased in practice, especially when the tube is of very small caliber, and tortuous or branching. The following experiments serve to show how slight an increase in the diameter of a tube will suffice to augment its carrying power enormously:

Experiment I. A gum-elastic tube of 5 m.m. bore and 3 feet long, perfectly straight and of uniform diameter, was found to transmit a given quantity of water in 115 seconds. Another tube, of 6 m.m. diameter, but perfectly similar in other respects, transmitted the same quantity in 60 seconds. In this case an increase in the diameter of 20 per cent, and in the area of less than 40 per cent, gives an increase in the carrying power of nearly 100 per cent.

Experiment II. A glass tube 10 inches in length and having an inside diameter of .032 inch, gave passage to 6 drams of water in 122 seconds. Another tube of the same length and under the same conditions, but having a diameter of .036 inch, transmitted the same quantity of water in 20 seconds. In this case the addition of one-half to the diameter of the tube allowed the passage of six times the quantity of fluid.

Experiment III. The same tubes were used as in the last experiment, and all the conditions were the same except that defibrinated bullock's blood was employed instead of water. The blood was previously strained through very fine linen. The smaller tube required 1,440 seconds to transmit 6 drams, while the larger tube gave passage to the same quantity in 142 seconds. The ratio here is one-half to 10 instead of one-half to 6, as it was when water was employed.

In applying the results obtained from these experiments to the question of counter-irritation, we find that certain stimuli applied to the skin act in such a way upon the vaso-motor nerves as to cause a relaxation of the terminal arteries, and a dilatation of the capillaries. If the irritation be considerable, the surface assumes a bright scarlet hue, in the place of its previous flesh-color. Such a change in the color implies a very considerable increase in the diameter of the capillaries.

CHARLES SUMNER'S CASE.

A memorable case of our own times affords such a striking illustration of the value of counter-irritation that I deem it appropriate to refer to it in the discussion of this subject. In the Spring of 1856 Charles Sumner was struck down in the Senate Chamber by Preston S. Brooks, and beaten on the head with a cane till he became insensible. He was sitting at his desk when the attack was made upon him, and in his efforts to free himself from the hands of his assailant he sprained his spine in two places. Some time after the assault I read in a newspaper a letter written by a lady, containing a particular account of his symptoms, from which I inferred that his spine was the seat of disease. In the Summer of 1857 I mentioned my opinion to the Rev. Dr. George B. Cheever, and Mr. Palmer Waters of Salem, Mass., who, learning soon afterward that Mr. Sumner was lodging at the Brevoort House in this city, called upon me to request that I would visit him in company with them, and state to him the views which I had formed of his case. I opened the conversation by asking him whether he had any reason to suppose that his spine was affected. He replied, "I am sure it is not, for my physicians examined my spine only yesterday and assured me that it was perfectly sound." I did not deem it proper, whether rightly or wrongly, to make any further remark to him on the subject; but when we withdrew I said to the gentlemen who accompanied me, "nevertheless his spine is the seat of disease, and no cure can be accomplished until it is properly treated." At our interview he informed us that he had consulted several eminent physicians, both in this country and in Europe, and that all had agreed that he was suffering from an affection of the brain. He said, with tears in his eyes, "I am not afraid to die, but I confess that I do shrink with dread from the thought of insanity."

A month or two afterward he went to Paris and placed himself under the care of Dr. Brown-Séquard, who discovered that the spine and the cervical sympathetic were seriously affected, and who treated him successfully by counter-irritation in its severest form. There was everything about this case which was calculated to produce the most profound impression upon mankind. The character and position of the sufferer, the cause for which he was assailed, the boldness and savageness of the attack, the insatiable malice of his enemies which pursued him with misrepresentations, and charged him, in the midst of his agonies, with the ineffable meanness of feigning to be ill, in order that he might extort a sympathy which he did not deserve, all conspired to awaken an unparalleled interest throughout the civilized world. The details of the treatment were published at the time with the utmost particularity, and everybody knew exactly the method by which the cure was effected, and the great physician, who was known before as an ingenious experimentalist and learned physiologist, at once obtained a world-wide celebrity as a practical man on account of this astonishing achievement. One would have thought that counter-irritation might now have successfully asserted its claims and become at least the fashion of the hour, but the great forces that rule the world were too strong for it, and the horrors of the moxa outweighed the brilliancy of the cure. I would not take one leaf from the crown of Dr. Brown-Séquard, for he is entitled to immortal honor and to the ceaseless gratitude of the American people and of mankind for the energy, fidelity, persistence, and skill which he displayed in the treatment of the wisest and purest statesman which this country has produced; but I feel that it is my duty in the interest of science to declare my opinion that a milder counter-irritant, which would have admitted of frequent application, which would not have been attended with one-tenth part of the pain, and which would have been wholly unaccompanied with the prostrating shock of the moxa would have been equally efficacious in overcoming the disease.

WATER AS A REMEDY.

The element of water is one of the most wonderful objects of contemplation. In its various forms of ocean, river, lake, brook, cataract, ice, snow, vapor, and dew, it contributes to the gratification and welfare of man. It constitutes at one time the grandest, at another the most beautiful feature of natural scenery. It forms the great highways of commerce, and drives its ponderous vehicles with the force of the whirlwind. It holds in its vast bosom and nourishes an innumerable multitude of living creatures, many of which are used as articles of luxury, while many more disport themselves in its mysterious caverns and never have anything to do with the ways or wants or habitations of mankind. Along with its great coadjutors, light and heat, it fructifies the earth and causes it to bring forth plant, and flower, and grass, and fruit, in their season. It is the source of purification throughout the world, and an essential part of the food of man and beast and every living thing. And in addition to all this vast array of uses and benefits, it is to mankind an invaluable medicine. If used in combination with ice, or in the form of ice, it acts as a refrigerant, diminishing heat and action, and restoring the tone of weakened capillaries. If employed by means of what is called a "pack," or in the form of the vapor bath, it becomes a most powerful diaphoretic, driving the blood to the sur ace, exciting the exhalants into vigorous action, so as to remove a large portion of serum and along therewith a quantity of any morbid matter that may happen to be in the system. I have known several instances in which the vapor bath has exerted an almost magical influence in the commencement of bronchial pneumonia.

The first patient upon whom I employed it was my own son when he was about four years of age. The disease attacked him in a violent form. His pulse rose to more than 160, and his respiration to 72. In six hours the force of the inflammation was subdued. I employed this practice upon my own responsibility. There was a time when the warm bath was prescribed for the convulsions and colics of children, and vapor was used to break up a cold or a fever, but latterly, I believe, this practice has been generally abandoned, and with the exception of ice the whole agency of water is given over into the hands of the proprietors of water-cure and mineral-water establishments. These gentlemen, I understand, for the most part are totally unlearned in medical science, and generally begin the treatment by informing their patients that they are saturated with drugs, that their diseases in a great measure arise from that cause, and that the first step toward recovery is an entire abstinence from all internal medication. In some simple cases of catronic congestion, the subjects of which have considerable stamina, they may do undoubtedly effect a cure. But when the congestion is connected with great debility, or is complicated with some poison in the blood which cannot be eradicated without internal remedies, they may produce irreparable mischief. A married lady, 30 years of age, who was affected with rheumatism at the age of 20, and was afterward subject to it for eight years, having two attacks every Spring, each lasting six weeks, and generally one in the Autumn applied to me for treatment. She had been attended by homeopathists without benefit, but had been assured by them that if she lived to be more than 30 years of age she would get over it. She grew weary of her burden before the time appointed arrived, and had recourse to an establishment in this city, where she was treated with water exclusively in different forms. By this means the poison was driven from the fibrous tissues and it afterwards attacked the left lung. She coughed constantly for two years before she came to me, when her lung, both anteriorly and posteriorly, was studded with softened tubercles.

There is an institution in this city which proposes, I believe, to cure all forms of chronic disease by means of rubbing and passive motion. The system is called the Swedish movement cure; but I doubt if Sweden ever saw one-tenth of the curious inventions which are there ascribed to her. There is every kind of mechanism driven by steam to fulfill the objects designed, and if the molecular theory of our modern scientists be true, and heat and light and life and everything be only a mode of motion, then the pretensions of this establishment, comprehensive as they are, may not prove to be so extravagant as at first sight they appear. But as I prefer to be governed by the fundamental principle of the Baconian philosophy, which requires an adequate basis of facts before an attempt is made to construct a theory, and cannot therefore, with Prof. Tyndall, carry my vision beyond all experimental evidence to see anything, much less to behold in matter "the promise and potency of every form and quality of life," I decidedly demur to the proposition that any change of atoms or molecules produced by rubbing and passive motion will cure the various forms of chronic disease. At the same time I do believe that the treatment is admirably adapted to promote absorption and restore the tone of parts that are weak from long disuse or otherwise, or that are partially paralyzed, and that if it were employed in such cases, in conjunction with electricity or galvanism, it would often be attended with the most satisfactory results.

But why should this or any other important agency be allowed to remain exclusively in the hands of ignorant pretenders, or of those who, though enlightened, put themselves on a level with that class by restricting themselves to a single method of treatment; for it has ever seemed to me that in this partial practice more than anything else consists the essence of charlatanism. I suggest the expediency of establishing an institution in this city, under the superintendence and control of the Faculty, with every facility for the use of electricity, galvanism, water in all its forms, rubbing and passive motion to which private practitioners may send their patients, with the perfect assurance that they will receive the treatment prescribed in the best manner, at a reasonable cost, and without being tampered with. I trust that no objection will be made to the employment of any of these important remedies on the ground that the stain of quackery is upon them, either because they have been monopolized, in a great measure, by pretenders or irregular practitioners, or because some of the modes by which they are most effectually applied have originated with them. The medical profession is broad, and catholic and philosophic. Its aim is humanitarian, and it looks out with an eager eye into all the realms of nature and art, and wherever it finds any fact, or law, or principle, or method, or apparatus, or remedy, that can aid it in its noble work, it hails it with avidity, and presses it into its service with joy. It receives with gratitude any valuable suggestion, whether it comes from friend or foe. It goes upon the principle so humorously expressed by the celebrated Rowland Hill, when certain bigots rebuked him for joining with Unitarians in circulating the Bible: "I would receive the Bible," said he, "from his Satanic Majesty himself, if he would have the courtesy to hand it to me with a pair of tongs."

DANGER OF THEORIZING IN MEDICINE.

There is obviously at the present time a deplorable tendency among eminent scientists to a departure from the inductive process of reasoning, and a reckless indulgence in the wildest and most chimerical speculations. Darwin has built up a stupendous theory, which, according to his own admission, is not, and will not for millions of ages, be susceptible of proof. Huxley reluctantly confesses that there is not a single fact to establish the daring pretension of the vestiges of creation that death can bring forth life, and yet he has what he calls a philosophic faith that if he could go back beyond all geologic periods to the regions of chaos and eternal night—his vision sharpened, I suppose, by darkness visible, would behold the problem solved by the infant energies of ammonia and other gases. And thus with one sweep of the imagination would these men ruthlessly and impiously tear away the immovable foundations of historical and experimental evidence on which rests the sublime superstructure of the Christian faith. In like manner we see in the medical profession a disposition to indulge in loose deductions and vague theories, and thereby to array the discoveries of science against the indubitable facts of experience. The disuse of depletion in peritonitis, and the substitution of large doses of opium, which merely lessens the peristaltic motion of the intestines and relieves pain; the expectant and stimulating treatment adopted in pneumonia, on the ground that it is a self-limited disease, that the exudation in the second stage withdraws a pound or more of the solid constituents of the blood, and that counter-irritation inter