

Dickson (or H.)

THERAPEUTICS:

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There is no function or office allotted to and performed by man, more elevated and important, than that of relieving the suffering and promoting the health of his fellow-men. I except none. The objects and purposes of the Religious Teacher, the most worthy object of comparison, and those of the patriotic ruler and law-giver, are truly noble—of the first, indeed, little less than divine; but they are only aims, impracticable, visionary, unsuccessful. History shows, and experience daily illustrates, the inefficacy of their laudable efforts and the unavailing feebleness of their influence, even when exerted, as is not always the case, in the right direction.—Crime is as rampant and irrepressible as in the days that are past, and all forms of Piety are found as superficial as ever, and as ready to yield under temptation and opportunity.

Meanwhile a steady and unquestionable progress of improvement has been and is still going on in regard to the physical well-being of our race; and if civilization does bring in her train certain new modes of infliction and increased susceptibilities, she does not fail to offer, sooner or later, from the resources of her ever-advancing Science, consolatory methods of correction, palliation and compensation.

It is truly gratifying to record the concurrence in these views, of one of the profoundest thinkers of our day and generation. We find Mr. Carlyle expressing his opinion of "the profession of the Human Healer" as "being radically a sacred one, and connected with the higher priesthood, or rather being itself the outcome and acme of all priesthoods, and divinest conquests of intellect here below—as will appear one day."

The ultimate object of all our studies is the Prevention and Cure of Diseases. In the beneficent labours of our modern Hygienic institutions, philosophers, legislators and philanthropists share largely with us; our exclusive duty lies in the persevering pursuit of Therapeutics—the Art of Healing. It is incumbent on us from time to time, to engage in an extensive survey of the field which spreads itself before us; to review the results that have been arrived at; to lay down for ourselves farther definite aims, and to inaugurate properly, the exertions necessary to their attainment, to choose the correct course of proceeding, and understand clearly as well what is feasible, as what is to be desired. All things are not possible in themselves, however much they may seem within our reach; many things are impossible now which we may hope to grasp at some future time; many things are only possible to those who enjoy special opportunities for their attainment. These self-evident truths should be brought to the notice of the zealous young aspirant for his benefit and warning; not to damp his ardour, but to set limits to the scope of his ambition, that he may not waste his strength and fall into despondency from disappointment. He must not be encouraged to indulge unreasonable expectations. As it is notoriously in Meteorology, so also in our Biological studies, the elements are numerous and diversified to such a degree, and subject to such infinite variety of combinations, as to defy every attempt to arrive at uniform or precise conclusions. Every movement, doubtless, follows exact rules, but of these our cognizance is partial, and as we have not yet acquired clear or available knowledge, we shall often meet with unexpected and seemingly capricious incidents.—But there is no caprice in Nature: all is governed by inexorable law; we have to deal with neither miracle nor chaos; and herein lies our hope of progress; our inducement to exertion.

We have been engaged in the consideration of the nature and history of disease, the causation of diseases, and of some of their most striking characteristic phenomena. Let us now reflect, and inquire whether in all that we know upon these points, we can find any satisfactory deduction, any relevant suggestion as to the modes of relief, from the sufferings we have been contemplating. We may pretermit here all discussion of the various theoretical and hypothetical doctrines of the so-called "Schools of Medicine;" their solidism and humoralism, empiricism and scientific methodism, their allopathy and homœopathy. There underlies all these superficial debates a more profound and catholic philosophy, which, if we can make it our own, we shall find a safe guide; but it will not lead us, be sure, into any exclusive views. The faithful Physician will avail himself, in his interminable contest with physical evil, of every weapon in the medical armory, indifferent whether it acts by similar or opposite impression; nor will he concern himself, even with the question of quantity, farther than to be certain that he is not on the one hand drawn into dangerous excess, nor on the other held back by timidity from the employment of whatever may be requisite for obtaining the effect sought.

When he chooses entirely to abstain from interference, for whatever reason, he will simply wait or "expect," without holding up before him the false mask of an imbecile trust in mythic "potencies," or infinitesimal divisions of dose. Nor will he be deterred from the use of any means fitted to his purpose, by the fact that charlatans or impostors have adopted it, and endeavoured at its special appropriation.

Our first and most ready division of the causes from which arise the host of maladies that afflict us, separates the Incidental from the Specific. This seems to me to indicate, at once, a corresponding distinction in our Therapeutics, as in diseases themselves. In the first class, produced by the impression of those agents which sustain our lives—air, heat, food, &c., as their influence is both indispensable and inevitable, we must content ourselves with the effort to regulate it. We direct this effort against their excess or deficiency, or unadaptedness or abnormal variations; or we bring appropriate measures to bear upon the condition of the subject, his strength or

weakness, his susceptibility. Many of the most serviceable advances of modern medicine have been made in this field and many abuses corrected. It has become less common to apply and mis-apply drugs of the most active force and the most specific character in the management of the most simply incidental maladies. We are not so familiar with the promiscuous administration of antimonials and mercurials for every casual disorder of the digestive organs, "bilious" they are styled, and every catarrhal attack.—
share We have been taught some sharp lessons as to our ~~sphere~~, active and acquiescent, in this absurd and reckless mal-practice. The "Medicine Expectante" school, and its caricature, Homœopathy, well described as being "not anything, so much as a nothing" which looks like a something," have furnished us with irrefragable proofs that there was here a frequent if not habitual infliction of useless additional annoyance, at least, not rarely perhaps of positive injury to the unfortunate invalid.

Yet we must not submit passively to the censures heaped on us, nor receive without examination, the statements brought forward to our discredit. Allowance must be made for almost inevitable exaggeration: we must endeavour to discriminate between the actual and the seeming, the real and the apparent—discrimination often so difficult as to justify fully, Cullen's severe and paradoxical dogma, that "we have in medicine more false facts than false theories."

The spontaneous faith in the Healing Art, which has grown up so widely among all peoples and in all times civilized, semi-civilized and barbarous, the universal and instinctive resort to varied methods of medication, often fantastic, often harsh and painful, can scarcely be imagined to be absolutely without foundation in the nature of things. Far be it from me to defend, or even excuse, a promiscuous or indifferent employment of agents, possessed of whatever powers. It is the very essence of our Art, the very purpose and object of our Science, to distinguish and appreciate the circumstances and occasions for our interposition; to enjoin abstinence from all blind and indeterminate action; to enforce the restraints of prudence and ensure the guidance of reason and experience. But I will not shrink from saying that reason as well as instinct, and the highest prudence seem to me to justify, or rather to demand an

unhesitating interference—even if simply tentative—where our knowledge and experience fail us, in preference to an inactive, stolid submission. We must examine such contingencies on every side, and surrender ourselves to the dictation of some hopeful analogy, or some plausible, even if conjectural rationale. It is plain, indeed, that without this instinctive, nay, we may call it involuntary, effort and cry for help, there never would have originated an Art of Healing, never existed a divine Science of Medicine, such as we are hopefully engaged in establishing and building up. As a universal rule, in the obscurest ignorance, the most misty doubt, I would maintain that Perturbation is better than Inaction; in the former, there is hope, even if we incur unavoidable dangers; in the latter nothing but blank despair—unpardonable acquiescence in suffering and injury.

With regard to the critical examination and cross-examination, which I have insisted on, previously to the reception of the documents presented us for instruction and reproof, none can deny our right to make it thoroughly searching. Yet it is a very delicate matter to say what is necessary to be said on this point. We must take into the account, as far as they can be ascertained, not only the intellectual, but the moral status of the witness; not only his competency but his bias, his opportunities, his surroundings.—Tables of statistics, it is well-known, can be produced to prove almost any thing; and as no two truths can really conflict or contradict each other, we shall often be forced to hold our belief suspended between opposite statements, from authorities of equal or unknown weight. Nay, we are sometimes compelled to the disbelief of alleged facts by an irresistible course of reasoning, as we reject and throw aside—in many instances by common consent—the apparently strong evidence of an impossibility, a modern miracle, a ghost, a clairvoyance.

Sometimes we receive the bare assertion, but repel and refuse the inferences linked with it, and demanding to be also accepted. For example: Prof. J. H. Bennett, of Edinburgh, claims to have achieved uniform success in the treatment of simple Pneumonia.—His personal authority is sufficient, and we will not deny or dispute his asserted claim. But we are not prepared to yield our assent to

the corollaries deduced therefrom, which may be set down thus: that Pneumonia is not in itself a dangerous or fatal malady; and that Prof. Bennett, having ascertained this fact, has indicated a forbearing and cautious method of management of patients labouring under it, which is incomparably preferable to all others, if not absolutely infallible. I would by no means impute to Prof. B. the alternative inferences which he has been charged with suggesting, viz: that Pneumonia is a serious disease, and that he alone has found the proper method of controlling it. I say that while we must not reject his statements, we may stop short, with the mere acceptance of them, declining to be led on from them into any hasty generalizations, any dogmatic conclusions. In looking over the bills of mortality everywhere published, Pneumonia will be found to occupy a conspicuous place on the list of the assigned causes of Death. In cold and temperate climates indeed, it holds a position inferior only to that of the great destroyer—Phthisis. Let us see. I have before me, unselected, the mortuary statistics of the City of Philadelphia for the years 1863-4-5. In 1863 there are 743 deaths put down to Pneumonia; in 1864 the number is 929, and in 1865, 776; making in those three years the large total of 2,448. Only two other named maladies compete with it in amount of destructiveness—Consumption, its congener and sometimes its sequel, 6,064; and Cholera Infantum (a wide word), 2,455. “Circular No. 6,” a document the preparation of which does great credit to the compiler and to the War Department, informs us that in the first two years of the late war, the deaths assigned in the Army Reports to Pneumonia, amounted to 8,090, a mortality of about one in every $4\frac{1}{2}$ cases—appalling enough, but less than that of the British troops in the Crimea, one in every 3.6. In Ramsey’s valuable Tables of the mortality of the City of New York for thirteen years, we find 15,138 ascribed to Inflammation of the Lungs, while Consumption claims 37,000; Convulsions, Marasmus and Cholera Infantum, vague designations, are the only other named maladies that rank above it.

Now, one of two things must be true on a large scale: either Pneumonia is in itself a dangerous and often fatal disease, or the great mortality attributed to it, must be the direct result of the

mal-practice of the Physicians who report the deaths. *The patients must die, either because of, or in spite of, the treatment followed.* It is impossible for me to assent for a moment to the humiliating and offensive conclusion, thus distinctly suggested. I have been so unfortunate as to have lost more than one case of Pneumonia in my busy life; nor will I subject my brethren to such a sweeping declaration of incompetency and error, which I fully believe to be altogether unmerited and misapplied.

This is a strong illustration of the dilemma in which we are often involved. My mind finds rest *in this position*; to which, indeed, I have been so frequently driven that it is now habitual and fixed. I question no man's veracity, as I will not submit my own to question. I take the facts as presented by the reporter, for what, in good faith, they seem to him. But I am looking upon them from a different stand-point, and see them in a different light. In my analysis I judge for myself of his competency to observe, to distinguish, to record. I note critically the manner and spirit of his communication; I weigh cautiously and make allowance for any detected bias from preconceived opinions; the warpings of his vanity, his interest, his ambition; and after all, I decide according to reason and my best judgment. For, as no amount of evidence can establish or prove what is impossible, so, it is not in me to believe what is incredible.

We have heard, before a great Medical Association, of hundreds of cases of Scarlatina treated by one country Practitioner, in his special method, without a single death. Our Journals mention the presentation to a distinguished Physician not long deceased, of a silver vase, on which was engraved an inscription, purporting that more than three hundred cases of Asiatic Cholera—a large proportion of which were negroes, notoriously bad subjects of this dreaded pestilence—had been treated by him without any fatal accident.—These histories may be collated with Bennett's cases of Pneumonia, and Hasting's account of his success with Yellow Fever, as mentioned in La Roche's great work. It would be idle, if not impertinent, to investigate the details of such Reports as these. We would not, if we could, prove a negative here, and lawyers and logicians warn us of the difficulty of the attempt. There is a gross carica-

ture, yet not without some likeness to such statistics, in the advertisement of an irregular Practitioner, who, after ascribing prodigious powers to his formulæ, and reciting their varied and marvelous triumphs, wound off with the formal challenge—"If these things be not true, let the contrary be proved!"

Exaggeration of the efficiency of medicines and medical treatment is generally presented in the style of *eulogy* by some enthusiast, self-deluded or deceived by favourable coincidences; for I will not speak of the mischievous falsehoods emanating from ignorant pretenders, with base motives of selfish advantage. I have before me a work from the hands of a distinguished Physician, of "the Modern Athens," recently issued, out of the open page of which I copy the following pithy and dogmatic phrases: "Many a child have I seen die from nothing but the mother's not liking to make her swallow a powder, or put on a blister; many a life is lost from this." He tells us a story of his being sent for to a village where "malignant cholera had broken out with great fury." Summoning the people together, he explained the mode of invasion by preliminary or premonitory stages, and asked them all whether they had any of the symptoms. "They all denied having any;" I knew, he says, "they were not telling the truth, and I made every one take some of this medicine—producing a bottle of simple and cheap physic, only one woman going away without taking a dose; she was the only one of all of them who died." I do not know in what language a positive faith in drugs can be more strongly expressed. Yet, we shall find, looking back a little way in the same volume, a pleasant anecdote of a rustic to whom he had given a written prescription. The stupid fellow "*took this*" literally, swallowing the paper, ink and all, and was promptly cured.

We must not forget, however, that there is another and contrasted form of exaggeration, which deals in menace and invective. The degree to which this is carried, is so absurd that it would be absolutely ludicrous, if it did not concern matters so serious as human life and health. Mercury and the lancet, blindly worshipped so long, are not only dethroned, but angrily expelled by the modern iconoclasts, whose denunciation of these time-honored remedies, is loud and violent. One of our English brethren, in his

humorous wrath, characterizes the old and dangerous proceedings, so long familiar in the following terse and forcible phrase: "A. B. caught fever—took calomel, bled, blistered, died." Our friend quoted a few lines above, would perhaps have written in a different spirit: "A. B. caught fever—refused to swallow a powder, or be bled, or blistered—died on the spot."

Every body knows that thousands, with reason or against reason, have gone through this dreaded routine, in its most stringent severity unharmed; recovering, whether because of it, or in spite of it—who shall decide? I do not recommend, or even defend this *methodus medendi*, which is by no means my favourite course, I simply state the fact. Happily for us and for themselves, patients are not so easily "done to death." They survive in large proportion, the loss of blood and other heroic practice, even including ptyalism. And when they die at last, it is not, certainly in the vast majority of instances, of the remedies, whether well or ill-chosen, but of the disease.

Let me not for a single moment be suspected of indifferentism in this matter. Short of absolutely putting an end to life, injudicious practice may be extremely injurious. There is a vast difference between the right and the wrong method. How much harm may be done by an unskillful, unwise Physician, it is impossible to compute; but it results not so much from his selection of medicaments, as his incompetency to employ them properly. We say truly, *omnia sana, sanis*; we may say with equal truth, "every thing is safe in the hands of the prudent man."

Some have maintained the impropriety, as a general rule, of interfering with the class of Simply Incidental Diseases, now under consideration, because they will, in all probability, subside and disappear with the removal of their usually transient causes. I would not go so far as this. It is our duty, as it is almost always in our power, to diminish the violence, even of these maladies, to shorten their duration, and to obviate such tendencies to more permanent evil, as they may essentially or occasionally be found to develop. Yet, if it be the observed course of any disorder, that it is likely to pass away after a known period, without inflicting any ultimate harm, we may watch its progress quietly, interposing only such pal-

liatives as may be called for to relieve some symptom or abate some annoyance. And it should be noted that this passive method may be followed with propriety, if with careful discrimination, in certain cases of the gravest forms of pestilence, in which the cause, whatever it may be, has acted with so little force, or has met with such constitutional insusceptibility, or resistance, as to have made but slight impression. It is a wise and true saying of Schöenlein, that "it often happens to good Physicians to find no indication for treatment—to bad ones, never."

On the other hand, the most evanescent of Incidental causes, such as degrees or alternations of temperature, excess in eating or drinking, or venery, or muscular exercise; all or any of these contingencies, may from vehemence of impulse, or casually enhanced susceptibility, or temporary defect of reäctive energy, impress deeply and dangerously the system assailed, and require for its relief or protection, the promptest, most vigorous measures.

Our ancient and established Therapeutic has been, *ex necessitate*, to aim at the diminution of the particular force of morbid impression upon whatever part directed, by subtracting from the general force of the functional movements of the entire organism. This was effected by abstinence, rest, cold, local and general blood-letting, cathartics, sudorifics, nauseants and diaphoretics. Revulsive measures came to be added very reasonably, however obscure may have been the first suggestion, and emetics, blisters, issues, moxas were resorted to. And what better means than these have we now within our reach? Many instances present themselves familiarly indeed, in which no others are available, and our only course is this retardation, by such depressing and derivative agents, of the rapidity of the changes going on under morbid excitement of whatever varied character.

In this proceeding we follow the promptings of Nature. Anorexia is one of earliest and most uniform symptoms of acute maladies in general—we abstract food: there is thirst, with heat; we dilute the fluids and cool the body by ice and iced drinks: languor oppresses the sick—we enjoin repose of mind and body: light and sound annoy and irritate—we darken the chamber and order silence and stillness. Hæmorrhage suddenly bursting forth, has

been productive of instant relief from previous symptoms; Diarrhœa, Emesis, or a profuse sweat breaking out, has been likewise beneficial, and thus we learned V. S. and built up gradually a natural system of Therapeutics, which no hypothesis or theory, no system or school, scientific or empirical, will ever overthrow.

We have been meanwhile seeking earnestly to obtain the power of substituting for these means of universal impression—often superfluous and at least in part irrelevant—agents of more direct, more relevantly local and circumscribed influence, manifesting their force and efficacy, only where and when they were wanted and applicable. It is greatly to be regretted, that hitherto we have not been in any gratifying extent successful. For the relief of a local Hyperæmia, we are still often compelled to subtract from the whole amount of the blood in circulation; for a local pain or spasm we must reduce the entire organism into a condition of anæsthesia or relaxation; disturbing at more or less risk, functions and organs of parts which might otherwise have escaped intact. Yet we are not without hopeful results of experiment in this direction, and find much to encourage us in the atomizing application of remedies, the bold injections and insertion of instruments into the respiratory tube, begun by Green, and in the increasing resort to hypodermic medication and the local anæsthetics, such as Rhigolene, both in Surgery and in Medical Practice, strictly so called.

I take the occasion to remark here, that the active general remedies, above spoken of, require to be employed at the present day, with more reserve than in times past. I am one of those who believe and maintain that great and decided changes have taken place during the last half century in the general type of diseases, both incidental and special, or in the condition of the human constitution, or, most probably, in both. The Sthenic, formerly paramount, has progressively yielded to the Asthenic type. Not that either ever prevailed to the exclusion of the other; our predecessors recognized both, but wrote and acted on the assumed general predominance of the Inflammatory over the Adynamic, a state of things which we find in a certain sense and degree modified, if not reversed. If my observation and experience, enduring through

the above specified period, have clearly satisfied me of any one point in the Natural History of Diseases, it is this.

We are often tauntingly called upon by those doubters of the wisdom and common sense of our ancestors, who differ from us and deny that any such change has taken place, to fix the date of its occurrence. It began to be manifested certainly more than forty years ago. The time of invasion of Typhoid fever has been ascertained, when, in this country at least, it forced itself upon the attention of Physicians, and substituted progressively, and rather gradually than rapidly, the Adynamic for the Inflammatory character of our pyretic affections, mingling with, rather than abruptly displacing, where they had been prominent or exclusive, our malarial fevers.

As a student of Medicine at that period, I will avow that I was not unobservant, as my earliest writings will show, of the necessity which had come upon us, of modifying the energy of the anti-phlogistic or depletory practice then in vogue. My most intimate professional friend, educated under Rush, rarely omitted the use of the lancet in the treatment of the Phlegmasiæ or other febrile disorders. Comparing the result of my more forbearing course with his, I became fully persuaded, that even if I could not boast of fewer deaths among my patients, they suffered somewhat less in constitution and recovered more readily.

All who are old enough to recall the history of that bygone time, will remember that Constipation was far more uniformly an annoying element in fever than it is now. Cathartics were invariably administered among the first remedies, and it was often difficult to obtain their proper effect. At present, and indeed for a full generation looking back, a very different condition prevails. To the question when this change manifested itself, two replies have been given. Many of my medical associates are unwilling to go beyond the invasion of Cholera, which, coming among us in 1832, left, they affirm, an impression which has been permanent upon the general character of our diseases in this respect; exciting an obscure and indefinable influence, either upon the constitutions of our people, or by mingling and combining with the causes of our other maladies, indigenous or endemic. I am inclined to agree with them in

the positive clause of the opinion thus expressed and admit the influence of Asiatic Cholera, but I believe that the change was apparent long before, being coincident with the introduction and spread of the Typhoid, Enteric or Abdominal form of fever.

My preceptor, honoured be his memory ! a zealous pupil of Wistar and Physick, and Rush, a most sagacious and successful Practitioner, who, through a long series of years, enjoyed the highest reputation and carried on the largest and most lucrative professional employment that ever fell to the lot of any private Physician in this or perhaps any other country, made familiar and free use of the Lancet, as all doctors then did. But his therapeutical specialty lay in his dependence upon Purgatives. All cases that fell under his care—with exceptions so few as not to be worth noting—were indulged with some cathartic formula at the very beginning, and great numbers were carried through a febrile or inflammatory attack into convalescence, upon the same method, modified *pro re nata*. We, the inmates of his office, serving, each in his turn, passed whole days and evenings, not seldom far into the night, in the preparation of prescriptions, nine in every ten of which were cathartic formulæ. It may be well to say here, that at the period I write of and in that section of our Country, it was the custom to make up the prescriptions of Physicians at their own offices, and that it formed a very valuable portion of medical education, that thus the student became familiar with drugs and formulæ.

I have said that the gentleman spoken of, was successful in every sense of the term, eminently so, as must be inferred from the lofty and long-enduring estimation which he enjoyed, both among his brethren and his wide circle of clients. Yet, had he lived but a very few years more, he would have been forced, nay, he would of himself promptly recognized the necessity to make a great change in his accustomed methods of treatment. I had not, I well remember, more than barely entered upon the responsibilities of practice, before I became aware that the class of remedies, which I had been so assiduously engaged in preparing and administering, were not demanded so generally, were not to be used so freely, were not unfrequently ill-borne and injurious, and that it was incumbent on me to resort to them with a certain degree of reticency and reserve.

Yet they have held, and will always continue to retain a prominent place in the early management of fevers generally, as well as of many other acute affections.

A similar transition of views was going on coincidentally, as regards Venesection, and even more rapidly. It was the more marked, because under the teachings of the illustrious Professor of Practice, in the University of Pennsylvania, then the centre of medical instruction in our Country, lavish and almost promiscuous blood-letting had become the "order of the day." The very equivocal, but indispensable argument, cutting with double edge, and convenient alike to sustain truth and error—"post hoc, propter hoc"—so fearlessly wielded by the ignorant pretender, so casuistically repelled by the indiscriminating sceptic, soon came to be absurdly applied here, as indeed it is still, and as all recoveries after venesection were formerly recorded as triumphs of the lancet, so now all deaths preceded by it were set down to its charge. I have stated my unequivocal opinion, that a change had taken place both in the prevailing types of disease generally, and in the constitutions of the subjects—both of them having become comparatively asthenic or adynamic; and of course, the loss of blood, like other methods of depletion, was less required, and not borne so well.—Hence, venesection fell for a time into almost absolute disuse, and Physicians soon ceased to carry lancets about them; nay, I know several who have attained middle age without ever having handled such an instrument.

Farther, I will remark, that I look upon this specified constitution of diseases and subjects, as having culminated some years back and to be passing, or to have passed away in some measure. I do not know—I scarcely suppose—that Cathartics are more demanded, but I am satisfied that depletory measures of every other character, venesection especially among them, are coming again, not only more into fashion, but are really more frequently called for and better adapted to the general requirements of ordinary practice. We have ceased to be burdened with the recently prevailing timidity as to the lancet. Even if we are mistaken in our belief that we have past through the adynamic cycle, and in the advent of a new phase less asthenic, surely the experience of our late cruel war has

proved, that under the most depressing contingencies of imperfect nutrition, shelter, ventilation, clothing, the loss of blood is far less impressive for evil than has been supposed; and we will hereafter bleed a patient in a doubtful case with vastly less misgiving, and offer him much more readily the chance of a reasonable experiment, the *anceps remedium*, which may require courage, but which, as I have maintained, we are bound to prefer to abstinence or inaction.

During the period of which I have been speaking, professional orthodoxy, ever ready to swing from one extreme to the opposite, repudiating the lancet of Rush, the leeches and gum-water of Broussais, and the purgatives of Hamilton and Piedagnel, progressively attained the comfortable confidence in sustaining and stimulant medication shadowed forth by Brown, and carried to its height by Todd. The reign of this system has been short however, and the vibrating pendulum seems to have settled down for the moment at what we call, after Chambers, "the restorative point," a little above the *medicine expectante*. It is well represented by Chambers and Bennett: a little and careful depletion, sometimes by a mild laxative, it may be an early emetic—a wet cup occasionally, or two or three leeches—a revulsive plaster, and in a severe attack a blister perhaps—an emollient poultice certainly—cod-liver oil, quinia and iodide or chlorate or bromide of potassium. This is all very well, and entirely unobjectionable; presents no appreciable risk to the sick man, and is very safe for the attending Physician, who by this course avoids all chance of being accused of the death of his patient, if he does not recover. Following some such method in our habitual routine of business, as the great majority will, and prudently too, let the young Physician be warned not to fall into any relaxation meanwhile of due attention to the varying conditions of the cases under his care. Some one among them may suddenly grow worse; aggravations of symptoms may happen, which will not bear neglect, ~~while~~ it will ruin him not to have observed or appreciated duly, and which may demand prompt and energetic action.

Medicine, it should never be forgotten, is both a science and an art, and it is difficult, if not impossible, to offer to its votaries, eager to learn and to know, a satisfactory detail of the principles, rules and reasons by which they are to be guided in practising it.

Which

Arnould says truly, that "the whole of every science may be made the subject of teaching; not so with art, much of which is not teachable." One of our most distinguished brethren has described Physic as "one of those departments of knowledge, in which there is frequent necessity for the exercise of an incommunicable faculty of judgment, and a sagacity which may be called transcendental, as extending beyond the combination of all that can be taught by precept." It is so, indeed, with all arts which, like ours are based upon what Whewell calls "the mixed and applied sciences." The painter may thoroughly inform his pupil in the rules of perspective and the harmony of colours; but all this will not enable him to produce a picture. Of two men, one may be master of the principles of gunnery, the other comparatively ignorant of them; and yet the latter shall make the best shot. Harvey was emphatically the scientific Physician of his day; his contemporary, the "rebel Captain" Sydenham, the great Practitioner; and a late anti-thesis of the same kind, has been suggested as between Sir Charles Bell and Abercrombie, the modern Sydenham. Coleridge, referring to medicine as a "Tentative Art," observes that "there is always a great deal that is mysterious in whatever is practical." The Hindoo smith extracts from his ores by his scanty, coarse, and blind methods of working, an iron superior in itself and fit for making a better steel than the most skillful metallurgists of scientific Europe can equal.

The class of Specific Diseases, our Endemics, Epidemics, our pestilential and malignant maladies, arise, or are assumed to arise, each of them under the influence of some definite poison; some morbid agent of characteristic properties. Such are Plague and the extensive group of Typhic and pernicious fevers, the Exanthemata, Asiatic Cholera, Diphtheria, and our familiar Intermittent and Remittent. The list may with propriety be largely extended. Careful investigation has led us to a more or less probable conclusion as to the nature of some of these poisons; we have not attained demonstrative certainty concerning any one. It is alleged concerning a few of them, that they are parasitic; vegetable as Salisbury maintains Ague and Measles to be; Animalcular—with or without Vogel's semi-individuality—psora, trichiniasis and Vir-

chow's cells; others neither cellular nor parasitic, as the ærial contagions of Scarlatina and Pertussis. I am aware that such knowledge as we possess on these points has thus far been barren; "luciferous" merely, in the phrase of Lord Bacon "not fructiferous." I know also, that our Profession, while admitting the specific character of the poisons which generate so many diseases, have been reluctant to make that admission the basis of any extensive therapeutical aims or purposes. Nevertheless, it is in this direction that I am disposed to look with the most hopeful anticipations of the future usefulness and glory of the Divine Art of Healing.

I am not one of those who refuse to acknowledge specific, or, in the strictest sense, antidotal powers, as belonging to the articles of our *Materia Medica*, and who represent "rational medicine," as regarding only the physiological properties of the tissues and organs, and their varying conditions as to excitement and irritation, anæmia and hyperæmia, tension, spasm, relaxation, &c. I recognize one at least of our drugs, Cinchona, with entire confidence, as a specific in the truly antidotal sense. Since there is one such article in our hands, we may reasonably hope to discover others. Indeed, I think that we might class here one or two in addition, but they are all disputed, and I am not inclined to enter into the controversy. Salisbury denies the quality of antidotal specificity, even to quinia, our most prominent and strongest example, while he admits its direct efficacy in controlling the morbid influence of the malarial poison. "Quinia is not, strictly speaking," he argues, "a curative or specific agent, but simply acts beneficially by controlling cryptogamic development, and imparting such tonicity to the organism as enables it to resist the paroxysms, until aided nature can cure the disease by eliminating the cause." And again: "it braces up the system, and controls cryptogamic growth, till nature can effect a cure by eliminating the material cause through the skin, the mucous surfaces and kidneys." I am very reluctant to yield up the claim of this, our most admirable medicine, to be considered positively, strictly and emphatically antidotal. In fact, the point seems to me to be virtually conceded by Prof. Salisbury himself. He more than once employs the phrase, "controls the growth of the cryptogam"—"controls the cryptogamic develop-

ment." How can it effect this? If directly by a property peculiar to itself and independent of its asserted tonic qualities, which seem unadapted to the purpose, surely this is being specifically an antidote. It braces up the "system," he tells us, "and imparts such tonicity to the organism, as to enable it to resist the paroxysms," but we are not told how this is to affect the palpable and present cryptogam. And I object to the vagueness of the language—a charge very rarely to be brought with justice against Prof. Salisbury, as expressive of indefinite conceptions: "bracing up the system; imparting tonicity to the organism;" I confess that I have not a clear idea of what these phrases mean. If quinia be a direct tonic, which I seriously doubt, it is inferior in that property to others which are not imagined to be appropriate here. Its unequalled promptness of efficiency; its striking action of apparent arrest in the worst "congestive" cases, deserve to be particularly dwelt on. Its virtues are equally displayed when administered hypodermically as when received into the stomach. No other drug is employed thus, and in such small quantities to relieve debility or prostration; nor is any other tonic, mineral or vegetable, gifted with its most beneficent prophylactic influence.

Observe too, that its *modus operandi*, assumed here to be "bracing and tonic," is much disputed and as yet unsettled. We may ask, indeed, what do we know of the *modus operandi* of any one of our drugs! There are as many who pronounce it sedative, as there are who regard it in the light of a stimulant or tonic.—"Calmant" is the term applied to it by Drake. Experiments made to determine its properties are instructive chiefly in a negative sense. A single grain, two grains, three or five, will suffice to arrest the course of an intermittent, which would resist or evade the energies of all our other most potent medicines. Yet, the same quantity, or four times as much, will stir up no disturbance in a healthy system; will not derange the pulse, nor the breathing, nor the temperature, nor disorder the mind in any way.

It is but the other day that accident afforded me an opportunity of repeating this observation. A young girl, *æt.* 13, being constipated, but in her usual health, took from the hand of her mother a heaped-up-teaspoonful of Sulph. Quiniæ, instead of Husband's

Magnesia. The mistake being at once discovered, I was applied to. Having quieted their alarm, I placed the child in a recumbent posture, and sat by her, watching her attentively, for more than four hours. At short intervals, I examined her breathing, pulse and temperature, making exact notes of her condition in every perceptible respect. There occurred nothing whatever, absolutely nothing to report, beyond the well-known subjective phenomenon of buzzing in the ears.

We hear sceptics frequently demur as to the alleged remedial influence of some article in some specified case of disease, that it can be administered in the same amount to a person in health without appreciable effect. This is true of many medicaments besides quinia, as of bismuth, zinc and of arsenic in moderate dose; but the practical Physician finds here no ground for objection, or doubt of their value as relevantly curative.

Prof. Salisbury, not content with impugning the antidotal virtue of quinia, goes to the paradoxical extreme of asserting, in plain terms, that "in many instances it really aggravates the paroxysms." Now, if the paroxysms depend, as he has taught us, upon cryptogamic development, and are favoured by debility, it is difficult to comprehend how they can be aggravated by an agent which controls cryptogamic development," and at the same time "imparts tonicity to the organism."

Latham, on the contrary, dwells with a rational enthusiasm upon the unparalleled specificity of Cinchona. "With it alone we cure," he exclaims, "fevers of malarious type; we treat all other diseases." We ask no farther question concerning such cases than as to their nature, history, and probable cause; and then without delay, without reference to surrounding conditions, abandoning of late even the once familiar ceremony of "preparing the patient for the bark," we administer our drug. We expect it to resolve congestion, to subdue inflammation, to tranquilize irritation; and it does all this and more. Not infallibly however; no infallible remedy exists—no infallible course of treatment. Men die every day in great numbers, of curable, as well as of incurable maladies; of Pneumonia and Diarrhœa, as well as of Cancer and Tetanus. We can as little explain its occasional failure, however, as its almost uniform success.

I must not omit to notice the striking views on the subject opened to us of late, by the discovery reported to the Royal Institution of Great Britain, of a substance closely resembling Quinia in the textures of animals, hence called "Quinoidine," by its discoverers Drs. Bence Jones and Dupre. They dwell on its analogy to the alkaloid in its chemical properties, and in its remarkable fluorescence under electrical light—the emission of light, as by fluorspar when treated. It is singular that they ~~completely~~ altogether ignore Headland's previous assertion of the existence of such an element in the blood. "Among the natural constituents of the blood" he says, "there is a substance which chemically resembles a true alkaloid like Quinia; and this similarity admits of direct application." "Quinia and other vegetable principles," he goes on, "resembles a certain principle in the bile; they tend to cure certain diseases which depend on deranged hepatic functions." He even anticipates their therapeutical inferences, and asks if these agents may not supply in the system the deficiency of the bile products, and thus prevent the action of the ague-poison." Their course of deductive reasoning is as follows: "Assume that a substance like Quinia exists in health in the textures; can its rapid destruction and removal, through the action of the marsh miasm, give rise to ague? Does Quinia cure ague by furnishing a substance which retards the changes going on in the textures? The incoming quinia probably causes—thus and by arresting the oxidation of the natural fluorescent substance—an actual excess in the textures"—whence the quinism, deafness, &c., &c. They go on to offer some pregnant suggestions in marked conformity with views which I have long been engaged in teaching. "If the circulation can carry alkaloids, as experiment proves with quinia, every where through the textures, even pervading the non-vascular tissues, such as the crystalline lens, is it not reasonable to suppose that medicines pass through the blood and act on the textures? And may we not expect that among the multitude of new substances which synthetic chemistry is now forming constantly, some medicines may be discovered which may not only have power to control the excessive changes of the textures in fever, and inflammations, but may be able to remove the products of insufficient chemical action, even in those diseases which effect the

non-vascular textures as, for example, in Cataract and in Gout?" Let us indulge these hopes which, if ever carried out into fruition, will present us with an available armory of Antidotal specifics.— Why should we not succeed in finding antidotes for the poisons causative of disease, miasmatic, ochletic and contagious, as well of the poisons familiar to us in the *Materia Medica* and in *Toxicology*? In the tolerance of energetic drugs under particular contingencies, do we not trace by analogy the antidotal antagonism, whether static or dynamic?

A man bitten by a rattlesnake will drink, without intoxication, an incredible quantity of alcohol, as also in some fevers of low type. Tetanus enables a patient to bear, alas! how often uselessly, an immense amount of opium, with not even an approach to narcotism. It can scarcely be doubted, that much knowledge on this subject has been attained and lost, or allowed to be laid aside unimproved. Dr. Ellenberger, Aide Naturaliste of the Museum of Natural History, at Prague, directed his researches to this department of inquiry, and had made remarkable progress. "He was in the habit," says Dr. Miniere, who visited him in company with the distinguished Toxicologist and Dean of the Faculty of Paris, Orfila, "he was in the habit of swallowing, in presence of professional men, large quantities of the most virulent poisons, after having taken some counter-poison previously. We saw him take nearly twenty-five grains of the acetate of morphine. After the interval of more than a minute," which Dr. Miniere assures us, seemed very long to him, "Dr. Ellenberger deliberately took from his pocket a paper containing a whitish powder, in amount nearly equal to the Morphia, offered it to Orfila to taste, (who found it very sweet) and then swallowed it, continuing to walk about the museum and converse with them." Among other deadly poisons, he has been known to take with impunity, we learn on the same authority, from three to three and a half grains of pure strychnine. Every friend of humanity must regret the untimely end of this heroic experimenter, who was one day found dead, doubtless of the effect of some poison, whose antidote had failed of effect. Still more must we regret that he has left behind him no record of the researches made with such heroic zeal, such dauntless courage.

We know, however, at present, so little of the intimate nature of the several specific poisons which produce our diseases, that we are not prepared for any other than merely tentative or empirical efforts at the employment of counter-poisons. One we do know and confide in. Armed with cinchona and its salts, we venture as fearlessly to expose ourselves to malaria, as did Dr. Ellenberger to his strychnine and morphine. Clothed with the panoply of vaccination, we bid defiance to small-pox. Did the ancient *Psylli*, do the modern snake-charmers of India, possess any prophylactic against the venom of the cobra and the viper? The old notion of the existence of any general counter-agents of this protective character has been abandoned altogether, and bezoars and mithridates, once objects of such blind faith, are now no longer sought for. But the search for special safeguards and remedies continues and must go on. Scientific pathologists are disposed to regard many of the causes of disease—miasmatic and ochletic, as well as contagious—as possessing an individual life, cellular, animalcular or fungous. Why may not this life be extinguished? We know many paraciticide agents. The algæ and fungi of the microscopists must be exterminated, the cryptogamous sources to which Mitchell and Cowdell and Salisbury ascribe ague and cholera. We must find means to destroy animalculæ, whence we have trichiniasis and psora, and according to the suggestions of the sagacious Holland and Pacini and Thompson, the fearful Asiatic pestilence. Are we not effecting something in this way, by the application of our disinfectants, chlorine, the mineral acids, high temperature and ozone?

But as the evil agencies which originate our Endemics and Epidemics may not be parasitic, or endowed with vitality individual, or to use a word of Vogel's, "semi-individual," as many of them would not seem to be impressive in their appreciable characters, chemical or mechanical, affecting us dynamically not statically, we must search also, most assiduously, for dynamical counter-agents. I would illustrate my meaning by a reference to the employment of Belladonna to relieve the narcotism produced by opium. Corrigan, dwelling on the fact that one of them causes the pupil to contract and the other dilates it, conceived the idea that their general influences upon the organism, and especially the nervous system,

might be similarly in contrast and opposition. It is now widely believed that we place a reasonable confidence in either of them, as against the other. For like reasons, it has been inferred that chloroform is antidotal to strychnia. Most of the non-parasitic poisons are obviously and profoundly sedative, and the analogy which has led us, from the usefulness of alcohol in snake-bites to the large employment of stimulants tentatively, has not been altogether unfruitful. But even Todd was not satisfied with the results, and was led to seek for still more precise guidance in the conditions of opposite electric polarity.

“Confidence is a plant of slow growth” proverbially, and the evidence in favour of any alleged antidote must be cautiously admitted and most critically scrutinized. Yet, from whatever source such evidence is offered, let it not be peremptorily rejected without inquiry. Scherzer informs us that not only vulgar belief in Brazil ascribes to the vegetable drug *Assacu*, a healing power over the hitherto incurable and loathsome *Elephantiasis Græcorum*, but that a committee of French medical savans had taken the matter into consideration, and had made a highly favourable report to the Emperor. Our Profession should take warning from the record of its obstinate incredulity as to Harvey’s and Jenner’s discoveries, and its opposition to inoculation and the administration of “the Jesuit’s Bark.” One after another, so many of our hopes have been disappointed, so many vaunted specifics have been exploded, that we have naturally fallen into apathy and distrust, from which it is not easy to arouse us, even sufficiently to procure the hearing to which each new promise of benefit to suffering humanity is fairly entitled.

In reasoning of the *modus operandi* of medicines, we must recognize the wonderful and unintelligible affinity which attracts the several articles to the organs and tissues which are fitted to receive their impression, and on which they are adapted to act; some of them by mere presence or catalysis; others by entering into and modifying the composition of the fluids and textures; some by direct and others by reflex or diastaltic influence. We are also aware of the fact, by empirical observation, as we know all that is known on these obscure points, that no two articles act upon the same organ or tissue in precisely the same manner. It is not, for

instance, a matter of indifference what emetic, cathartic or diuretic we shall employ in any serious case requiring one of these drugs. From this trite axiom we may, however, I think, logically draw an important inference. Homœopathy, whatever there is of truth or practical value in it, derives it all from denounced and dreaded allopathy. It is not the *similarity* which exists between the poison that has caused vomiting or Diarrhœa and that which Hahneman administers to cure it, but that deeper, nicer and more essential *difference* in their mode of action which makes it beneficial. A careless reader might be surprised to read in a letter from Sydenham to his friend, Gould, directions for procuring and encouraging a mercurial ptyalism in confluent small-pox. I do not defend the practice, nor would I repeat the advice; but I find the great Physician here, whether right or wrong, consistent with himself and following the best light of Medical Science in his day, in his effort to substitute a "laudable salivation," as he calls it, for a morbid and variolous one.

This twilight state of our knowledge, and the uncertainties which it involves, call upon us for untiring reserve and prudence, which it is not always easy to keep from degenerating, on the one hand, into timidity and scepticism, or hardening, on the other, into a mere indifferent routinism. An assiduous study of the varying indications presented from time to time—a watchful attention to the progressive course of the malady and condition of the patient—the "Prognosis" so emphatically dwelt on by Hippocrates—so as to be early aware of the "tendencies to death" and on the alert to obviate them, are our urgent duties.

Above and beyond all, it must never be for a moment forgotten that we have under our care, in a state of absolute submission and dependence, a sensitive and suffering fellow-creature. The anguish both of mind and body connected with the great mass of diseases, is apt, I fear, to be most inadequately appreciated, not from want of humanity or sympathy on the part of the Physician, but from a habit of mechanical abstraction too ready to grow upon us, or from absorption in the consideration of the case professionally, or from an overwhelming sense of personal responsibility. In certain instances, the indications of suffering are too obvious to be over-

looked or neglected; ~~terrible~~ agonies too intense to be endured, forming an unexpressed element of the attack—sometimes significant of urgent danger, at others utterly disproportioned to the actual or impending risk. A distinct and active recognition of his claim upon us for the promptest and largest relief from pain, consistently with his ultimate well-being, is an indispensable portion of every therapeutic. Any indifference to this matter is unpardonable.

In the present state of our Science, a sceptic may be permitted to doubt whether we have the power to arrest a forming malady, or shorten its duration, or determine its final result; but no one denies or can doubt our ability greatly to modify the attendant suffering, avoidable and unavoidable. This beneficent potency of our Divine Art has been augmented very happily of late, and our resources in this kind are every day increasing. Our list of anæsthetics has been enlarged, and new modes of applying them brought into very satisfactory use. The employment of Ether and Chloroform, the two most familiar and powerful of our anæsthetics, has been extended into the treatment of many additional maladies by successful and hardy experiments. The hypodermic exhibition of our narcotics has enabled us to circumscribe, in some degree, their too promiscuous influences, as well as to evade some of their unpleasant effects. The processes of atomization for internal as well as external application of our concentrated remedies, have made them vastly more available. We introduce them into the open orifices by inhalation or intrusion, with strikingly good results in the immediate diminution of pain, which in its external seats we at once extinguish by the Ether spray of Richardson or the Rhigolene of Bigelow. We may indeed exult when we succeed, as we not seldom do, in thus putting an end to, or suspending for a blessed interval, the tortures of Neuralgia, and the burning, lancinating agonies of Cancer.

It is a melancholy reflection that forces itself upon us, whenever we touch on this gloomy subject of Pain, that even in the ordinary circumstances of humanity everywhere, life is found to be rather a condition of endurance than enjoyment to the mass, and that in all ages, and among all peoples, the means of procuring sleep and insensibility, or stupefaction, have been eagerly sought for, highly

prized and deeply indulged in. They are, of course, poisons in the true sense, and may be made available in our Therapeutic.—Tobacco is by far the most extensively used, and must, indeed, possess some property which adapts it peculiarly to the instinctive requirements of our race. It differs from all other narcotics and stimulants, in this, that so far as we know, it is not convertible, like every other among them, into food and nutriment. In concentration its effect is terribly and quickly fatal; but as usually prepared and employed, does so little obvious harm, that all denunciation of it is futile. We are told that two tribes of men can swallow it in substance with impunity. This seems to require confirmation, but the authorities are highly respectable. Wilkes saw it thus consumed by the Drummond Islanders, and Col. Shakspeare affirms that the Indians of the Nylgherries eat it. Not to speak of the several varieties of alcohol, which perhaps nearly, if not quite equal, in number of votaries, those of tobacco, we find opium affording to many millions the solace of temporary tranquillity and freedom from care and suffering. With it the Turk attains his paradise of “Kief,” a dreamy state of quietude and torpor; the coarser Chinese plunges into the annihilation of a comatose stupidity; and the reflective Hindoo seeks the cataleptic ecstasy of trance. Tea and coffee, invaluable discoveries of the Arab and Asiatic, are happily spreading over the world their cordial blessings, innocent delights of the domestic circle. Wine, perhaps the earliest known, is now among the most widely diffused, as it is among the least injurious of anæsthetics; I exult in the hope that our Country will, ere long, become a land of vineyards, and that the well concocted and delicious juices of the grape will supersede ultimately, all the rest of its rival beverages—the muddling fermentations of hops and malt liquors, and the hot and pernicious products of the devilish still.

Kawa or Kava, the piper methysticum, as yet a stranger to the higher civilizations, is a necessary of life in Polynesia. Its juice, prepared in Puynipet, by crushing between two stones, elsewhere in most disgusting fashion, by chewing and ejection with the saliva, is said to produce the least offensive of all the modes of narcotism or intoxication, and if the reports be accurate, well deserves to be introduced into our *Materia Medica*. A complete muscular

relaxation, with drowsiness and soft repose, follow its administration, while consciousness is never entirely lost. The *Cannabis Indica*, bang or haschisch, is much written and talked of. A gentleman who resided long in Egypt, told me that it was not uncommon for individuals to bring it with them into convivial parties, and take it instead of wine, or punch, or other strong drinks, each being permitted to select his own method of getting tipsy; and that he observed that the haschisch-takers were uniformly in better condition the next day than the rest of the company. The *Amanita Muscaria*, which retains its intoxicating power in passing through the body, and thus may serve in succession to stupefy the master of a household and all his retainers, the *Areca*, the *Palta* and the *Aloe* each are made subsidiary to this instinctive desire of forgetfulness for millions of Tartars, Mongols, Africans and Americans. Millions more chew the *Betel-nut*, of which no European has yet given us his personal experience. Scherzer quotes from a Sanskrit poem, the following eulogy of it: "Betel is pungent, bitter, aromatic, sweet, alkaline, astringent; a dispeller of phlegm, carminative, a sweetener of the breath, an ornament of the mouth, a remover of impurities, a kindler of the flame of love. Oh friend! these thirteen properties of betel are hard to be met with, even in Heaven." If it possesses one half of them, we are much to blame for our neglect of it in Western practice.

The Caffres and Hottentots exhilarate and stultify themselves with a narcotic plant, *Dagga*, and often refuse to hire themselves as labourers on farms unless a portion of land be set apart for its cultivation. It must resemble somewhat the whiskey-root or *Peioke* of our vast Southwestern plains, of which we find this brief notice in *Burton's City of the Saints*. "It is a kind of cactus, which grows in Southern Texas on the sand-hills of the *Rio Grande*.—The Indians eat it for its exhilarating effect on the system, producing the same excitement as alcoholic drinks. It is sliced as you would a cucumber; the small pieces chewed and swallowed, and in about the same time as comfortably tight cock-tails would 'stir the divinity within you,' this indicates its effect, only giving a somewhat wilder scope to the imagination and actions."

Palgrave, in his travels in Eastern Arabia, met with "a narcotic plant gifted with curious properties. Its seeds pounded and taken in a small dose produce effects much like those of Sir Humphrey Davy's Laughing Gas. The patient dances, sings, and performs a thousand extravagancies, till after an hour of great excitement, he falls asleep, and on waking, has lost all memory of what he did or said while under the influence of the drug. To put a pinch of this powder in the coffee of some unsuspecting individual is a not uncommon joke, nor did I hear that it was ever followed by serious consequences. I tried it on two persons and witnessed its operation, laughable enough, but very harmless."

The Peruvian delights in his coca. This most admirable narcotic soothes but does not intoxicate, in this respect resembling tobacco, though differing in all others. It is either a food, as Anstie and Smith contend of so many stimulants, or it serves wonderfully as a substitute for food. Campbell, who tells us this, sent in April, 1859, an Indian two hundred and forty-nine miles, from La Paz to Tacna, which he did in four days; resting but one day he returned, crossing a mountain pass 13,000 feet high. Through this enormous pedestrian journey, he took no other sustenance than a little roasted maize and his coca. An Aymara Indian travelled with Mr. C. ninety miles in one day, keeping up easily with his mule; eating a few grains of roasted maize, and incessantly chewing coca leaves with chalk. At the end of the journey, he *stood on his head* a few minutes, "a practice of the Aymaras under the circumstances," drank a glass of brandy, and started homeward again. Scherzer says that this "standing on the head after long and severe marches, a custom not less universal than extraordinary, is resorted to, to mitigate the severe pressure of the blood." How does it effect this purpose? Tschudy and Markham speak in highest eulogy of coca. The latter tells us that "an Indian consumes two or three ounces daily, carrying it in a bag with the ashes of the quinoa plant and lime. It enables fatigue to be borne well and with less nourishment, and makes the breathing easier in ascending mountains.—Tea made from coca keeps people awake; applied externally cures headache and moderates rheumatic pains: of all narcotics is the

least injurious and the most soothing and invigorating." Its active principle, cocaine, has been extracted by Nicmann; "other elements Hygrin and Ecgonin, are found in it."

I conclude here this incomplete reference to our long and happily increasing list of anæsthetics, narcotics and anodynes, stimulants almost all of them, nutritious generally as it seems clear enough to me, and in a certain sense tonic also—with the expression of a hope, that, as each one of them possesses some serviceable property peculiar to itself, and adapted in some special manner to the promotion of human comfort, and the relief of human suffering, they will, all of them, at no distant period, be added to the resources of our *Materia Medica*, and made available in our improving and beneficent Therapeutic.

ERRATA.—In the Essay on Disease, published in the December number of the Richmond Medical Journal, many of these errors were due to the fact, that the author could not, from indisposition, revise the copy of his original MS. Read—

for "poisoning,"	"preserving,"	page 468,	line 17th	from top.
" "this,"	"urea,"	" 483,	" 34th	" "
" "forms,"	"fevers,"	" 485,	" 14th	" "
" "indeed,"	"inbred,"	" 474,	" 34th	" "
" "typhous,"	"tubercular,"	" 483,	" 23rd	" "
" "patent,"	"patient,"	" 466,	" 6th	" "
" "patent,"	"potent,"	" 478,	" 31st	" "
" "Assis,"	"April,"	" 478,	" 2d	" "
" "Lyrus,"	"Syrus,"	" 479,	" 36th	" "
" "their,"	"these,"	" 485,	" 36th	" "
