

CURRENTS AND COUNTER-CURRENTS IN MEDICAL SCIENCE.

OUR Annual Meeting never fails to teach us at least one lesson. The Art whose province it is to heal and to save cannot protect its own ranks from the inroads of disease and the waste of the Destroyer.

Seventeen of our associates have been taken from us since our last Anniversary. Most of them followed their calling in the villages or towns that lie among the hills or along the inland streams. Only those who have lived the kindly, mutually dependent life of the country, can tell how near the physician who is the main reliance in sickness of all the families throughout a thinly settled region comes to the hearts of the people among whom he labors, how they value him while living, how they cherish his memory when dead. For these friends of ours who have gone before, there is now no more toil; they start from their slumbers no more at the cry of pain; they sally forth no more into the storms; they ride no longer over the lonely roads that knew them so well; their wheels are resting on

their axles or rolling with other burdens ; their watchful eyes are closed to all the sorrows they lived to soothe. Not one of these was famous in the great world ; some were almost unknown beyond their own immediate circle. But they have left behind them that loving remembrance which is better than fame, and if their epitaphs are chiselled briefly in stone, they are written at full length on living tablets in a thousand homes to which they carried their ever-welcome aid and sympathy.

One whom we have lost, very widely known and honored, was a leading practitioner of this city. His image can hardly be dimmed in your recollection, as he stood before you only three years ago, filling the same place with which I am now honored. To speak of him at all worthily, would be to write the history of professional success, won without special aid at starting, by toil, patience, good sense, pure character, and pleasing manners ; won in a straight uphill ascent, without one breathing-space until he sat down, not to rest, but to die. If prayers could have shielded him from the stroke, if love could have drawn forth the weapon, and skill could have healed the wound, this passing tribute might have been left to other lips and to another generation.

Let us hope that our dead have at last found that rest which neither summer nor winter, nor day nor night, had granted to their unending earthly labors !

And let us remember that our duties to our brethren do not cease when they become unable to share our toils, or leave behind them in want and woe those whom their labor had supported. It is honorable to the Profession that it has organized an Association* for the relief of its suffering members and their families; it owes this tribute to the ill-rewarded industry and sacrifices of its less fortunate brothers who wear out health and life in the service of humanity. I have great pleasure in referring to this excellent movement, which gives our liberal profession a chance to show its liberality, and serves to unite us all, the successful and those whom fortune has cast down, in the bonds of a true brotherhood.

A medical man, as he goes about his daily business after twenty years of practice, is apt to suppose that he treats his patients according to the teachings of his experience. No doubt this is true to some extent; to what extent depending much on the qualities of the individual. But it is easy to prove that the prescriptions of even wise physicians are very commonly founded on something quite different from experience. Experience must be based on the permanent facts of nature. But a glance at the prevalent modes of treatment of any two successive generations will show that there is a change-

* The Massachusetts Medical Benevolent Society.

able as well as a permanent element in the art of healing; not merely changeable as diseases vary, or as new remedies are introduced, but changeable by the going out of fashion of special remedies, by the decadence of a popular theory from which their fitness was deduced, or other cause not more significant. There is no reason to suppose that the present time is essentially different in this respect from any other. Much, therefore, which is now very commonly considered to be the result of experience, will be recognized in the next, or in some succeeding generation, as no such result at all, but as a foregone conclusion, based on some prevalent belief or fashion of the time.

There are, of course, in every calling, those who go about the work of the day before them, doing it according to the rules of their craft, and asking no questions of the past or of the future, or of the aim and end to which their special labor is contributing. These often consider and call themselves *practical men*. They pull the oars of society, and have no leisure to watch the currents running this or that way; let theorists and philosophers attend to them. In the mean time, however, these currents are carrying the practical men, too, and all their work may be thrown away, and worse than thrown away, if they do not take knowledge of them and get out of the wrong ones and into the right ones as soon as they may. Sir Edward Parry and his party were

going straight towards the pole, in one of their arctic expeditions, travelling at the rate of ten miles a day. But the ice over which they travelled was drifting straight towards the equator, at the rate of *twelve* miles a day, and yet no man among them would have known that he was travelling two miles a day backward, unless he had lifted his eyes from the track in which he was plodding. It is not only going backward that the plain practical workman is liable to, if he will not look up and look around; he may go forward to ends he little dreams of. It is a simple business for a mason to build up a niche in a wall; but what if, a hundred years afterwards, when the wall is torn down, the skeleton of a murdered man drop out of the niche? It was a plain practical piece of carpentry for a Jewish artisan to fit two pieces of timber together according to the legal pattern in the time of Pontius Pilate; he asked no questions, perhaps, but we know what burden the cross bore on the morrow! And so, with subtler tools than trowels or axes, the statesman who works in policy without principle, the theologian who works in forms without a soul, the physician who, calling himself a practical man, refuses to recognize the larger laws which govern his changing practice, may all find that they have been building truth into the wall, and hanging humanity upon the cross.

The truth is, that medicine, professedly founded on observation, is as sensitive to outside influences,

political, religious, philosophical, imaginative, as is the barometer to the changes of atmospheric density. Theoretically it ought to go on its own straightforward inductive path, without regard to changes of government or to fluctuations of public opinion. But look a moment while I clash a few facts together, and see if some sparks do not reveal by their light a closer relation between the Medical Sciences and the conditions of Society and the general thought of the time, than would at first be suspected.

Observe the coincidences between certain great political and intellectual periods and the appearance of illustrious medical reformers and teachers. It was in the age of Pericles, of Socrates, of Plato, of Phidias, that Hippocrates gave to medical knowledge the form which it retained for twenty centuries. With the world-conquering Alexander, the word-embracing philosopher Aristotle, appropriating anatomy and physiology, among his manifold spoils of study, marched abreast of his royal pupil to wider conquests. Under the same Ptolemies who founded the Alexandrian Library and Museum, and ordered the Septuagint version of the Hebrew Scriptures, the infallible Herophilus* made those six hundred dissections of which Tertullian accused him, and the sagacious Erasistratus introduced his mild antiphlogistic treatment in opposition to the polypharmacy

* "Contradicere Herophilo in anatomicis, est contradicere evangelium," was a saying of Fallopius.

and antidotal practice of his time. It is significant that the large-minded Galen should have been the physician and friend of the imperial philosopher Marcus Aurelius. The Arabs gave laws in various branches of knowledge to those whom their arms had invaded, or the terror of their spreading dominion had reached, and the point from which they started was, as Humboldt acknowledges, "the study of medicine, by which they long ruled the Christian Schools," * and to which they added the department of chemical pharmacy.

Look at Vesalius, the contemporary of Luther. Who can fail to see one common spirit in the radical ecclesiastic and the reforming court-physician? Both still to some extent under the dominion of the letter: Luther holding to the real presence; Vesalius actually causing to be drawn and engraved two muscles which he knew were not found in the human subject, because they had been described by Galen, from dissections of the lower animals.† Both breaking through old traditions in the search of truth; one, knife in hand, at the risk of life and reputation, the other at the risk of fire and fagot, with that mightier weapon which all the devils could not silence, though they had been thicker than the tiles on the house-tops. How much the physician of the Catholic Charles V. had in common with the

* Cosmos, II. 587.

† Opera Omnia, Basileæ, 1555. Lib. II., Tab. V. VI. pp. 225, 228.

great religious destructive, may be guessed by the relish with which he tells the story how certain Pavian students exhumed the body of an "elegans scortum," or lovely dame of ill repute, the favorite of a monk of the order of St. Anthony, who does not seem to have resisted temptation so well as the founder of his order.* We have always ranked the physician Rabelais among the early reformers, but I do not know that Vesalius has ever been thanked for his hit at the morals of the religious orders, or for turning to the good of science what was intended for the "benefit of clergy."

Our unfortunate medical brother, Michael Servetus, the spiritual patient to whom the theological moxa was applied over the entire surface for the cure of his heresy, came very near anticipating Harvey.† The same quickened thought of the time which led him to dispute the dogmas of the Church, opened his mind to the facts which contradicted the dogmas of the Faculty.

Harvey himself was but the posthumous child of the great Elizabethan period. Bacon was at once his teacher and his patient. The founder of the

* Op. cit., Lib. V. Cap. 15, p. 663.

† "Non per parietem cordis mediam, ut vulgo creditur, sed magno artificio, a dextro cordis ventriculo, longe per pulmones tractu, et a vena arteriosa, in arteriam venosam transfunditur." — Bostock's *Physiology*, note to p. 211. I cite the passage on account of the calling in question of the claims of Servetus by Amedée Pichot. (*Life and Labors of Sir Charles Bell*, London, 1860, p. 3.)

new inductive philosophy had only been dead two years when the treatise on the Circulation, the first-fruit of the Restoration of Science, was given to the world.

And is it to be looked at as a mere accidental coincidence, that while Napoleon was modernizing the political world, Bichat was revolutionizing the science of life and the art that is based upon it; that while the young general was scaling the Alps, the young surgeon was climbing the steeper summits of unexplored nature; that the same year read the announcement of those admirable Researches on Life and Death, and the bulletins of the battle of Marengo?

If we come to our own country, who can fail to recognize that Benjamin Rush, the most conspicuous of American physicians, was the intellectual offspring of the movement which produced the Revolution? "The same hand," says one of his biographers, "which subscribed the declaration of the political independence of these States, accomplished their emancipation from medical systems formed in foreign countries, and wholly unsuitable to the state of diseases in America."

Following this general course of remark, I propose to indicate in a few words the direction of the main intellectual current of the time, and to point out more particularly some of the eddies which tend

to keep the science and art of medicine from moving with it, or even to carry them backwards.

The two dominant words of our time are *law* and *average*, both pointing to the uniformity of the order of being in which we live. Statistics have tabulated everything, — population, growth, wealth, crime, disease. We have shaded maps showing the geographical distribution of larceny and suicide. Analysis and classification have been at work upon all tangible and visible objects. The Positive Philosophy of Comte has only given expression to the observing and computing mind of the nineteenth century.

In the mean time, the great stronghold of intellectual conservatism, traditional belief, has been assailed by facts which would have been indicted as blasphemy but a few generations ago. Those new tables of the law, placed in the hands of the geologist by the same living God who spoke from Sinai to the Israelites of old, have remodelled the beliefs of half the civilized world. The solemn scepticism of science has replaced the sneering doubts of witty philosophers. The more positive knowledge we gain, the more we incline to question all that has been received without absolute proof.

As a matter of course, this movement has its partial reactions. The province of faith is claimed as a port free of entry to unsupported individual convictions. The tendency to question is met by the

unanalyzing instinct of reverence. The old church calls back its frightened truants. Some who have lost their hereditary religious belief find a resource in the revelations of Spiritualism. By a parallel movement, some of those who have become medical infidels pass over to the mystic band of believers in the fancied miracles of Homœopathy.

Under these influences transmitted to, or at least shared by, the medical profession, the old question between "Nature," so called, and "Art," or professional tradition, has reappeared with new interest. I say the old question, for Hippocrates stated the case on the side of "Nature" more than two thousand years ago.* Miss Florence Nightingale, — and if I name her next to the august Father of the Healing Art, its noblest daughter well deserves that place of honor, — Miss Florence Nightingale begins her late volume with a paraphrase of his statement. But from a very early time to this there has always been a strong party against "Nature." Themison called the practice of Hippocrates "a meditation upon death." Dr. Rush says: "It is impossible to calculate the mischief which Hippocrates has done, by first marking nature with his name and afterwards letting her loose upon sick people. Millions have perished by her hands in all ages and countries." Sir John Forbes, whose defence of "Nature" in disease you all know, and to the testimonial

* Epidemics, Book VI. Sect. 5.

in whose honor four of your Presidents have contributed, has been recently greeted, on retiring from the profession, with a wish that his retirement had been twenty years sooner, and the opinion that no man had done so much to destroy the confidence of the public in the medical profession.

In this Society we have had the Hippocratic and the Themisonic side fairly represented. The Treatise of one of your early Presidents on the Mercurial Treatment is familiar to my older listeners. Others who have held the same office have been noted for the boldness of their practice, and even for partiality to the use of complex medication.

On the side of "Nature" we have had, first of all, that remarkable discourse on Self-Limited Diseases,* which has given the key-note to the prevailing medical tendency of this neighborhood, at least, for the quarter of a century since it was delivered. Nor have we forgotten the address delivered at Springfield twenty years later,† full of good sense and useful suggestions, to one of which suggestions we owe the learned, impartial, judicious, well-written Prize Essay of Dr. Worthington Hooker.‡ We

* On Self-Limited Diseases. A Discourse delivered before the Massachusetts Medical Society, at their Annual Meeting, May 27th, 1835. By Jacob Bigelow, M. D.

† "Search out the Secrets of Nature." By Augustus A. Gould, M. D. Read at the Annual Meeting, June 27th, 1855.

‡ Rational Therapeutics. A Prize Essay. By Worthington Hooker, M. D., of New Haven. Boston. 1857.

should not omit from the list the important address of another of our colleagues,* showing by numerous cases the power of Nature in healing compound fractures to be much greater than is frequently supposed,—affording, indeed, more striking illustrations than can be obtained from the history of visceral disease, of the supreme wisdom, forethought, and adaptive dexterity of that divine Architect, as shown in repairing the shattered columns which support the living temple of the body.

We who are on the side of “Nature” please ourselves with the idea that we are in the great current in which the true intelligence of the time is moving. We believe that some who oppose, or fear, or denounce our movement, are themselves caught in various eddies that set back against the truth. And we do most earnestly desire and most actively strive, that Medicine, which, it is painful to remember, has been spoken of as “the withered branch of science” at a meeting of the British Association, shall be at length brought fully to share, if not to lead, the great wave of knowledge which rolls with the tides that circle the globe.

If there is any State or city which might claim to be the American head-quarters of the nature-trusting heresy, provided it be one, that State is Massachu-

* On the Treatment of Compound and Complicated Fractures. By William J. Walker, M. D. Read at the Annual Meeting. May 29th, 1845.

setts, and that city is its capital. The effect which these doctrines have upon the confidence reposed in the profession, is a matter of opinion. For myself, I do not believe this confidence can be impaired by any investigations which tend to limit the application of troublesome, painful, uncertain, or dangerous remedies. Nay, I will venture to say this, that if every specific were to fail utterly, if the cinchona trees all died out, and the arsenic mines were exhausted, and the sulphur regions were burned up, if every drug from the vegetable, animal, and mineral kingdom were to disappear from the market, a body of enlightened men, organized as a distinct profession, would be required just as much as now, and respected and trusted as now, whose province should be to guard against the causes of disease, to eliminate them if possible when still present, to order all the conditions of the patient so as to favor the efforts of the system to right itself, and to give those predictions of the course of disease which only experience can warrant, and which in so many cases relieve the exaggerated fears of sufferers and their friends, or warn them in season of impending danger. Great as the loss would be if certain active remedies could no longer be obtained, it would leave the medical profession the most essential part of its duties, and all, and more than all, its present share of honors ; for it would be the death-blow to charlatanism, which depends for its success almost entirely on drugs, or at least on a nomenclature that suggests them.

There is no offence, then, or danger in expressing the opinion, that, after all which has been said, the community is still overdosed. The best proof of it is, that no families take so little medicine as those of doctors, except those of apothecaries, and that old practitioners are more sparing of active medicines than younger ones.* The conclusion from these facts is one which the least promising of Dr. Howe's pupils in the mental department could hardly help drawing.

Part of the blame of over-medication must, I fear, rest with the profession, for yielding to the tendency to self-delusion, which seems inseparable from the practice of the art of healing. I need only touch on the common modes of misunderstanding or misapplying the evidence of nature.

First, there is the natural incapacity for sound observation, which is like a faulty ear in music. We see this in many persons who know a good deal about books, but who are not sharp-sighted enough to buy a horse or deal with human diseases.

Secondly, there is in some persons a singular inability to weigh the value of testimony; of which, I think, from a pretty careful examination of his books,

* Dr. James Jackson has kindly permitted me to make the following extract from a letter just received by him from Sir James Clark, and dated May 26th, 1860:—

“As a physician advances in age, he generally, I think, places less confidence in the ordinary medical treatment than he did, not only during his early, but even his middle period of life.”

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Hahnemann affords the best specimen outside the walls of Bedlam.

The inveterate logical errors to which physicians have always been subject, are chiefly these : —

The mode of inference *per enumerationem simplicem*, in scholastic phrase ; that is, counting only their favorable cases. This is the old trick illustrated in Lord Bacon's story of the gifts of the shipwrecked people, hung up in the temple. — Behold ! they vowed these gifts to the altar, and the gods saved them. Ay, said a doubting bystander, but how many made vows of gifts and were shipwrecked notwithstanding ? — The numerical system is the best corrective of this and similar errors. The arguments commonly brought against its application to all matters of medical observation, treatment included, seem to apply rather to the tabulation of facts ill observed, or improperly classified, than to the method itself.

The *post hoc ergo propter hoc* error : he got well after taking my medicine ; therefore in consequence of taking it.

The false induction from genuine facts of observation, leading to the construction of theories which are then deductively applied in the face of the results of direct observation. The school of Broussais has furnished us with a good example of this error.

And lastly, the error which Sir Thomas Browne calls giving “ a reason of the golden tooth ; ” that is, assuming a falsehood as a fact, and giving reasons

for it, commonly fanciful ones, as is constantly done by that class of incompetent observers who find their "golden tooth" in the fabulous effects of the homœopathic materia medica,— which consists of sugar of milk and a nomenclature.

Another portion of the blame rests with the public itself, which insists on being poisoned. Somebody buys all the quack medicines that build palaces for the mushroom, say rather, the toadstool millionnaires. Who is it? These people have a constituency of millions. The popular belief is all but universal that sick persons should feed on noxious substances. One of our members was called not long since to a man with a terribly sore mouth. On inquiry he found that the man had picked up a box of unknown pills, in Howard Street, and had proceeded to take them, on general principles, pills being good for people. They happened to contain mercury, and hence the trouble for which he consulted our associate.

The outside pressure, therefore, is immense upon the physician, tending to force him to active treatment of some kind. Certain old superstitions, still lingering in the mind of the public, and not yet utterly expelled from that of the profession, are at the bottom of this, or contribute to it largely. One of the most ancient is, that disease is a malignant agency or entity, to be driven out of the body by offensive substances, as the smoke of the fish's heart and liver drove the devil out of Tobit's bridal chamber, accord-

ing to the Apocrypha. Epileptics used to suck the blood from the wounds of dying gladiators.* The Hon. Robert Boyle's little book was published some twenty or thirty years before our late President, Dr. Holyoke, was born.† In it he recommends, as internal medicines, most of the substances commonly used as fertilizers of the soil. His *Album Græcum* is best left untranslated, and his *Zebethum Occidentale* is still more transcendently unmentionable except in a strange dialect. It sounds odiously to us to hear him recommend for dysentery a powder made from "the sole of an old shooe worn by some man that walks much." Perhaps nobody here ever heard of tying a stocking, *which had been worn during the day*, round the neck at night for a sore throat. The same idea of virtue in unlovely secretions! ‡

Even now, the Homœopathists have been introducing the venom of serpents, under the learned title of *Lachesis*, and outraging human nature with infusions of the *pediculus capitis*; that is, of course, as we understand their dilutions, the names of these things; for if a fine-tooth-comb insect were drowned in Lake Superior, we cannot agree with them in thinking that every drop of its waters would be

* Plinii Hist. Mundi, Lib. xxviii., C. 4.

† A Collection of Choice and Safe Remedies. The Fifth Edition, corrected. London. 1712. Dr. Holyoke was born in 1728.

‡ The idea is very ancient. "*Sordes hominis*" — "*Sudore et oleo medicinam facientibus.*" — Plin., xxviii. 4.

impregnated with all the pedicular virtues they so highly value. They know what they are doing. They are appealing to the detestable old superstitious presumption in favor of whatever is nauseous and noxious as being good for the sick.

Again, we all occasionally meet persons stained with nitrate of silver, given for epilepsy. Read what Dr. Martin says, about the way in which it came to be used, in his excellent address before the Norfolk County Medical Society, and the evidence I can show, but have not time for now, and then say what you think of the practice which on such presumptions turns a white man as blue as the double-tattooed King of the Cannibal Islands! [*Note A.*]

If medical superstitions have fought their way down through all the rationalism and scepticism of the nineteenth century, of course the theories of the schools, supported by great names, adopted into the popular belief and incorporated with the general mass of misapprehension with reference to disease, must be expected to meet us at every turn in the shape of bad practice founded on false doctrine. A French patient complains that his blood heats him, and expects his doctor to bleed him. An English or American one says he is bilious, and will not be easy without a dose of calomel. A doctor looks at a patient's tongue, sees it coated, and says the stomach is foul; his head full of the old saburral notion, which the extreme inflammation-doctrine of Brous-

sais did so much to root out, but which still leads, probably, to much needless and injurious wrong of the stomach and bowels by evacuants, when all they want is to be let alone. It is so hard to get anything out of the dead hand of medical tradition! The mortmain of theorists extinct in science, clings as close as that of ecclesiastics defunct in law.

One practical hint may not be out of place here. It seems to be sometimes forgotten, by those who must know the fact, that the tongue is very different, anatomically and physiologically, from the stomach. Its condition does not in the least imply a similar one of the stomach, which is a very different structure, covered with a different kind of epithelium, and furnished with entirely different secretions. A silver-smith will, for a dollar, make a small *hoe*, of solid silver, which will last for centuries, and will give a patient more comfort, used for the removal of the accumulated epithelium and fungous growths which constitute the "fur," than many a prescription with a splitfooted \mathfrak{R} before it, addressed to the parts out of reach.

I think more of this little implement, on account of its agency in saving the Colony at Plymouth in the year 1623. Edward Winslow heard that Massasoit was sick and like to die. He found him with a houseful of people about him, women rubbing his arms and legs, and friends "making such a hellish noise" as they probably thought would scare away

the devil of sickness. Winslow gave him some conserve, washed his mouth, *scraped his tongue*, which was in a horrid state, got down some drink, made him some broth, dosed him with an infusion of strawberry leaves and sassafras root, and had the satisfaction of seeing him rapidly recover. Massasoit, full of gratitude, revealed the plot which had been formed to destroy the colonists, whereupon the Governor ordered Captain Miles Standish to see to them; who thereupon, as everybody remembers, stabbed Pecksuot with his own knife, broke up the plot, saved the colony, and thus rendered Massachusetts and the Massachusetts Medical Society a possibility, as they now are a fact before us.* So much for this parenthesis of the tongue-scraper, which helped to save the young colony from a much more serious scrape, and may save the Union yet, if a Presidential candidate should happen to be taken sick as Massasoit was, and his tongue wanted cleaning,—which process would not hurt a good many politicians, with or without a typhoid fever.

Again, see how the “bilious” theory works in every-day life here and now, illustrated by a case from actual life. A youthful practitioner, whose last molars have not been a great while cut, meets an experienced and noted physician in consultation. This is the case. A slender, lymphatic young woman

* Winslow's Good News from New England, or a Relation, &c. Chap. 20, 21.

is suckling two lusty twins, the intervals of suction being occupied on her part with palpitations, headaches, giddiness, throbbing in the head, and various nervous symptoms, her cheeks meantime getting bloodless, and her strength running away in company with her milk. The old experienced physician, seeing the yellowish waxy look which is common in anæmic patients, considers it a "bilious" case, and is for giving a rousing emetic. Of course, he has to be wheedled out of this, a recipe is written for beef-steaks and porter, the twins are ignominiously expelled from the anæmic bosom, and forced to take prematurely to the bottle, and this prolific mother is saved for future usefulness in the line of maternity.

The practice of making a profit on the medicine ordered has been held up to reprobation by one at least of the orators who have preceded me. That the effect of this has been ruinous in English practice I cannot doubt, and that in this country the standard of practice was in former generations lowered through the same agency is not unlikely. I have seen an old account-book in which the physician charged an extra price for gilding his rich patients' pills. If all medicine were very costly, and the expense of it always came out of the physician's fee, it would really be a less objectionable arrangement than this other most pernicious one. He would naturally think twice before he gave an emetic or cathartic which evacuated his own pocket, and be sparing of

the cholagogues that emptied the biliary ducts of his own wallet, unless he were *sure* they were needed. If there is any temptation, it should not be in favor of giving noxious agents, as it clearly must be in the case of English druggists and "General Practitioners." The complaint against the other course is a very old one. Pliny, inspired with as truly Roman a horror of quackery as the elder Cato, — who declared that the Greek doctors had sworn to exterminate all barbarians, including the Romans, with their drugs, but is said to have physicked his own wife to death, notwithstanding, — Pliny says, in so many words, that the cerates and cataplasms, plasters, collyria, and antidotes, so abundant in his time, as in more recent days, were mere tricks to make money.

A pretty strong eddy, then, or rather many eddies, setting constantly back from the current of sober observation of nature, in the direction of old superstitions and fancies, of exploded theories, of old ways of making money, which are very slow to pass out of fashion! But there are other special American influences which we are bound to take cognizance of. If I wished to show a student the difficulties of getting at truth from medical experience, I would give him the history of epilepsy to read. If I wished him to understand the tendencies of the American medical mind, its sanguine enterprise, its self-confidence, its audacious handling of Nature, its

impatience with her old-fashioned ways of taking time to get a sick man well, I would make him read the life and writings of Benjamin Rush. Dr. Rush thought and said that there were twenty times more intellect and a hundred times more knowledge in the country in 1799 than before the Revolution. His own mind was in a perpetual state of exaltation, produced by the stirring scenes in which he had taken a part, and the quickened life of the time in which he lived. It was not the state to favor sound, calm observation. He was impatient, and Nature is profoundly imperturbable. We may adjust the beating of our hearts to her pendulum if we will and can, but we may be very sure that she will not change the pendulum's rate of going because our hearts are palpitating. He thought he had mastered yellow-fever. "Thank God," he said, "out of one hundred patients whom I have visited or prescribed for this day, I have lost none." Where was all his legacy of knowledge when Norfolk was decimated? Where was it when the blue flies were buzzing over the coffins of the unburied dead piled up in the cemetery of New Orleans, at the edge of the huge trenches yawning to receive them?

One such instance will do as well as twenty. Dr. Rush must have been a charming teacher, as he was an admirable man. He was observing, rather than a sound observer; eminently observing, curious, even, about all manner of things. But he could not help

feeling as if Nature had been a good deal shaken by the Declaration of Independence, and that American art was getting to be rather too much for her, — especially as illustrated in his own practice. He taught thousands of American students, he gave a direction to the medical mind of the country more than any other one man; perhaps he typifies it better than any other. It has clearly tended to extravagance in remedies and trust in remedies, as in everything else. How could a people which has a revolution once in four years, which has contrived the Bowie-knife and the revolver, which has chewed the juice out of all the superlatives in the language in Fourth of July orations, and so used up its epithets in the rhetoric of abuse that it takes two great quarto dictionaries to supply the demand; which insists in sending out yachts and horses and boys to out-sail, out-run, out-fight, and checkmate all the rest of creation; how could such a people be content with any but “heroic” practice? What wonder that the stars and stripes wave over doses of ninety grains of sulphate of quinine,* and that the American eagle screams with delight to see three drachms of calomel given at a single mouthful? †

* More strictly, ninety-six grains in two hours. — *Dunlison's Practice*, 1842, Vol. II. p. 520. Eighty grains in one dose. — *Ibid.*, p. 536. Ninety-six grains of sulphate of quinine are equal to eight ounces of good bark. — *Wood & Bache*.

† *Pereira*, II. 614. Quoted from *Christison's Treatise on Poisons*.

Add to this the great number of **Medical Journals**, all useful, we hope, most of them necessary, we trust, many of them excellently well conducted, but which must find something to fill their columns, and so print all the new plans of treatment and new remedies they can get hold of, as the newspapers, from a similar necessity, print the shocking catastrophes and terrible murders.

Besides all this, here are we, the great body of teachers in the numberless medical schools of the Union, some of us lecturing to crowds who clap and stamp in the cities, some of us wandering over the country, like other professional fertilizers, to fecundate the minds of less demonstrative audiences at various scientific stations; all of us talking habitually to those supposed to know less than ourselves, and loving to claim as much for our art as we can, not to say for our own schools, and possibly indirectly for our own practical skill. Hence that annual crop of introductory lectures; the useful blossoming into the ornamental, as the cabbage becomes glorified in the cauliflower; that lecture-room literature of adjectives, that declamatory exaggeration, that splendid show of erudition borrowed from D'Israeli, and credited to Lord Bacon and the rest, which have suggested to our friends of the Medical Journals an occasional epigram at our expense. Hence the tendency in these productions, and in medical lectures generally, to over-state the efficacy

of favorite methods of cure, and hence the premium offered for showy talkers rather than sagacious observers, for the men of adjectives rather than of nouns substantive in the more ambitious of these institutions.*

Such are some of the eddies in which we are liable to become involved and carried back out of the broad stream of philosophical, or, in other words, truth-loving, investigations. The causes of disease, in the mean time, have been less earnestly studied in the eagerness of the search for remedies. Speak softly! Women have been borne out from an old-world hospital, two in one coffin, that the horrors of their prison-house might not be known, while the very men who were discussing the treatment of the disease were stupidly conveying the infection from bed to bed, as rat-killers carry their poisons from one household to another. Do not some of you remember that I have had to fight this private-pestilence question against a scepticism which sneered in the face of a mass of evidence such as the calm statisticians of the Insurance office could not listen to without horror and indignation? † Have we forgot-

* "Ingeniorum Græciæ flatu impellimur. Palamque est, ut quisque inter istos loquendo polleat, imperatorem illico vitæ nostræ necisque fieri." — (*Plin. Hist. Mundi*, XXIX. 1.) I hope I may use the old Roman liberty of speech without offence.

† The Contagiousness of Puerperal Fever. — *N. E. Quar. Jour. of Medicine and Surgery*, April, 1843. Reprinted, with Additions. Boston: Ticknor & Fields. 1855.

ten what is told in one of the books published under our own sanction, that a simple measure of ventilation, proposed by Dr. John Clark, had saved more than *sixteen thousand children's lives* in a single hospital? * How long would it have taken small doses of calomel and rhubarb to save as many children? These may be useful in prudent hands, but how insignificant compared to the great hygienic conditions! Causes, causes, and again causes, — more and more we fall back on these as the chief objects of our attention. The shortest system of medical practice that I know of is the oldest, but not the worst. It is older than Hippocrates, older than Chiron the Centaur. Nature taught it to the first mother when she saw her first-born child putting some ugly pebble or lurid berry into its mouth. I know not in what language it was spoken, but I know that in English it would sound thus: Spit it out!

Art can do something more than say this. It can sometimes reach the pebble or berry after it has been swallowed. But the great thing is to keep these things out of children's mouths, and as soon as they are beyond our reach, to be reasonable and patient with Nature, who means well, but does not like to hurry, and who took nine calendar months, more or less, to every mother's son among us, before she thought he was fit to be shown to the public.

* Collins's Midwifery, p. 312. (In Lib. of Prac. Med.)

Suffer me now to lay down a few propositions, whether old or new it matters little, not for your immediate acceptance, nor yet for your hasty rejection, but for your calm consideration.

But first, there are a number of terms which we are in the habit of using in a vague though not unintelligible way, and which it is as well now to define. These terms are the tools with which we are to work, and the first thing is to sharpen them. It is nothing to us that they have been sharpened a thousand times before; they always get dull in the using, and every new workman has a right to carry them to the grindstone and sharpen them to suit himself.

Nature, in medical language, as opposed to *Art*, means trust in the reactions of the living system against ordinary normal impressions.

Art, in the same language, as opposed to *Nature*, means an intentional resort to extraordinary abnormal impressions for the relief of disease.

The reaction of the living system is the essence of both. Food is nothing, if there is no digestive act to respond to it. We cannot raise a blister on a dead man, or hope that a carminative forced between his lips will produce its ordinary happy effect.

Disease, dis-ease, — disturbed quiet, uncomfartableness, — means imperfect or abnormal reaction of the living system, and its more or less permanent results.

Food, in its largest sense, is whatever helps to build up the normal structures, or to maintain their natural actions.

Medicine, in distinction from food, is every unnatural or noxious agent applied for the relief of disease.

Physic means properly the *Natural* art, and Physician is only the Greek synonyme of *Naturalist*.

With these few explanations I proceed to unfold the propositions I have mentioned.

Disease and death, if we may judge by the records of creation, are inherently and essentially necessary in the present order of things. A perfect intelligence, trained by a perfect education, could do *no more* than keep the laws of the physical and spiritual universe. An imperfect intelligence, imperfectly taught, — and this is the condition of our finite humanity, — will certainly fail to keep all these laws perfectly. Disease is one of the penalties of one of the forms of such failure. It is prefigured in the perturbations of the planets, in the disintegration of the elemental masses; it has left its traces in the fossil organisms of extinct creations.* But it is especially the prerogative, I had almost said privilege, of educated and domesticated beings, from man down to

* Professor Agassiz has kindly handed me the following note : —

“There are abnormal structures in animals of all ages anterior to the creation of mankind. Malformed specimens of Crinoids are known from the Triassic and Jurassic deposits. Malformed and diseased

the potato, serving to teach them, and such as train them, the laws of life, and to get rid of those who will not mind or cannot be kept subject to these laws.

Disease, being always an effect, is always in exact proportion to the sum of its causes, as much in the case of Spigelius, who dies of a scratch, as in that of the man who recovers after an iron bar has been shot through his brain. The one prevalent failing of the medical art is to neglect the causes and quarrel with the effect.

There are certain general facts which include a good deal of what is called and treated as disease. Thus, there are two opposite movements of life to be seen in cities and elsewhere, belonging to races which, from various persistent causes, are breeding down and tending to run out, and to races which are breeding up, or accumulating vital capital, — a descending and an ascending series. Let me give an example of each; and that I may incidentally remove a common impression about this country as compared with the Old World, an impression which got tipsy with conceit and staggered into the atti-

bones of tertiary mammalia have been collected in the caverns of Gailenreuth with traces of healing.”

Professor Jeffries Wyman has also favored me with an interesting communication, from which I extract this statement:—

“Necrosis, caries, ankylosis, and osteophytes have been observed in fossil bones. Zeis (Leipsic, 1856) has written a memoir on the specimens of this nature contained in the Royal Cabinet of Natural History at Dresden.”

tude of a formal proposition in the work of Dr. Robert Knox,* I will illustrate the downward movement from English experience, and the upward movement from a family history belonging to this immediate neighborhood.

Miss Nightingale speaks of "the fact so often seen of a great-grandmother, who was a tower of physical vigor, descending into a grandmother perhaps a little less vigorous, but still sound as a bell, and healthy to the core, into a mother languid and confined to her carriage and house, and lastly into a daughter sickly and confined to her bed." So much for the descending English series; now for the ascending American series.

Something more than one hundred and thirty years ago there was graduated at Harvard College a delicate youth, who lived an invalid life and died at the age of about fifty. His two children were both of moderate physical power, and one of them diminutive in stature. The next generation rose in physical development, and reached eighty years of age and more in some of its members. The fourth generation was of fair average endowment. The fifth generation, great-great-grandchildren of the slender

* "Already the Anglo-Saxon rears with difficulty his offspring in Australia: it is the same in most parts of America. But for the supplies they receive from Europe the race would perish, even in these most healthy climates."—*The Races of Men*. Philadelphia, 1850, p. 317.

invalid, are several of them of extraordinary bodily and mental power; large in stature, formidable alike with their brains and their arms, organized on a more extensive scale than either of their parents.

This brief account illustrates *incidentally* the fallacy of the universal-degeneration theory applied to American life; the same on which one of our countrymen has lately brought some very forcible facts to bear in a muscular discussion of which we have heard rather more than is good for us. But the two series, American and English, ascending and descending, were adduced with the main purpose of showing the immense difference of vital endowments in different strains of blood; a difference to which all ordinary medication is in all probability a matter of comparatively trivial purport. Many affections which art has to strive against might be easily shown to be vital to the well-being of society. Hydrocephalus, tabes mesenterica, and other similar maladies, are natural agencies which cut off the children of races that are sinking below the decent minimum which nature has established as the condition of viability, before they reach the age of reproduction. They are really not so much diseases, as manifestations of congenital incapacity for life; the race would be ruined if art could ever learn always to preserve the individuals subject to them. We must do the best we can for them, but we ought also to know what these "diseases" mean.

Again, invalidism is the normal state of many organizations. It can be changed to disease, but never to absolute health by medicinal appliances. There are many ladies, ancient and recent, who are perpetually taking remedies for irremediable pains and aches. They *ought* to have headaches and back-aches and stomach-aches; they are not well if they do not have them. To expect them to live without frequent twinges, is like expecting a doctor's old chaise to go without creaking; if it did, we might be sure the springs were broken. There is no doubt that the constant demand for medicinal remedies from patients of this class leads to their over-use; often in the case of cathartics, sometimes in that of opiates. I have been told, by an intelligent practitioner in a Western town, that the constant prescription of opiates by certain physicians in his vicinity has rendered the habitual use of that drug in all that region very prevalent; more common, I should think, than alcoholic drunkenness in the most intemperate localities of which I have known anything. A frightful endemic demoralization betrays itself in the frequency with which the haggard features and drooping shoulders of the opium-drunkards are met with in the streets.

The next proposition I would ask you to consider, is this:—

The *presumption* always is that every noxious agent, including medicines proper, which hurts a well man, hurts a sick one. [*Note B.*]

Let me illustrate this proposition before you decide upon it. If it were known that a prize-fighter were to have a drastic purgative administered two or three days before a contest, or a large blister applied to his back, no one will question that it would affect the betting on his side unfavorably; we will say to the amount of five per cent. Now the drain upon the resources of the system produced in such a case must be at its minimum, for the subject is a powerful man, in the prime of life, and in admirable condition. If the drug or the blister takes five per cent from his force of resistance, it will take at least as large a fraction from any invalid. But this invalid has to fight a champion who strikes hard, but cannot be hit in return, who will press him sharply for breath, but will never pant himself while the wind can whistle through his fleshless ribs. The suffering combatant is liable to want all his stamina, and five per cent may lose him the battle.

All noxious agents, all appliances which are not natural food or stimuli, all medicines proper, cost a patient, on the average, five per cent of his vital force, let us say. Twenty times as much waste of force produced by any of them, that is, would exactly kill him, nothing less than kill him, and nothing more. If this, or something like this, is true, then all these medications are, *prima facie*, injurious.

In the game of Life-or-Death, *Rouge et Noir*, as played between the Doctor and the Sexton, this five

per cent, this certain small injury entering into the chances, is clearly the sexton's perquisite for keeping the green table, over which the game is played, and where he hoards up his gains. Suppose a blister to diminish a man's pain, effusion or dyspnoea to the saving of twenty per cent in vital force; his profit from it is fifteen, in that case, for it always hurts him five to begin with, according to our previous assumption.

Presumptions are of vast importance in medicine, as in law. A man is presumed innocent until he is proved guilty. A medicine — that is, a noxious agent, like a blister, a seton, an emetic, or a cathartic — should always be presumed to be hurtful. It always is *directly* hurtful; it may sometimes be indirectly beneficial. If this presumption were established, and disease always assumed to be the innocent victim of circumstances, and not punishable by medicines, that is, noxious agents, or poisons, until the contrary was shown, we should not so frequently hear the remark commonly, perhaps erroneously, attributed to Sir Astley Cooper, but often repeated by sensible persons, that, on the whole, more harm than good is done by medication. Throw out opium, which the Creator himself seems to prescribe, for we often see the scarlet poppy growing in the cornfields, as if it were foreseen that wherever there is hunger to be fed there must also be pain to be soothed; throw out a few specifics which our art did not dis-

cover, and is hardly needed to apply [Note C]; throw out wine, which is a food, and the vapors which produce the miracle of anæsthesia, and I firmly believe that if the whole materia medica, *as now used*, could be sunk to the bottom of the sea, it would be all the better for mankind, — and all the worse for the fishes.

But to justify this proposition, I must add that the injuries inflicted by over-medication are to a great extent masked by disease. Dr. Hooker believes that the *typhus syncopalis* of a preceding generation in New England, “was often in fact a brandy and opium disease.” How is a physician to distinguish the irritation produced by his blister from that caused by the inflammation it was meant to cure? How can he tell the exhaustion produced by his evacuants from the collapse belonging to the disease they were meant to remove?

Lastly, medication without insuring favorable hygienic conditions, is like amputation without ligatures. I had a chance to learn this well of old, when physician to the Broad Street district of the Boston Dispensary. There, there was no help for the utter want of wholesome conditions, and if anybody got well under my care, it must have been in virtue of the rough-and-tumble constitution which emerges from the struggle for life in the street gutters, rather than by the aid of my prescriptions.

But if the materia medica were lost overboard,

how much more pains would be taken in ordering all the circumstances surrounding the patient (as can be done everywhere out of the crowded pauper districts), than are taken now by too many who think they do their duty and earn their money when they write a recipe for a patient left in an atmosphere of domestic malaria, or to the most negligent kind of nursing! I confess that I should think my chance of recovery from illness less with Hippocrates for my physician and Mrs. Gamp for my nurse, than if I were in the hands of Hahnemann himself, with Florence Nightingale or good Rebecca Taylor to care for me.

If I am right in maintaining that the presumption is always against the use of noxious agents in disease, and if any whom I might influence should adopt this as a principle of practice, they will often find themselves embarrassed by the imperative demand of patients and their friends for such agents where a case is not made out against this standing presumption. I must be permitted to say, that I think the French, a not wholly uncivilized people, are in advance of the English and ourselves in the art of prescribing for the sick without hurting them. And I do confess that I think their varied ptisans and syrups are as much preferable to the mineral regimen of bug-poison and ratsbane, so long in favor on the other side of the Channel, as their art of preparing food for the table to the rude cookery of those

hard-feeding and much-dosing islanders. We want a reorganized *cuisine* of invalidism perhaps as much as the culinary reform, for which our lyceum lecturers, and others who live much at hotels and taverns, are so urgent. Will you think I am disrespectful if I ask whether, even in Massachusetts, a dose of calomel is not sometimes given by a physician on the same principle as that upon which a landlord occasionally prescribes bacon and eggs, — because he cannot think of anything else quite so handy? I leave my suggestion of borrowing a hint from French practice to your mature consideration.

I may, however, call your attention, briefly, to the singular fact, that English and American practitioners are apt to accuse French *medical* practice of inertness, and French *surgical* practice of unnecessary activity. Thus, Dr. Bostock considers French medical treatment, with certain exceptions, as “decidedly less effective” than that of his own country.* Mr. S. Cooper, again, defends the simple British practice of procuring union by the first intention against the attacks of M. Roux and Baron Larrey.† We have

* Hist. of Med., in Cyc. of Prac. Med., Vol. I. p. 70.

† Cooper's Surg. Dict., Art. *Wounds*. Yet Mr. John Bell gives the French surgeons credit for introducing this doctrine of adhesion, and accuses O'Halloran of “rudeness and ignorance,” and “bold, uncivil language,” in disputing their teaching. — (*Princ. of Surgery*, Vol. I. p. 42.) Mr. Hunter succeeded at last in naturalizing the doctrine and practice, but even he had to struggle against the perpetual jealousy of rivals, and died at length assassinated by an insult.

often heard similar opinions maintained by our own countrymen. While Anglo-American criticism blows hot and cold on the two departments of French practice, it is not, I hope, indecent to question whether all the wisdom is necessarily with us in both cases.

Our art has had two or three lessons which have a deep meaning to those who are willing to read them honestly. The use of water-dressings in surgery completed the series of reforms by which was abolished the "coarse and cruel practice" of the older surgeons, who with their dressings and acrid balsams, their tents and leaden tubes, "absolutely delayed the cure." The doctrine of Broussais, transient as was its empire, reversed the practice of half of Christendom for a season, and taught its hasty disciples to shun their old favorite remedies as mortal poisons. This was not enough permanently to shift the presumption about drugs where it belonged, and so at last, just as the sympathetic powder and the Unguentum Armarium came in a superstitious age to kill out the abuses of external over-medication, the solemn farce of Homœopathy was enacted in the face of our own too credulous civilization, that under shelter of its pretences the "inward bruises" of over-drugged viscera might be allowed to heal by the first intention. Its lesson we must accept, whether we will or not; its follies we are tired of talking about. The security of the medical profession against this and all similar fancies, is in the aver-

age constitution of the human mind with regard to the laws of evidence.

My friends and brothers in Art! There is nothing to be feared from the utterance of any seeming heresy to which you may have listened. I cannot compromise your collective wisdom. If I have strained the truth one hair's breadth for the sake of an epigram or an antithesis, you are accustomed to count the normal pulse-beats of sound judgment, and know full well how to recognize the fever-throbs of conceit and the nervous palpitations of rhetoric.

The freedom with which each of us speaks his thought in this presence, belongs in part to the assured position of the Profession in our Commonwealth, to the attitude of Science, which is always fearless, and to the genius of the soil on which we stand, from which Nature withheld the fatal gift of malaria only to fill it with exhalations that breed the fever of inquiry in our blood and in our brain. But mainly we owe the large license of speech we enjoy to those influences and privileges common to us all as self-governing Americans.

This Republic is the chosen home of *minorities*, of the less power in the presence of the greater. It is a common error to speak of our distinction as consisting in the rule of the majority. Majorities, the greater material powers, have always ruled before. The history of most countries has been that of ma-

majorities, — mounted majorities, clad in iron, armed with death, treading down the tenfold more numerous minorities. In the old civilizations they root themselves like oaks in the soil ; men must live in their shadow or cut them down. With us the majority is only the flower of the passing noon, and the minority is the bud which may open in the next morning's sun. We must be tolerant, for the thought which stammers on a single tongue to-day may organize itself in the growing consciousness of the time, and come back to us like the voice of the multitudinous waves of the ocean on the morrow.

Twenty-five years have passed since one of your honored Presidents spoke to this Society of certain limitations to the power of our Art, now very generally conceded. Some were troubled, some were almost angry, thinking the Profession might suffer from such concessions. It has certainly not suffered here ; if, as some affirm, it has lost respect anywhere, it was probably for other, and no doubt sufficient reasons.

Since that time the civilization of this planet has changed hands. Strike out of existence at this moment every person who was breathing on that day, May 27th, 1835, and every institution of society, every art and every science would remain intact and complete in the living that would be left. Every idea the world then held has been since dissolved and recrystallized.

We are repeating the same process. Not to make silver shrines for our old divinities, even though by this craft we should have our wealth, was this Society organized and carried on by the good men and true who went before us. Not for this, but to melt the gold out of the past, though its dross should fly in dust to all the winds of heaven, to save all our old treasures of knowledge and mine deeply for new, to cultivate that mutual respect of which outward courtesy is the sign, to work together, to feel together, to take counsel together, and to stand together for the truth, now, always, here, everywhere ; for this our fathers instituted, and we accept, the offices and duties of this time-honored Society.