



## UNDERCURRENTS OF MODERN MEDICINE.

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BY RICHARD M. HOGES, M.D.<sup>1</sup>

NOT longer ago than when this Society was founded, the element of mystery, and the spirit of credulity, pervaded medical knowledge so intimately, that escape from their sinister influences seemed almost hopeless. From that day to the present time, however, there has been a perpetual, and still unceasing effort, to enlighten ignorance, and to interpret obscurity. Science has sorely shaken the foundations of many time-honored delusions. The complex causes and entangled results, which medicine attempts to regulate, have been so unravelled, analyzed, and illumined, that we already look back on an era of unexpected progress. Exact observation has taken the place of speculation and pseudo-philosophic discussion. Predictions can be made, without the shadow of doubt, that definite consequences will follow a given lesion. There are maladies which can be prevented, or stamped out, as surely as the waters of a stream can be dammed by the engineer. Apparent inconsistencies, — such as the good health of persons who work in the midst of filth and offensive effluvia, and the impunity with which diluted sewage may be drunk, — are accepted as illustrations of our ignorance, rather than of the variability of natural laws. Theories which are only probable, and opinions based on mere authority, meet with little approval. The observations even of competent judges, are distrusted until they have been verified by others. Tradition obtains scarcely the homage of a respectful attention.

The exercise of a profession like that of medicine, — which, in its working capacity, enters every family, and is brought into relation with the weaknesses, as well as with the ambitions of mankind, — demands not merely a learned knowledge of health and disease, but requires comprehensive familiarity with modern civilized life, executive skill, and business habits, not inferior to those exacted by other technical occupations. Although the public is incompetent to determine the presence or the absence of scientific acquirements, it recognizes practical efficiency by many outward and visible signs. Education does not always carry with it the external indications which catch the fancy, and prove most acceptable to those who seek for counsel and assistance; but bearing and demeanor, while they hide as often as they reveal the actual traits of an individual, are almost invariably the secrets of his failure or of his success.

The physician, therefore, who aims at a prosperous practice, — accepting the fact, that his personal and domestic joys are at the mercy of a bell, — holds himself in good-humored readiness to meet the unreasonable, as well as the reasonable, exactions of all classes of people. He remains stoically indifferent, if need be, alike to sewing-circle animosity and admiration. He listens with the attention, which is readily mistaken for

professional interest, to incessant and repetitious accounts of bygone maladies. Blessed with the magnetism of a calm deliberation of manner, and by that kindness which enables him to put questions sympathetically, he perceives intuitively the kind of advice his patient desires, and a judicious response lies in wait for every complaint and inquiry. Familiar with, and believing in the latest *materia medica*, he promotes their recovery by carrying his patients with him in the sanguine conviction that all their favorable symptoms are connected with his treatment.

While far from being a high type of his profession, such a man, nevertheless, possesses superior qualifications for usefulness. He has the tact, and a ready appreciation of the effect words can produce, which make him a sort of infallible Pope with the victims of insignificant ailments, — ailments which can be easily inflated into perversions of health apparently so serious as to require perpetual attendance. He will endear himself to the deluded invalids, to whom sympathy is such a luxury that they cannot allow themselves even the semblance of recovery; to the middle-aged spinsters who delight in superfluous measures; to the mothers whose children rule the house; and to the credulous men and women who take medicine from force of habit, or for the want of some other engrossing occupation. More than all, because justly, he will be gratefully esteemed by a large and intelligent clientage, to whom his pleasant visits, and placid mannerisms, carry genuine comfort and a full measure of satisfaction.

Masters of the highest arts of practice, — to whom mere popularity is of small account, — are, on the other hand, rarely recruited from negative or effeminate men, or from those who are wanting in self-reliance. Strong qualities possess strong attractions, even if they also provoke strong dislikes. Defects are more readily seen than virtues. Colleagues will not always sympathize with plain-spoken opinions that diseases, which have been developing for years, cannot be got rid of, like evil spirits, by the exorcism of some potent drug. Clients are not quick to agree, with Emerson, "that the laws of behavior must yield to the energy of the individual," or slow to be provoked by lack of patience, by indifference, or by brusqueness of manner, even when they merely indicate the friction which is generated in striving, by persuasion, to induce people to do their simple duty.

In every social grade, however, there are, invariably, those whom the individuality of some medical man will please. There are men and women who do not wish to be fussed over, — who simply desire to be painstakingly advised, and, if necessary, intelligently dosed. They are not allured by deferential and insinuating manners, — which, Mr. James says, can be traced back to the struggle for existence, — and they look indulgently upon faults, if, beneath them, they can detect that sense which is so rare, but which is nevertheless called *common* sense, and an honesty, frankness, and good judgment which invite confidence. They respect the disinterestedness which resolutely convinces people that they are well, when they only imagine themselves sick. They value the discernment which eliminates non-essentials, and which is ready to suspect that a patient has no disease to cure when he says he cannot take this or that medicine. They realize the value of reserve in social intercourse, and appreciate the brevity of speech, — or, even, the ill-concealed dislike to answer questions, — which is born of a belief that error

<sup>1</sup> The following pages, prepared to be read aloud, must not assume a printed form without an avowal of the writer's indebtedness to a greater number of articles and individuals, than the absence of quotation marks, or references, might imply. An endeavor to acknowledge this obligation has been attempted in an Appendix.

lies in saying too much, rather than too little. Knowing their own ignorance of the manner in which a medical man must necessarily systematize his professional work, they see that he can, himself, best regulate the hour of his visits. Wisely perceiving that the interests of the practitioner are equally those of his patients, they willingly show consideration for the human nature which is in him, and, instead of dictating a line of action, amiably concur with his better methods for their relief. Bearing in mind that they can do much for themselves, they illustrate by their conduct the truth of the observation, that "few cases are so hopeless as those which refuse to get well; none so hard to kill as the people determined not to die."

If the rivalry of a crowded profession sometimes tempts men to practice a certain degree of humbuggery in dealing with patients, there is rarely any association between profitable trickery and wilful quackery. Practitioners who please their clients are rarely incompetent, nor do they deserve to be called charlatans. They are not the knaves whose fatal ignorance accentuates and fosters the philanthropic proposition that the State should protect the community from medical imposition.

The fact must be surely though sadly recognized, that the practice of medicine, by people who have not the appropriate knowledge for what they undertake, cannot be prevented by legislation. If we could prohibit those who publicly proclaim their clap-trap, we should still leave unsuppressed the grandmothers, mothers-in-law, maiden aunts, and neighbors, whose readiness to assume responsibility in sickness is equally devoid of any educated qualification; and one shudders to think what might happen if, even as a single result, their energies were turned from this innocuous if not beneficent channel by the strong arm of the law."<sup>2</sup>

Interference with a man's choice of medical treatment may be a violation of the "liberty of the subject;" but not on that account do I venture to express the belief that the public should be left to care for itself,—in this respect, as well as in most other matters. It is a dangerous experiment to meddle with the relations of the public and a profession. In any attempt to modify the attitude of those whose rightful privilege it is to treat human diseases with absolute freedom from restraint, it should be remembered how wisely it has been remarked, that "Science commits suicide when she adopts a creed." The saying will prove equally true of medicine, when, by legislation, different medical sects are recognized, even to gain a worthy end.

If the Commonwealth is to be asked to take a hand in medical affairs, the appeal should be made solely upon the ground that, as the State employs medical men for certain purposes, it may properly be asked to define the conditions on which it will accept service. It is for the good of the community that nobody should die without an official record of the cause of death: that in both civil and criminal cases the law should be able to summon persons whose evidence may be accepted as expert. A petition that the State shall declare how and from what sources such general services may be received, and who shall be allowed to fill the medical offices of its military and other public institutions, is a request to its law-makers in which all could harmoniously join. An enactment covering a reply

<sup>2</sup> Mr. Huxley.

to this inquiry should constitute the whole of the State regulation of medicine.

The profession, and not the State, must be the guardian of its own interests. "No elaborate law," says Virchow, in a recent utterance, "no code of ethics, will of itself serve to instil self-respect into the minds of those to whom it appeals, or to keep in check the overwhelming desire of notoriety by which the less scrupulous members of our honorable profession are too often actuated."<sup>3</sup>

No safeguard can ever entirely prevent the fatal mistakes and accidents of both druggists and physicians, which arise from imperfectly written prescriptions, or carelessness in the handling of medicines. The business of the druggist is a large and important industry, demanding the best intelligence, and nothing should be done to impair its efficiency. It is remarkable that grave errors are not more frequently made. Every physician has had reason, probably on more than one occasion, to thank the acute oversight and the good judgment of some careful apothecary, for the detection and sagacious counteraction of blunders in prescription-writing. As the dealer in medicines bears the burden of this important supervision, let him not be condemned if he occasionally prescribes chalk-mixture, or bromide of potass, over his counter.

It is the prerogative of this Society,—indeed, it is the great purpose of its existence,—to educate public opinion, and to promote and disseminate such knowledge as will make medical legislation, if there should be any, not only well-advised and enlightened, but serviceable to the community rather than to individuals.

Nothing has better illustrated the influence of an Association like ours, than its effective support of the concurrent public sentiment, which helped to bring about the demission of the Coroner, and the accession of the Medical Examiner. A reform in the existing method of obtaining what is called expert testimony, would equally redound to the credit of this Society, if it were procured by its aid and coöperation.

Judges, juries, experts themselves, alike condemn the manner in which medical evidence is, at present, admitted in the trial of civil and criminal cases. In this city, within a few months, a jury, immediately on retiring decided to throw out all the medical testimony presented for their consideration. The revision of a mode of procedure,—acknowledged to be defective, and for the faults of which a whole profession is disparaged and ridiculed,—ought not to be found difficult, when a tried system in Germany, and elsewhere in Europe, has shown how much more wisely than by us the matter of expert testimony may be managed.

Unhappily it is not always the aim of litigation to arrive at the intrinsic truth; and the objection of lawyers to legislation which, with the intention of securing only the best quality of evidence, shall take from them the choice of their experts, and place it in the hands of the courts, grows out of a fear that witnesses so chosen, might be too much imbued by a desire to substantiate the truth, and the truth only, to meet the wishes of those whose aim is simply to win their cases.

Justice is at a great disadvantage when there is no certainty that real experts are called by either party to a suit,—no assurance that their non-expertness will

<sup>3</sup> *Med. Times*, Nov. 7, 1885, p. 633.

be shown up, if it exists,— and not always the conviction that they will testify without regard to the side which has summoned them. Counsel cannot be expected deliberately to call witnesses who would certainly, or even possibly, damage the cause of their clients.

That medical testimony should possess value, witnesses must be held responsible for what they say or state. The trustworthiness, and the relevancy of evidence can be thus controlled only when it is uttered in the presence of an *amicus curiæ*, competent to recognize the ignoramus or the pretender, and to keep both court and jury from being led astray by side issues, or blinded by irrelevant talk, or deceived by the advancement of theories, which, though they may be true, are presented in a partial, an imperfect, or an exaggerated manner.

The conclusion, therefore, is a growing one, that the appointment of experts, in our Commonwealth at least, ought to be made a part of the judicial function, and that their compensation should be fixed by statute, or by the court, and be paid out of the public treasury. By the adoption of such a plan, court-rooms would be relieved of exhibitions which are frequently discredit-able and mortifying; and a recent action by the Bar Association of the City of Boston, encourages the hope that this reformation, which so distinctly concerns the dignity and the welfare of two great professions, will not be indefinitely delayed.<sup>4</sup>

The tenor of a physician's intellectual way of life follows the border lines of science, and leads him to breathe the atmosphere, at least, of learning. Wherever, and however, his lot may be cast, it devolves on him to maintain and promote some of the truths most important to humanity. Towns and rural villages, far and near, are, fortunately, not without the practitioners who do their own thinking, who are good observers, broad in their views, abundant in knowledge, efficient in emergencies— equals in ability to those whose city life may have given them greater opportunities,— and full of the salutary influences which sound opinions, and a high moral tone, exercise among all classes of society.

The art possessed by bees, of producing at will an individual with the requisite qualities for supremacy, has not, however, been acquired by mankind. Men become wise and learned, rather by the strength of their special inclinations, than by the compulsory stimulus of educational expedients. Personal ability, personal energy, peculiar tastes and habits of mind, are qualities which are growing in general estimation; and the opportunity for the exercise of exceptional talents and attainments increases with the growth of population and the material welfare of the country. In no profession is there a more fertile field for turning to account a great variety of accomplishments than in that of medicine; nor is there one in which the demand is so constant for strength of character, and for intellectual capacity above the average.

The fact that preliminary education is unsatisfactory and defective, and that the study of medicine is consequently begun at too low a point, creates a generally accepted conviction that the time devoted to it by medical schools is insufficient; and yet the practical necessities of a large majority of young men, prevent the prolongation of professional training, because this

<sup>4</sup> Appendix I.

would advance their graduating age. In England, the student of the present day enters his hospital as a boy of about eighteen years of age; and it is declared hopeless to think of extending the term of pupilage,— for the average medical practitioner, at any rate,— beyond the age of twenty-two. In our own country, a still earlier maturity not only exists, but is expected. In spite of this, however, the average age of graduation in the Harvard Medical School is more than twenty-four years and a half. A system which matures its fruit so tardily, must tend to make educational institutions for the few, rather than the many. This would not be a regrettable consequence if it were the ultimate object of medical teaching to turn every student into a professor, or if a special degree of Doctor *Scientiæ Medicinæ*, with all that the title implies, were the outgrowth of such a tendency.

There is but one remedy for too short a course of study,— which might be judiciously, though not easily extended,— and for graduating at an age which is too old,— and that is, to lengthen the curriculum backwards into the preparatory years by requiring better qualifications to begin with.

The well-deserved reputation of the Harvard Medical School,— largely added to by its early abandonment of traditional and imperfect methods of instruction,— is still maintained by the energy and enterprise of a Faculty, many of whose members, practically, give their whole time to teaching. Acknowledged to be a source of pride by the profession throughout the country,— by the city in which it has its home,— and by a community which has always greatly respected the calling of medicine,— it will be in no censorious spirit that I allude to two or three points of interest, having reference to still further improvement in the educational system of a school upon which this Society's usefulness pre-eminently depends.

Admission to the Harvard Medical School now requires the applicant to pass a "satisfactory examination in English, Latin, and Physics, and some one of the elective subjects, Botany, French, German, the elements of Algebra, or of Plane Geometry." If, instead of this, a knowledge were alone demanded of the elementary, but comprehensive, principles governing the action of living things, and which are the substrata of human anatomy and pathology, a great gain would be made. The familiarity of students with natural science, especially physiology and biology, and the manner in which they pass their examination therein, might easily decide, not only the fitness of candidates to begin the study of medicine, but also test their proficiency in English and classical subjects.

It was the great aim of Professor Agassiz here, as it has been of Professor Huxley in England, to make young people good observers, and to convince them that attention, memory, and observation, are not only serviceable and remunerative, but always attainable attributes. It should be a chief endeavor of any instruction intended to precede that of a medical school, to cultivate the tactile, visual and auditory senses, and to beget an early conviction of the value of precision.

Studies, therefore, which involve the logic of actual facts, can only be pursued to advantage where they are taught practically, and with a thoroughness which precludes the possibility of cramming. They must be made revelant to, and in harmony with, the subsequent

education, which (it is complained) now usurps too much time, and is needlessly difficult, because previous discipline has so little prepared a ground-work for its reception.

Schoolmasters may say that it is waste of time to teach science as they are compelled to teach it; but the means of carrying into effect some plan of primary scientific schooling can surely be perfected, if it is called for; and if details interpose obstacles, patience and experience must overcome them. Eventually, such instruction will be organized as well as,—better than, I trust,—classical teaching has been hitherto, and High Schools, at least in all cities and large towns, will become competent to fit young men for the study of medicine. The practical character of the age is gradually eliminating from education, many of the special processes by which the intellect was formerly developed. Various kinds of laboratory and experimental work are already urged upon all,—and adopted by some,—preparatory schools, as optional for pupils to whom a large amount of Latin and Greek, does not offer the intellectual discipline or equipment which they are aiming to obtain.<sup>5</sup>

Harvard University is active in the effort to make natural science an attainable and profitable study. In the interest of those intending to become medical students, electives in anatomy and physiology have been asked for in its academical department. The Massachusetts Institute of Technology, and the Johns Hopkins University, have already established courses introductory to the study of medicine. These are wise, tentative endeavors,—even if rudimental and inadequate,—to provide instruction which shall save, by anticipation, much of the labor,—and, therefore, much of the time,—now connected with the acquirement of a professional education.

I cannot but think that compulsory attendance on the same course of instruction, for two or three successive years, would be an advantage in certain branches of study, and above all, in anatomy; because, from beginning to end, anatomy consists of intricate details. These are difficult to grasp mentally. Many require to be memorized, and the knowledge of them is worthless if not exact.

Furthermore, if the studies of Anatomy, Physiology, and Therapeutics could be arranged with maximum and minimum requirements, the separate grades into which students are inevitably divided would find the measures of their differing capacity better filled. Time and money could be expended to more permanent advantage if there were both prescribed and elective courses in each of these departments, in place of the present exaction of equal and uniform proficiency from all pupils. The aims of individual ambition would also be more securely gratified; and the hours available for obtaining practical acquaintance with the phenomena of disease, or for special subjects of study, both by teachers and advanced pupils, would be supplemented to an extent not heretofore possible.

In this connection, I venture to suggest that, if examinations should attack learning less on its intellectual side and more on its practical side,—as might be the case if they were not so generally conducted in writing,—knowledge would still be as exact, while the

<sup>5</sup> "Jesse Foot accuses me," said John Hunter, "of not knowing the dead languages; but I could teach him that on the dead body which he never knew, dead or living."

examinations themselves would not be the educational regulators (it might almost be said, the despots) they now are. Though we may not follow the example of universities under other surroundings, and adapted to other needs, we can put in practice the business methods of American requirements, without lowering the standard of liberal and productive scholarship.

I have no hesitation in saying that teaching of medicine and surgery by set lectures only, or even largely, is unsuited to the wants of learners, and is already recognized as antiquated. To justify this assertion, I need but refer to the sentiment of medical teachers in London, and to the comparable illustration which is furnished by the Law School of Cambridge. The disappearance of systematic didactic lecturing and the substitution of corresponding tutorial instruction,—if the difficulty as to the number of teachers and the expense of such a system could be met,—would be, radical as it seems, a most progressive step in education. Books and lectures may make scholars, but not practical physicians. American students add to their course of study a year in Europe,—not because the hospitals are larger, or the knowledge of teachers greater than in their own country,—but because, in small classes, under the immediate guidance of a first-class instructor, they can see and demonstrate every fact for themselves.

The existence,—side by side with its University Faculty,—of what is called an Extra-Mural Medical School, accounts in great measure for the attraction which Edinburgh has offered to students of Great Britain during recent years. The generous rivalry, which the tutorial character of such a school generates, cannot but inspirit the neighboring university; and it should be realized in America, as it is in Scotland,—and as it also is in France, in the *enseignement libre* of its *Ecoles Pratiques*,—that no policy could be more short-sighted than to discourage competitive teaching which exercises so healthy a stimulus, or to restrain pupils from obtaining, wherever they may think their interests are best met, that instruction which is to carry them through their examinations.<sup>6</sup>

There are misgivings here,—and they are equally strong elsewhere,—as to the influence upon the practical education of young men which is exerted by the Training Schools for Nurses, now so popular and so numerous.

An interested and superior class of young women, who bring great enthusiasm to their work, are instructed, by teachers of the highest grade, in Anatomy, Physiology, the Theory of Wounds and their antiseptic treatment, Fractures and the use of Splints, and Bandaging, in all its refinement. They are taught how to observe symptoms, count pulses, take the temperature, judge of doses, if not of drugs, and to prepare systematic written reports of cases. Purely medical subjects, such as Dropsy, Rheumatism, Erysipelas, Gangrene, and Diseases of the Eye, are included in the list of lectures given at one of the oldest of these institutions.

Many of the duties which are now delegated to nurses in the wards of the hospitals where they obtain their training, are such as physicians have heretofore attended to personally. In private practice they are encouraged to regard certain details of domestic labor, on which the welfare of the sick depends in no small degree, as menial, or inconsistent with the "elevation

<sup>6</sup> Appendix II.

of their calling." Their social status in the family by whom they are employed, is a constant source of trouble. Practical experience leads many to the conclusion, that as a nurse advances in special knowledge she proportionately retrogrades in the efficient discharge of the minor duties and drudgery, which, after all, are the chief requirements of her occupation.

Experienced training school pupils become so familiar with many manipulations and points of practice, that hospital students give way to them, partly from a too common *vis inertiae*, and partly from a fear of showing themselves less skilful; but, more than all, from the idea that time cannot be profitably spent in learning the minutiae which belong to the subordinate occupation of nursing. Nor is this impression confined exclusively to hospital pupils, or those interested especially in surgery. It extends unwittingly to students of all degrees and preferences, in and out of hospitals, and to physicians as well. Dependence on nurses for information about the patients "under their care" (as they say), blunts the young practitioner's own observation, lessens his attention to particulars, and deprives him of the experience and the education which come by doing things for one's self.

There is no reason why a nurse should not be interested in purely medical subjects. Her experience is of the same kind as that of the physician, — in certain cases even greater in its opportunities, — and it is too much to ask that she should pay no attention to the medical aspects of disease; but the fact must not be lost sight of, that, at the present time, intelligent women have the choice before them of being either nurses or doctors, and that they cannot be both.

The needs of sick people, so far as the requirements of the sick room are concerned, are of a nature which women alone can satisfy. The present system has been brought about by the aid, if not by the instigation, of physicians. Admirable in many ways as its results are; greatly as trained nurses contribute to the comfort of patients, physicians, and families; in spite of the fact that nursing takes a higher stand, for the very reason that drugs, outside of a few specifics, are less and less depended upon, — it would be a misfortune if the existing method of teaching nurses should tend to lift them out of a position, — servant-like though it must be in many respects, — which it is a womanly privilege to fill, and one not unworthy of female ambition. It would be still more deplorable if their training should bring female nurses into collision with physicians, either of their own or of the other sex; or if, by their too near approach to the same lines of study, the zeal of medical students should be diminished. Worst of all misfortunes would be the creation of an unexpected hybrid, neither servant, nurse, nor doctor.<sup>7</sup>

The study of the phenomena of life, — and therein lies the whole of science, so far as the business which engages our attention is concerned, — has exercised a great influence in promoting truer estimates of disease and wiser methods of treatment; but a just and natural proportion should be maintained between that part of our pursuit which is purely scientific and that which is practical. If one is in danger of being prosecuted at the expense of the other, it ought not to be the latter.

The lack of practical knowledge on the part of a

<sup>7</sup> Appendix III.

physician, otherwise profoundly learned, may cause an immense amount of suffering. It may give an impetus to disastrous epidemics. Hesitancy to command the isolation of a single case of measles or scarlatina, — or delay in so doing, — subjects a family, a school, or a community, to the peril of an epidemic more dangerous than the small-pox. His finger-nails may communicate a fatal poison, through the trivial operations of surgery which every one undertakes to perform, or inaugurate the "private pestilence" which still sometimes follows in the track of the obstetrician. The increasing frequency of non-union in fractures, if I can trust my own observation, shows that they are not so skilfully treated as formerly. The acne of an emigrant, it is said, has quarantined an ocean passenger steamer. Within the past year, in a town with the organization, resources, and appliances of 8000 inhabitants and 13 physicians, an outbreak of typhoid fever reached the extraordinary proportion of 1200 cases in one month, 500 occurring within the first ten days after its irruption. Through this outbreak 300 families were made dependent on charity at one time, and 107 lives were sacrificed. The extra expenditure by the sufferers was \$60,000, besides an equal amount lost in wages through enforced idleness. Starting from a single typhoid patient, whose accumulated evacuations suddenly gained access to the town's aqueduct, the germs of disease were disseminated with great rapidity along the line of water distribution; but the differences of medical opinion, as to the origin of the trouble, were at first so great that no prompt restrictions were placed upon the use of the drinking-water, though it was suspected from the outset of being the medium of conveyance for this terrible affliction, ending in such unnecessary loss of life. Subsequent developments proved the suspicion to be well founded, and the number of suits brought against the water-company by the relatives of those who died, indicates the prevalent impression that this epidemic, like so many others, might have been prevented by intelligent vigilance.<sup>8</sup>

Ignorance of certain groups of diseases is acknowledged and confessed by every honest physician. The rapid accumulation of facts in all departments of medical research is beyond the comprehensiveness of a single mental grasp. There are anatomists and physiologists who have never set foot within a hospital. The International Medical Congress, with its twenty or more sections, is an illustration, as well as a recognition, of distinct demarcation in the lines of professional study.

Almost without exception, such sub-divisions are concessions to convenience, and owe their existence largely, and perchance unfortunately, to considerations connected with the treatment of disease. In nearly every instance, they represent departments of operative surgery, in which particular skill or special manipulations are required; and their technical element, often reaching the highest refinement, has exercised a great influence in advancing the art of medicine. But they have also abetted a mistaken tendency of public belief, that elaborate division of labor must necessarily be as useful and successful in a learned profession, as it is in the mechanic arts.

Old-fashioned practice, — that is to say, the practice of thirty or forty years ago, — looked on specialism as

<sup>8</sup> Appendix IV.

an innovation of doubtful respectability. Sick people were then regarded as private property, and poachers were punished if they intruded on personal preserves. To-day the assumed right to deal exclusively with the diseases of special parts of the body,—generally those beyond the sick man's own range of vision,—is no longer regarded as presumption, or a violation of ethical rules. Patients, even, exercise the prerogative to be their own judges, both as to the nature of the particular disorder from which they think they suffer, and of the remedy it requires.

It is also asserted that the empire of the general physician and surgeon is crumbling away, and that his dirge is being chanted. The *personnel* of a general practice is said to change entirely in about the same time which it is popularly supposed to take for the renewal of the combined atoms of the human body; and the family doctor,—once a fixed and immutable institution,—finds it his office, now-a-days (it is cynically declared), solely to decide what specialist shall be summoned, and must count himself highly favored if subsequently invited to listen to the opinion obtained, or lend his assent to the treatment prescribed. "Specialism," we are told, by its recent vindicator, "being a movement founded on the true principle of progress, and in harmony with the general 'stream of tendency' in these days, will gain strength and volume as it advances, sweeping away, in its victorious current, all the rubbish of pedantic prejudice and malicious bigotry that formerly defiled its waters, and hindered their flow."

There can be no denial of the fact, that whoever, in addition to his general requirements, knows more about some particular thing than any one else,—or at any rate, can do some special work pre-eminently well,—has a decided advantage over his fellows; but the suggestion that all diseases of the body, and not merely those of its inlets and outlets,—even though they are beyond the reach of mirrors, aspirators, or sounds,—must be put in the same category with ailments of throats and ears, and reveal their secrets hereafter only to the sharp observation and skilled insight of specialists, is one which will hardly be conceded at present. With all the facts before them, enthusiastic students and workers still deliberately select the broad roads of general medicine and surgery, in preference to the narrow and possibly devious paths of special practice, though the latter may lead to speedier pecuniary success.

The human body is made up of parts and functions so thoroughly inter-dependent, that it cannot be parcelled out into defined and isolated regions. Let me illustrate this self-evident statement by quoting a post-mortem diagnosis, made by Professor Fitz, and taken absolutely at random from the Autopsy Book of the Massachusetts General Hospital. It reads as follows: "Chronic Pneumonia; Suppurative Pyelitis; Chronic Perimetritis; Hæmatoma of Ovary; Ischio-rectal Abscess, with Perineal Fistula; Chronic Typhlitis, with pseudo Polypi; Gangrenous Ulceration of Vermiform Appendix; Granular Degeneration of Liver and Kidney." The patient, with this appalling pathological conglomerate as his record, was one who, if alive, would have sought the advice of a specialist in diseases of the chest, and none other.

Despite all arguments drawn from expediency,—despite the difficulties encountered in the mastery of details, by any physician who has not had a special training,—one such case as that just alluded to empha-

sizes the assertion, that he who has the most comprehensive knowledge of the human organism and its disorders is, with certain well-recognized exceptions, best able to determine what is the matter with any given part of it, and so to help its unlucky owner to recovery, either through his own practical skill, or his ability wisely to select the colleague whose attainments may permit him to deal better with the case than he can. This object will not be less readily achieved if the practitioner acknowledges the limitations of human understanding, and the immaturity of medicinal therapeutics; or if he believes in the maxim that "the best physician is he who can distinguish what he can do from what he cannot."

Greater refinement in the distribution of medical practice is not likely to carry its analytic tendency beyond the present separation of physicians into a few distinctive and somewhat inclusive classes, drawing from a common fountain of knowledge, and maintaining the integrity of their profession, by the essential identity of science in every department. Accurate and familiar acquaintance with the applied laws of the latest medical learning is required in these days, as a part of the most limited professional outfit. The merest practitioner equips himself with this resource, in the same matter-of-fact way that he buys a thermometer or a stethoscope. Without it he can scarcely take part in the present competition for wealth, influence, position, and advancement. But skill in diagnosis will always remain the important practical part of a physician's business. What is the matter with a patient must be the fundamental problem which presents itself for his consideration, and the more he lays emphasis upon methods of treatment, the greater will be his danger of an approach toward empiricism. Increase of competition may place our successors under a mighty temptation to think, as the French epigram puts it, that "there are no such things as diseases, but only patients"; and make them forget that medicine is a profession, not a trade. It is to be confidently hoped that the growing efficiency of medical education, with its broad and intelligent training, will encourage a higher standard of self-respect than is implied in such a misgiving.<sup>9</sup>

(To be continued.)

## Original Articles.

### YELLOW FEVER IN BRAZIL. FREIRE'S INOCULATION.<sup>1</sup>

BY H. M. LANE, M.D., BRAZIL.

THE etiology and pathogenesis of yellow fever, its contagiousness, geographical limits and treatment, are questions that have vexed the medical mind for two centuries, and a vast literature has grown up second in extent only to that of *malaria*, without definitely settling a single essential point.

The object of this paper is to give a few facts growing out of a long residence in Brazil, as the result of personal observation and experience, and rather of general interest than of a strictly scientific character, though most points will barely be referred to.

Concerning the birthplace of yellow fever, it has been claimed that its *home* is the West Indies, and that

<sup>1</sup> Extracts from a paper read before the Kansas State Medical Association, at its annual meeting, Atchison, May 19, 1886.

<sup>9</sup> Appendix V.