The position and prospects of rational medicine : an oration delivered before the members of the Hunterian Society, on the 15th February, 1860 / by Stephen H. Ward.

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THE POSITION AND PROSPECTS OF RATIONAL MEDICINE.

AN ORATION

DELIVERED BEFORE THE

MEMBERS OF THE HUNTERIAN SOCIETY,

On the 15th February, 1860.

BY

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MR. PRESIDENT and GENTLEMEN,

The objects of this and similar Associations are, I conceive, of high importance. They are, the promotion of the special science and art in which we have a common interest, and the diffusion of healthy sympathies, warm social feeling, and a sound ethical tone among the members of what should be eminently a liberal profession.

That the Hunterian Society has done good service in carrying out such objects, is satisfactorily demonstrated by the fact, that we to-night celebrate its forty-first anniversary festival, and by the sustained interest in its prosperity evidenced by the presence of so large a number of members and friends.

I did not hesitate to accept the invitation of your Council to act as Orator on this occasion, in the belief, that an essential condition of the success of a Society is

that each member should do his best to promote its interests. But when it became necessary to decide upon the subject of my Oration, I felt the full force of the predicament in which others had been placed before me. I felt that infinite ingenuity had been exhibited by my predecessors in selecting, and much power in dealing with different medical topics. Somewhat moodily I murmured,

"All the courts are thronged with suitors, all the markets [overflow;"

and not a little perplexed, added, "what is that which I should do?" Soon, however, the conviction forced itself upon me, that occasions such as these should be devoted, not to special subjects, for which ample provision is made at ordinary meetings, but to considerations of general professional interest; and I determined, despite a full sense of my inability to descant effectively upon such a theme, to glance at *the present position and prospects of rational medicine.* I felt that, under this head, I could notice any important medical events of the past year, could allude to occurrences more immediately affecting our Society, and give utterance to those thoughts and views which every man, who thinks at all, must have in reference to the profession he is pursuing.

Much that I shall have to adduce in relation to my subject will, I fear, want the charm of novelty, and where such charm may, to some extent, invest it, it will be at the risk of offending ancient prejudices, and disturbing cherished traditions.

Under the term *medicine,* I embrace its different

branches, and the art as well as the science; and I call that *rational* medicine which has its foundations laid in a recognition of Nature's resources in disease as well as in health, which feels that its object is science, not mystery, which, for its advancement, has recourse to philosophical appliances and methods of investigation, which acknowledges no means but such as are adequate to ends, which holds hypotheses upon uncertain tenure, ready to relinquish them as fresh compelling facts flow in, and which, eminently eclectic, avails itself of what is good in all systems, and is yet slave to none!

A consideration of the position and prospects of rational medicine resolves itself into the causes affecting such; and these may be arranged under the two heads, *philosophical* and *ethical.*

Able thinkers and workers have, of late years, been actively engaged in our own as in other departments of human knowledge, and it must be conceded by every impartial observer, that through new and improved instruments of investigation, as the stethoscope, the speculum, the microscope, and chemical agents, large results have accrued, and the scientific basis of medicine has been much enlarged and strengthened. Bearing in mind the inevitably subtle character of the phenomena of life as displayed in disease no less than in health, and the many modifying elements which must be taken into consideration before we can arrive at even a proximate solution of any medical problem, we have, I think, reason to be proud of the progress which our science has made. The very instruments, however, by which advancement

has been mainly effected, contain within themselves the elements of abuse. We are too ready, our younger and less experienced brethren especially, to exchange the old and tried for the more fascinating new lamps, to be attracted by that which is tangible, which speaks directly and speciously to the mind, and through the exercise of the special faculties of sight, hearing, and touch, conveys the present sense of power, than by the larger contemplation of complex phenomena, and the postponed conclusions it entails. A short portion of the time allotted me will not, therefore, I think, be misapplied, in reviewing what some of these new means of investigation have done, and are yet likely to do, and in what respects they appear to me to fail or be abused.

Upon the great value of the stethoscope and specula for various purposes, it will be unnecessary to dwell, nor shall I do more than allude to the abuse of a special application of the latter in the hands of unprincipled practitioners, which should rather present itself under the ethical division of my subject. I pass on to the consideration of the Microscope and Chemistry in their application to medicine.

Although not a very energetic worker at the *Microscope*, I have gladly availed myself of it in medical investigation, and some of my earliest and most pleasing associations are with it, and with the new fields of knowledge which, in the extension of our sphere of vision, it has opened up. I acknowledge the great services it has rendered, and must yet render to science. In regard to what more immediately concerns us, I

admit, of course, that before it was brought into use, the anatomy of tissues was unknown. The completion, in the hands of Malpighi, of the history of the circulation of the blood, by demonstrating that in the capillaries, is one of its triumphs. To it we owe also the law of cell-development, elaborated by Schwann and Schleiden, which embraces all organic life, and which has recently been extended to the domain of pathology, and shown to apply to much of what is called morbid action. I gladly recognize what it has effected for clinical medicine, in the diagnosis of certain skin diseases, of renal and vesical affections, of blood diseases, and, subject to qualification, of tumours. In the medico-legal enquiries connected with adulteration, in the detection of impurities in food and drugs, it has also rendered good service.

Admitting what has been effected by the microscope for our science, and fully acknowledging it to be an important instrument of investigation, I shall not be accused of any attempt to undervalue its services, or to depreciate the labours of its more ardent votaries, if I state that, in my opinion, too much time is being devoted to it by the school of young medicine. Some of the leading physicians of a generation which has now all but passed away, are said to have stood for some time in silence at the bed-side of a patient, absorbed in observation of the physiognomy of the disease before them, ere they made more particular enquiries; young enthusiasts of the rising school hurry off with samples of the evacuations, place them under the microscope, and give elaborate

descriptions of whatever may be revealed to their gaze. Such descriptions have their value as part of the scientific account of the disease, but are not of much practical moment, and frequently occupy time to the exclusion of higher considerations. Undue devotion to this particular means of enquiry, engenders, as I believe, a narrow view of disease, and a contracted habit of mind as regards treatment. The microscopical examination of materials out of the body is, no doubt, attractive, and involves careful manipulation, and expenditure of much time and patience, but does not call into play those higher faculties, the exercise of which is required for the intelligent reading of facts in connexion with life at the bed-side of the patient, and which I have too often seen to be neglected for it.

Chemistry, also, has rendered good service to our science and to the allied one of physiology. It has analysed and tabulated the solids and fluids of the body; though, of the blood, ever shifting in its composition, ever parting with old and acquiring new materials, it has given us but that kind of approximate analysis which we might have expected. In the analyses of morbid products, and for the solution of pathological phenomena, we owe it but little; but clinical medicine has to thank it for the quantitative and qualitative analysis of the urine and other fluids under disease. In special therapeutics, too, it has substituted for bulky preparations, the elegant alkaloids, which enable us to administer in compact form, some of our most powerful remedies.

I cannot, however, admit the higher pretensions which

some chemists have claimed for their science in reference to physiology, pathology, and therapeutics; the pretension of explaining the phenomena of sciences in which vitality plays the prominent part, or of predicating from the results of laboratory experiments, what should take place in the living organism. In illustration of my meaning, I will first select from the domain of physiology, the food-theory of Liebig. Plausible and apparently conclusive as it appeared, and eagerly accepted as it was, at first, by scientific men, more extended researches and practical observation have shown it to be in great degree erroneous. Chemical equations look very satisfactory upon paper, and are attractive to minds habituated to look only at one order of facts, but when applied to operations in a living body, they fail. And so, the theory that carbon, hydrogen, oxygen, and nitrogen in certain proportions are equivalent to so much plastic; and the same elements, minus the nitrogen, to so much respiratory or heat-making material, when brought to the test of experience, is found to be deficient. Advanced physiologists, and indeed chemists also, have adduced against the Liebig theory the facts, that what nourishes one man is poison to another, that nitrogenous foods alone are inadequate to the purposes of nourishment, while food containing a very large proportion of non-nitrogenous material does nourish; that the inhabitants of some warm and even tropical countries, who ought to do without it, eat as much or more heat-making food than those of temperate or colder regions; and that Liebig's arbitrary exclusion of gelatine from the list of

plastic materials is opposed to experience and extended experiments. On the Liebig theory, alcohol was regarded as simply a heat-making fluid, and the strong point on which scientific tee-totalists rested their opposition to its use was, that other fluids were equally good, if not better heat-makers. But medical and other observers, whose minds were not prepossessed by a hypothesis, had long regarded its action and relied upon it as a stimulant of the nervous and vascular systems. Chemistry now tells us, by analysis of the excreta, (and its teaching here is part of the truth,) that under its healthful use there is less waste of the tissues, especially the nervous; and from this the inference has been drawn that it is a preserver of such tissues, and, indirectly and in an economical point of view, a substitute for a given amount of food.

The views, recently propounded, of the cause of the coagulation of the blood, creditable as are the experiments in support of them, and the reasoning thereon to the author, meet with objections in the shape of instances in which the blood does not coagulate on exposure to the air; but these exceptional cases are not more fatal to the ammonia hypothesis, than to the somewhat more satisfactory one of Brücke, that the fluidity of the blood is maintained by a vital property residing in the coats of the vessels in which it circulates. In all these complex phenomena, chemical and mechanical actions are so blended with and modified by vital, that any explanation is extremely difficult. "Vital processes," says the talented author of the Physiology of Common Life, "depend on

chemical processes, but are not themselves chemical, and cannot, therefore, be explained by chemistry. There is something special in vital phenomena which necessarily transcends chemical investigation. We need not pretend to settle what vitality is, or on what the speciality of its phenomena ultimately rests, to be assured that it is something different from what goes on in laboratories, and demands other tests than those furnished by chemistry. The philosophic poet warns us

> From higher judgment seats make no appeal
> To lower;

and such appeal from higher to lower, is the appeal of Physiology to Chemistry."

What has been said of chemistry in reference to the food question, will apply to it with equal force in its relation to special therapeutics. Attempts to explain the action of drugs solely upon chemical grounds have, as might have been anticipated, failed. We have, indeed, as the author whom I have just cited has urged, but to glance at the different conditions under which a chemical and vital experiment are performed, to see the fallacy of inferring from one to the other. In the former, the clean retort or vessel, constructed of suitable material, affords complete isolation from disturbing influences; in the latter, the chemical agents are exposed, whether in the stomach, the alimentary canal, or the blood-vessels, to influences numerous and subtle. The presence of nervous force and of the vital principle materially affects our calculations, and it is impossible to separate these

and other influences, so as to arrive at what is due to chemical action alone. Hence, drugs have been constantly found to fail in diseases for which they have been prescribed, on purely chemical grounds. Thus, by way of example, lemon juice was proposed as a probable specific for acute rheumatism. The explanation of its action, the conversion of uric acid into urea, appeared very satisfactory, and to some minds conclusive. It has not, however, stood the test of general experience; although there are, I know, practitioners who still place faith in it. The nearest approach to mere chemical treatment would seem to be the plan of neutralizing the acids developed in acute rheumatism by large and repeated doses of alkalies. But these alkalies, in addition, increase elimination by the kidneys, and medical men who rely upon them, think that they act better if conjoined with medicines that have a sedative action on the heart and nervous system, such as colchicum and opium. Again, nitrate of potash, which some practitioners have administered in large doses in the disease in question, and with considerable success, has been regarded as a solvent of the fibrine which is in excess, but therapeutists had long known that it had the effect of reducing powerfully the action of the heart; and the good that it does must be due, in no trifling degree, to such action.

Chemistry is unequal to the explanation of the action of those remedies which we term *specific*. How by it alone can we expect to account for the action of mercury or iodide of potassium on the poison of syphilis, of quinine in ague, of lemon-juice and fresh vegetables in

scurvy. Yet even here, chemists put in their pretensions. Liebig finds that quina resembles in composition the taurine of the bile; taurine is presumed to be absent from the bile in ague, and quina to replace it; and thus the action of this drug is accounted for! If there were any remedies with which long experience had satisfied us, it was with those considered as specific in the cure of scurvy. Acting upon the dictates of experience in the treatment of special cases, we predict and effect a rapid restoration to health. Acting upon the said dictates, in a prophylactic point of view, we have banished the disease, once so fatal, from our navy, and have materially diminished its prevalence in our merchant service. The citric acid, or, at any rate, its combination in lemon-juice with other materials, or its analogue in fresh vegetables, was relied upon. But therapeutists, of the chemical school, overlooking the facts, that citric acid alone had been found adequate to cure, and that the food previously eaten by scorbutic patients contained potash in fair quantity, tell us that we are on the wrong tack, and that it is not the citric acid in the lemon-juice, or the analogous acid in vegetables, or the happy combination of different materials, to which the beneficial result is due, but the potash, of which, in the disease in question, there is a deficiency in the blood!

Let me do justice to the late Dr. Paris, by citing the following observations made many years ago. "And I shall protest," he says, "against the prevailing fashion of examining and deciding upon the pretensions of every

medical compound to our confidence, by a mere *mechanical* investigation of its composition, and by rejecting as fallacious every medical testimony which may appear contradictory to the results of the laboratory; there is no subject in science to which the maxim of Cicero more strictly applies than to the present case; let the ultra-chemist, therefore, cherish it in his remembrance, and profit by its application.—*Præstat naturæ voce doceri, quam ingenio suo sapere.*" He also, after relating the anecdote of Dr. William Hunter and the stomach, remarks that "every rational physician must feel, in its full force, the absurdity of expecting to account for the phenomena of life upon principles deduced from the analogies of inert matter; and we therefore find that the most intelligent physiologists of modern times have been anxious to discourage the attempt, and to deprecate its folly."

Let it not be supposed, for a moment, that I wish to detract from the large services rendered by the microscope and chemistry as instruments in medical investigation. I only desire to protest against their exerting an undue influence, and absorbing too exclusively our time. I wish to respect the study and the laboratory as important adjuncts to the chamber or the ward, not, as they are being made by some men of the rising school, the principal theatre of the medical man's researches. It should ever be remembered that in disease as in health we have to deal with that vital principle, which proclaims its presence in countless phenomena of life, but which

the keen scalpel of the anatomist, the powerful object-glass of the microscopist, the subtle test of the chemist, must ever fail to detect!

If we reflect upon the varied opinions in regard to points of science and practice which prevail among members of our profession, and the loose views or hastily-formed hypotheses of many, it cannot be matter of surprise to us that good common-sense practitioners should have arrived at the conclusion,

> "And others follies teach us not,
> Nor much their wisdom teaches;
> And most of sterling worth is what
> Our own experience preaches."

Rational medicine has, however, a higher aim than unsystematized experience, and the mere empirical laws to which it leads. It desires to adopt a *philosophical method of investigation*, and by observation and intelligent reading of facts, by their colligation, and by induction, to arrive at guiding principles of action. Still, from the complex character of vital phenomena, and the many modifying influences present in disease, such as race, sex, age, temperament, hereditary tendency, occupation, habits, phase of disease, locality, climate, not forgetting the influence of mind, upon which Dr. Cooke has so well discoursed, each of which has to be allowed for in the solution of any medical problem, it must, as a rule, be content with reasoning under reservation.

It would be at once tedious and unnecessary here to consider at any length Logic in its application to medical research; but there are one or two points connected

with observation, the numerical method, and hypotheses, upon which a few remarks may not be thought inappropriate.

Observation is, of course, at the foundation of all our reasoning. To avail anything, however, it should be cautious, patient, critical, unshackled by pre-conceived views, veracious, and at once exact and comprehensive. The contradictory experiences of medical men are due, in part to varying circumstances in cases in most respects similar, but very much, I am satisfied, to defective or incorrect observation. It is this cause which renders the experience of some practitioners of little more value than that of unfurnished individuals out of the pale of the profession; and it is to improved habits of observation, more than to any other thing, that we must look, for more reliable materials as the results of experience.

The field of observation in medicine has, no doubt, through modern means of investigation, become materially extended. But gain in one direction has, I fear, been neutralized to some extent, by loss in another. The application of the special senses of touch and hearing has brought about remarkable precision and confidence in the diagnosis of many diseases, and the microscope and chemistry have added much to our facility of detecting others; but in the observation of those larger phenomena of disease which leads to confidence in prognosis, and to the recognition of crises and periodicity, it must be admitted that we are scarcely equal to the more intelligent of our predecessors of a past generation.

Here, I think, it is necessary for us, as it were "*retrorsum vela dare, atque iterare cursus relictos.*"

The *numerical method* does not admit of the liberal application to the science and art of medicine, which some enquirers have claimed for it. It can, at best, only be useful in establishing empirical laws in regard to cases and objects perfectly similar in themselves, and subject to the most simple external circumstances. This method has unquestionably determined for us important general facts in relation to hygiéne and medicine. It is essential, however, to its successful application, that the cases or objects collected be of the same nature, and open to but one interpretation. If this condition be not fulfilled, we shall be associating under one head or name, things which have an unequal value. When, indeed, we consider the complexity of phenomena and processes and modifying influences, the plurality of causes and intermixture of effects, with which we have to deal in most subjects of medical enquiry, we shall see that it is peculiarly hazardous and unphilosophical to attach any undue importance to mere numerical association of cases only apparently similar. Could we even eliminate the various qualifying elements, and get to a series of simple facts, we should still very often be at the mercy of men whom we cannot trust in the matter of observation. I have, I confess, frequently smiled at the confidence with which Boards of Health receive returns of cases during various epidemics. During the recent prevalence of diptheria, orders, as you are aware, were issued for returns from medical men of cases in their several districts. As an example of the

value that might attach to such, I will take a somewhat extreme case, but one that you will admit is not altogether imaginary. I will instance the case of two men, practising in the same district, intersecting each other in their daily rounds in every direction, having patients in like condition of life, &c., to deal with, and therefore, observing the disease under all but complete similarity of external circumstances. One of these men returns but few cases of the disease, which, with scarcely an exception, proved fatal; the other, a very large number, nearly all of which, in his hands, had a successful issue!

"The function of *hypotheses*," as Mr. Mill remarks, "is one which must be reckoned absolutely indispensable in science. When Newton said '*hypotheses non fingo*,' he did not mean that he deprived himself of the facilities of investigation afforded by assuming in the first instance what he hoped ultimately to be able to prove. Without such assumptions science could never have attained its present state: they are necessary steps in the progress to something more certain; and nearly everything which is now theory was once hypothesis."

The conditions to be observed, however, in the use of hypotheses are, either that they rest upon a sufficient induction, or, at least, that we apply them deductively, in order to their refutation or confirmation, and that we hold them upon uncertain tenure, ready to relinquish them as fresh facts compel us so to do.

It is because hypotheses in reference to medical subjects of enquiry have not been framed and held in ac-

cordance with such conditions, that they have hitherto accomplished so little for our science or art. I am anxious not to exceed the time allotted me, or I might give examples of hypotheses which deserved the character of rational when they were framed, but which, at last, from being tenaciously clung to when facts no longer supported them, became obstacles to progress; and I might cite, from the history of epidemics, and especially of cholera, instances, but they will readily suggest themselves to your minds, of so-called hypotheses, which were nothing more than mere arbitrary conjectures.

In medicine, we shall always, as I have said, be at the disadvantage of reasoning under reservation; but this disadvantage we have in common with those who are engaged in the prosecution of other sciences, such as ethics, political economy, &c. Let not this consideration then discourage us; for our pursuit calls into play the higher faculties of our minds. Cautiously availing ourselves of the usual steps in the process of reasoning, we shall arrive at principles which will have a far higher value than those with which mere empiricism can furnish us, even though they may rest upon the somewhat sandy foundation of the balance of probabilities, not upon the firm rock of absolute law!

I have thus glanced at what philosophical appliances and the philosophical method of investigation have done for our science, and, in part also, for our art. In reference to the latter, however, larger considerations weigh upon my mind. He who was described as "the

wisest, the brightest," but, if recent evidence is to be believed, is no longer to be cited as the "meanest of mankind," I mean Lord Bacon, says of medicine, that it "is a science which hath been more professed than laboured, and yet more laboured than advanced; the labour having been, in my judgment, rather in circle than in progression. For I find much iteration, but small addition." To the science of medicine this observation has long ceased to be applicable, but as respects the art, the labour has truly ever been in a circle, the alternating links of which have been disease and drugs. From time immemorial, the professors of the healing art, with but one or two exceptions, seem to have known nothing of the course and termination of diseases, save in connexion with, and as modified by, special therapeutical agents. Nearly all their reasonings upon the action of medicines have, in consequence, been relative, based upon comparison of one method of treatment with another; they seem never to have thought of taking as the basis of their reasoning, the curative resources of Nature herself, as ascertained by study of the natural course of disease. This has been the main cause of the discrepancies and contradictions which have characterised the statements of orthodox practitioners, and of much of that uncertainty which has been the scandal and reproach of our art. From the non-recognition of nature as the "wise physician," the system of attributing cures to the remedies last given, the "*post hoc, ergo propter hoc*" line of argument has derived all its force. To the same cause is to be traced the large influence of charms,

amulets, globules, and every pretended panacea put forward by knaves or ignorant pretenders; and the belief in such follies, not only of the uneducated, but of individuals who, in other respects, have given evidence of large powers of intellect and good common sense. And lastly, out of ignorance of the restorative powers inherent in the constitution, has arisen and been maintained among practitioners of the orthodox school, that system of poly-pharmacy which has weakened their position in regard to remedies where they are undeniably beneficial, and detracted from the credit which has ever been justly their due, of having been alive to the importance in the treatment of disease of modified hygienic measures.

A conviction of the large powers of nature, and the comparatively limited powers of art in the cure of disease, is, I am satisfied, daily gaining ground. Many able and experienced practitioners have such conviction, which they express, perhaps, in an under tone to some confidential medical friend, but which they think it premature or impolitic openly to avow. "Look what a handle you give to quackery, if you admit all this," some practitioners will remark. To which my answer has been, "What a handle has already been given to it, by insisting upon the importance of drugs where they are but little if at all efficacious!" A few leading men in this country, and on the continent, have, however, within the last few years, struck boldly out from the charmed circle in which their predecessors had moved, and proclaimed that nature, all powerful to preserve us

in health, is also adequate to the cure of many of the diseases to which we are subject. The little work of Sir J. Forbes, though but a sketch, is, I think, eminently suggestive, and deserves to be received and considered with the respect due to one who has been long engaged in active practice, and has, moreover, ever been distinguished by philosophical habits of mind. He could have marked his retirement from professional life in no better way, than by leaving the record of his experience and convictions as a legacy to his younger brethren. In the work in question, he shows, in the first place, that ignorance of the natural history of disease, and of the powers of nature, has led the public to place undue confidence in art as practised by educated medical men; which confidence, when disappointed, has merged into faith in every species of charlatanry. He refers the poly-pharmacy of the orthodox practitioners to a like ignorance. Admitting the difficulty, he insists upon the necessity of obtaining a knowledge of the course of diseases as unbiassed by special therapeutical remedies. He gives some outlines of the natural course of different maladies, and insists upon the point that disease "is no new thing superadded to the living body, and constituting a special entity *in rerum naturâ*," but is either an expression of the efforts of nature to get rid, by a process of elimination, of poison which has been introduced from without, or by a process of modified nutrition, of mischief which has been developed within the body. He goes on to cite instances in which diseases of various kinds have had a satisfactory termination, where either

no special treatment at all, or treatment which every sensible man would recognize as inert, has been adopted; and he also brings prominently forward the diseases in which adequate special remedies either exert a specific influence, or are undoubtedly attended with beneficial results.

Dr. Hughes Bennett, again, although advocating a modified system of special treatment, has done good service by the induction from the domain of physiology to that of pathology, of the laws of nutrition, by showing that what is generally regarded as morbid, is but healthy action modified to suit altered circumstances; and by the deduction in reference to practice, that we must economise, not depress or exhaust the reparative powers of the system. The modern pathology of which he is the exponent, is the key to the presumed powers of nature in the cure of disease He begins by showing that a change has for some time silently, but certainly, been taking place in the treatment of disease, especially of inflammations; which change, although not yet reflected in systematic works, is everywhere clinically recognised. He proves, conclusively, as I think, that such change in treatment is not due to any alteration in the type of disease—inflammation being the same now as it always has been—but to altered views of the character of so-called morbid processes. "More recent histological research," he remarks, "by exhibiting to us that inflammation is, in truth, a disease of nutrition, governed by the same laws that determine the growth and functions of cells, as they exist in the embryo and in healthy

tissues, has united physiology and pathology into one science, and has removed our present knowledge still further from the errors of the past." He shows, as an inference from such views, "that inflammation having occurred, the great work to be accomplished is an increased growth by cell-formation, whereby the exudation is to be broken up, the pressure it exerts on the nerves and blood-vessels removed, and the whole rendered capable of being eliminated from the economy, either directly, by discharge externally, or indirectly, first, by passage into the blood; secondly, by excretion through the emunctories. To perform this work of increased growth, an augmented flow and amount of nourishing fluid is necessary." He supports his views by statistics of pneumonia treated on the old heroic plan, on a mere regiminal plan, and on a rational auxiliary system. From an analysis of the cases he adduces, it appears that the fatality of the disease is greater under bleeding than under tartar-emetic, and under both of these methods much greater than under a pure dietetic plan; the most favorable result occurring, according to his experience, under a mild auxiliary treatment. He insists upon the importance of our being no longer led by the comparatively blind guides of past ages, but of reading the book of nature for ourselves, with all the light which advanced modern knowledge is capable of throwing upon it.

Permit me here to digress for one moment, to pay a passing tribute of respect to the memory of a distinguished member of our profession, who has recently

been removed from amongst us while in the very fulness of success and reputation. It is scarcely a digression, however, to notice the late Dr. Todd in this place, because his preparatory physiological researches had led him to adopt pathological views almost identical with those just enunciated. These views he has expressed in some papers contributed to Dr. Beale's "Archives of Medicine." "Inflammation," he there says, "is a deranged nutrition. Like the normal nutrition, it involves supply and waste, and as the latter is considerable, the former will be proportionably so. The tendency in inflammation is to the more or less rapid formation of abnormal products, such as lymph and pus; and the supplies for these formations must be drawn from the blood or from the tissues, in both cases with the effect of more or less exhaustion of the vital force." With the inference which he draws from these views, that inflammation, like other vital processes, must be fed, I, to a great extent, agree; but my own experience is opposed to the hyperstimulation which characterized his practice.

As an able physician and teacher, remarkable for tact in diagnosis, for much acumen in the clinical analysis of cases, as evidenced by his published Clinical Lectures, which are master productions in their way, Dr. Todd will long be remembered. Those who differ from his views, must accord to him the merit of having observed and thought and worked out principles of action for himself; of having been, to borrow the apt expression of Goethe, "a voice, not an echo!"

Most medical men admit, that a large number of

diseases will do perfectly well without, and cannot be curtailed by, any special interference of art. Among such, we may instance the exanthemata and fevers. In all these, the poison is introduced from without, and nature sets up a process with a view of expelling it. In the poisons of contagious diseases, of certain miasmata, and in some of those generated in the blood, on the one hand, and the conservative powers inherent in the system, on the other, a follower of Zoroaster would have seen the operation of the antagonistic principles recognised in his creed;—the principle of evil introducing the elements of disease, the benign principle struggling to expel them. In such diseases little is to be done beyond studying their natural course, and carrying out indications. Yet even for such, we find a plan of special treatment constantly adopted. To take, for example, typhoid fever. We find it laid down in systematic works, that the enteric complication, and the attendant diarrhœa, require special treatment; and we find men of the modern Brunonian school advocating hyperstimulation from the very commencement of the attack. I had, I admit, been myself guided by such views in my former treatment of this malady. Having, however, had very many cases of it under my care at the *Dreadnought* Hospital, and having observed an aggravation of enteric symptoms, such as griping and tympanitis, almost invariably follow any arrest of the diarrhœa, and cerebral complication frequently induced by early over stimulation, I was led to reflect upon the subject. I soon came to the conclusion, that the disease in Peyer's

glands, and the peculiar cell-growth developed therein, with the concomitant diarrhœa, were but part, and, in the absence of much eruption, the principal part of the process of elimination set up by nature. I determined, therefore, to let cases which might come under my care run their course, uninfluenced by any special treatment whatever; to give only such an amount of stimulus as might be necessary to sustain the flagging powers of the system, and to assist nature solely by attention to modified hygienic arrangements in the way of rest, temperature, and diet. From the cases thus allowed to run a course absolutely uninfluenced by drugs, I was enabled, thanks to the careful observations made by Mr. Bedford, the resident medical officer, to get an insight into the natural history of this disease. I found that, during what I knew to be the stage of inflammation and ulceration of Peyer's glands, diarrhœa was the rule, and I quite understood that it was necessary. Towards the period of convalescence, however, when ulcerative action had ceased, and cicatrization had commenced, I found that the opposite condition was the rule. Nature kept the injured parts quiet, by calming peristaltic action; and the bowels, instead of acting several times in the twenty-four hours, were frequently not open more than once in two, three, or four days. In one case, which will be in the remembrance of Mr. Corner,* there was no evacuation for more than a fortnight; but experience taught us to let matters take their natural course, and the case did perfectly well. It must not be

* Formerly the able resident Medical Officer.

imagined, because special drugging is generally useless or injurious in such cases, that the offices of the medical man are not required. On the contrary, an intelligent reading of nature, and fulfilment of her indications as to rest, diet, and non-disturbance of intestinal action, up to an advanced period of convalescence, are necessary in order to ensure a successful issue. Moreover, the rational practitioner is not fettered by any stereotyped conclusions, and reserves to himself the exercise of judgment in the administration of drugs when they may seem to be required. Thus, in the fever in question, should the evacuations be copious and exhausting, astringents and opium may be necessary.

I cannot refrain from introducing the following pertinent remarks by my colleague, Dr. Barnes: "Some practitioners have been early taught by precept and example to believe, that fever *must* be treated by the unlimited exhibition of brandy and other stimulants. Impressed with this doctrine, they take care never to witness a case treated in any other way. They pour in brandy, and the patient recovers; he recovers because he was well treated! They pour in brandy and he dies; he dies because he could not swallow enough! Under the influence of such preconception, a rational knowledge of the power of nature is plainly excluded. How useful would it be, could such men have the good fortune to observe a dozen fever patients treated on the principle of non-interference!"

I would add my protest against undue interference in fevers or the exanthemata, either in the way of

stimulation or elimination, for nature generally admirably adapts her operations to the powers of the patient. When she is unequal to her task, the assistance of the medical practitioner will, of course, be required.

Cases of severe chronic or sub-acute dysentery have also shown me what mere hygienic measures will effect. Patients who, before they were brought into the hospital, had had from ten to twenty, or more, actions in the day, on being placed in bed, under favorable conditions as regards rest, temperature, and diet, had the frequency reduced to two, three, or none, in the same time, before any medicine had been given. The unaided powers of the system are frequently, I am satisfied, equal to the repair of the most formidable dysenteric lesions, provided the conditions just noticed be fulfilled. On the other hand, I have met with many cases of dysentery which went on uninfluenced, alike under no special treatment, as under the usual astringent remedies, but in which healthy curative action succeeded to the cautious and protracted administration of mercury. What I have said in reference to the arrest of diarrhœa in typhoid fever, will apply with equal if not more force to the indiscriminate exhibition of astringents in cases of dysentery. Fetid secretions are better removed, than pent up in the intestine. A surgeon would not consider its discharges to be the best application for an unhealthy ulcer on the leg.

Being resolved to test by my own experience the conclusions of the physicians already cited, as to the non-treatment of those inflammatory affections for which

men of the old school were wont to employ their more heroic remedies, I allowed the last seven cases of acute sthenic pneumonia, which came under my care, to run a perfectly natural course. I gave no drug whatever in any one of them, used neither leeching nor counter-irritation, but attended strictly to hygienic appliances, and they all did perfectly well! I draw no definite conclusions from so small a number of cases; I only say that, as far as they go, they lend support to the modern views of inflammation, and illustrate the curative powers of nature.*

I have already alluded to one disease, and I could cite several, in which the delicate and protracted administration of mercury has, in my experience, been very serviceable. In many cases, however, in which I should formerly have thought this drug to be indispensable, more extended experience has led me to regard its action as prejudicial. Thus, in pericarditis in all cases, and pleuritis, and peritonitis in cachectic subjects, it opposes the conservative efforts of nature, breaks down those salutary adhesions which are the best result we can hope for, and determines, in their stead, effusion of serum or pus. Iritis is a form of inflammation, in which, if in no other, it will be urged that mercury is, as it were, a specific; and most surgeons of experience would, I imagine, rely upon it for the cure of the syphilitic form of the disease. But it must

* The study of the natural course of this disease has brought out prominently the fact of salutary crises, in the shape of free elimination by skin or kidneys.

be remembered that Dr. Williams, of Boston, has treated many cases successfully without mercury.

Having thus alluded to some diseases which, as a rule, the conservative powers implanted in the system are quite adequate to remove, it is but right that I should glance at others in which the assistance of art is more or less indispensable. I have notes of ninety cases of ague, either recent or chronic. Several of these cases, after they came under my care, had purposely not been interfered with medically; but in spite of favorable hygienic conditions and removal from exciting cause, the paroxysms continued, until an effective dose of quinine, administered at the proper time, checked them.* Though less immediately palpable and rapid, the action of iodide of potassium in tertiary syphilis appears not less certain; nor is that of iron in anæmia, or of cod-liver oil in strumous affections. There can be no doubt, again, in the mind of any experienced practitioner, of the great temporary mechanical relief given by certain drugs in various forms of dropsy; nor

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* Mr. Bradford, superintendent of the Royal Military College at Sandhurst, informs me, that when in charge of the European Military Hospital at Kandy, in Ceylon, in 1856, he found cases of intermittent fever get rapidly well without quinine, provided they were removed from the exciting cause, and placed under favorable hygienic conditions. He admits, however, that the drug is an invaluable prophylactic and curative agent, when exposure to the exciting cause is inevitable. He also says, "in the treatment of the remittent fever of the West Indies, I abstained altogether from the use of calomel, and met certainly with not less success than my neighbours, who salivated all their cases, and, of course, cured all who did not die."

of the admirable palliative action of opium and other anodynes in cases innumerable, and especially in promoting the euthanasia; nor, further, that there are many cases which modified hygienic arrangements will not meet, without the rational co-operation of special medicine.

In giving this outline of my own experience and views, I shall not be accused, I trust, of indifference to, or desire to detract from, the importance of the art of medicine. Neither let it be insinuated that I have an affection for, or am lending support to, any form of quackery. No! it is those who are in the habit of favoring us with elaborate accounts of cures effected by inadequate means, and who omit from their calculations general therapeutical agents, who give most support to charlatanry. I would also, in defence of my professional brethren, protest against the notion too often entertained by the indiscriminating public, that homœopathists, hydropathists, medical botanists, nervo-biologists, and the professors of the many "sickly forms which honest nature spurns," have a monopoly of hygienic treatment! Let it not be imagined either that the disciples of these various systems would ever find it their interest to proclaim to the world the large restorative powers of nature. Whether they themselves believe in them or no, they have their ready remedies for every symptom. A short time since a medical friend of mine was called to see a boy who had fractured his arm. The arm, under the usual mechanical appliances, was doing well, and when the practitioner remarked that no medicine was needed,

the mother said, "Oh! you're a pretty doctor; why my homœopathic physician has been giving him arnica to relieve the pain, and globules to knit the bones!"

One may smile at this and similar anecdotes, but it is impossible for any man with thoughtful mind, who considers the large prevalence of quackery, and the confusion and uncertainty which prevail within our ranks, not to regard with feelings of anxiety the present position of the profession, and be convinced that it is high time for those who have the opportunity, to speak out what they honestly think. Let us, while yet we may, strengthen our position with regard to special therapeutics where it is tenable, and abandon it where it is weak and indefensible, and let us claim as our rightful domain, and associate ourselves more closely with general therapeutics, and the modified health-laws they embrace. It is a bold step, doubtless, from the old system to the more rational one, which I, in common with others, would advocate; but in laying aside the old heroic weapons, and abandoning long-cherished pretensions, the occupation of the rational medical practitioner will not be gone. Strengthened by the recognition of the plenitude of nature's resources, as proved by the study of the natural history of disease, medicine will, in his hands, make more rapid and healthier progress, and he will be sustained by the conviction that his services will be as much needed as ever in his capacity of "*naturæ minister.*" While venerating the masters of his art, and respecting what they did with the light afforded them, let him take care, lest any past or present medical prophet have

undue influence over his mind! Be it his to interpret nature with the best faculties he possesses; to seize as his rightful possession the good and the true, from whatever quarter they may come; to pluck "the soul of goodness" even out of "things evil;" and, through a judicious eclecticism to aspire to a system which, if it can never be definite, will at least be comprehensive and eminently rational!

The position and prospects of rational medicine are, of course, materially influenced by various *ethical* causes; such as the spirit in which it is prosecuted—the conduct of members of the profession towards one another—and considerations of a political and social nature.

I have not hesitated to point out what I consider to be defects or errors in the means and method of prosecuting medicine, and I shall not be deterred by any false motives from speaking out in reference to more delicate topics. It shall not be my part to lull with siren-voice into fatal security, when I consider our position to be insecure. Rather than indulge in an attack upon quackery, I would ask—Have we quite put away the evil thing from amongst ourselves? Is there, I will not say among those whom necessity almost compels to act in opposition to their better feelings, but among practitioners who are enjoying a large amount of public confidence and an accredited position in the profession, any undue grasping after, or indirect means had recourse to of obtaining practice, any attempt to make capital out of the unavoidable errors of others, or habitual exaggeration of cases and cures? Are such men actuated by a love

of science and a high philanthropy, or by the spirit that would sell the birthright for the mess of pottage? No one, however, can be more sensible than I am, that there are men in every branch of the profession who pursue it in the right spirit, and who are animated by reflections such as those to which Cerimon in the play of 'Pericles' gives utterance:—

"I held it ever,
Virtue and cunning* were endowments greater
Than nobleness and riches; careless heirs
May the two latter darken and expend;
But immortality attends the former,
Making a man a god! 'Tis known, I ever
Have studied physic, through which secret art,
By turning o'er authorities, I have
(Together with my practice) made familiar
To me and to my aid the bless'd infusions
That dwell in vegetives, in metals, stones;
And I can speak of the disturbances
That nature works, and of her cures; which gives me
A more content in course of true delight
Than to be thirsty after tottering honor,
Or tie my pleasure up in silken bags,
To please the fool and death."

Under the head of ethical causes affecting medicine, may be considered the recent legislative measure. What the ultimate result of this may be I cannot presume to say; the immediate effect has been far from satisfactory. Let us hope that the Medical Council will take a larger view than it has yet had time to do of its duties, and protect us from the otherwise depressing action of a free-trade in degrees, by insisting upon a

* Knowledge.

uniform high standard of examination. The provision, under the new measure, for a preliminary examination similar to that which the Court of Examiners of the Society of Apothecaries was the first to institute, is a movement in the right direction. May it be the aim of the Council to study the interests, not of this or that Corporation, but of the profession at large, and to associate in purpose the heterogeneous elements with which it will have to deal in the several licensing bodies. Believing that the profession must look mainly to itself and not to its ostensible heads for the maintenance of its rights and status, I hail as a good augury the establishment of various Registration Associations.

In this country none of the higher posts of honor which incite the members of other professions to intellectual effort, neither the peerage nor the legislature, are open to medical men. Those, too, of our brethren who are most competent to speak upon the many important topics connected with the maintenance of health, whether at home, or abroad in connection with our colonies and dependencies, are not, as a rule, occupying the administrative offices for which they are peculiarly fitted; and medical men are seldom sought out as the friends and advisers of those high in place, who could not but be advantaged by their counsel. Such a state of things must be regarded as unfavorable to the due position and prospects of rational medicine. "They order these things better in France," whatever we may think of our neighbours in other respects. There, medical impostors are dealt with fairly, but summarily; and the members of

our profession, in common with scientific men, are seen to occupy high stations in the State.

Under the head of ethical causes, I cannot refrain from noticing the mode by which medical men are elected to offices under Poor-law Boards and Vestries, or in private Charities. With few exceptions, the election is in the hands of men who are, for the most part, incompetent either to judge of the relative merits of candidates, or rightly to appreciate the value of the services to be rendered, and who at times exhibit indiscretion and caprice in the exercise of their all but arbitrary power. As a consequence of this system, we have that not very pleasant subject for contemplation, the course of obsequiousness through which men who aspire to such offices have to pass; and, as a result of the formidable expenses attending contested elections to offices in charitable institutions, which, in the majority of instances, bring with them no remuneration, the creation of a sort of plutocracy in the profession which is unfavorable to its higher interests. It would be difficult to devise any remedy which would not interfere with that local government upon which Englishmen pride themselves, but the merits of which do not shine forth in these respects. At all events, for the rectification of these and other matters affecting our interests we require co-operation, and some of that energy of purpose exhibited by my friend Dr. McWilliam, in regard to the rights of medical officers in the naval service.

Rational medicine builds its expectations upon no one thing so much as upon the extension of education. It

would fain see knowledge, and especially a knowledge of the natural sciences, diffused through all classes of the community,

"Free as light the clouds among."

I am quite alive to the importance of instruction in the dead languages, but I desire to see some of the time devoted to them, set apart for the study of the living forms and actions of nature, and of the laws which regulate organic life. At present there prevails all but complete ignorance of natural science, not only among the lower, but among the higher and in other respects more educated classes. Such study has never formed part of the scheme of education at our foundation schools and older universities. It is this ignorance of nature's laws, and especially of those which regulate life, which is the keystone to the fact that various forms of quackery are embraced by our statesmen, literary men, and by members of other learned professions; and that men give their judgment with ready confidence upon medical questions, who would think it the height of assurance for any unfurnished individual to pronounce upon their own avocations. Something more is needed for the removal of this ignorance than mere occasional popular lectures, the only part of which that is remembered by the many, are the attractive experiments and diagrams by which they are illustrated. I hail, therefore, as a good omen, the establishment of classes of instruction at one of our public institutions, and the creation of degrees in science at the University of London. I am also glad to see one of the older Universities following in its steps!

From having freely expressed myself in reference to the respects in which we have scarcely been true to ourselves, I can, in conclusion, dwell the more forcibly upon the large services which the members of our profession have rendered to the public, and the spirit of disinterestedness and self-sacrifice, in which, as a rule, they have prosecuted their duties. Wherever medical men have been called in the discharge of duty, whether at home, in stemming disease and pestilence, or in tracing out and striving to remove the causes of such; or abroad, in the long night of the arctic regions, or under the burning sun of the tropics, in voyages of discovery among savage tribes, or in tracking up the river to its sources through an atmosphere of death, on the battle-field, or in the beleaguered city, our medical brethren have shown fertility of resources, self-reliance, unostentatious heroism, a love of enterprise and scientific research, and philosophically as well as ethically, have proved true to the best interests of their profession.* I would further point to the triumphs achieved by medical men in every department of science, and contrast therewith the absolute blank which represents the intellectual operations in the same fields of investigation, of all denominations of charlatans. And this reflection is one of moment, for it shows what the same method of philosophical investigation which we employ in medicine, necessarily with but partial success, has been able to accomplish in more exact sciences. The archives of the

* The qualities here indicated seemed to be happily blended in the late Dr. Alexander.

various Societies devoted to science are full of the labours of our professional brethren; and a not less just than graceful recognition of the fact, has been the election of a leading member of our profession to the Presidency of the Royal Society!

Since our last anniversary meeting, the remains of the great man from whom this Society derives its name, have found a final resting-place in Westminster Abbey, amid the relics of those who have been benefactors of humanity. His body there lies buried in peace, but his name, through his scientific productions, through that great monument of his genius of which he himself so broadly and deeply laid the foundations, and yet more, through the spirit which animated him, is immortal!

I will not here dwell upon the peculiarities of John Hunter's intellect; these have been analysed by master minds. Neither will I expatiate upon his aim, although it was one of the highest that man could propose to himself—no less than the illustration and intelligent interpretation of nature through the entire scale of organic life, in order to arrive at laws which might be applied to health and disease in man. I would rather draw an ethical lesson from Hunter in his relation to this great object of his existence. I would contemplate him there in his study, before the midnight lamp, or in the silent hours of early morning, alone with his purpose! I would follow him to his suburban retreat, and watch him at home with the many forms of life by which he was surrounded; or still better, preserving from profane touch the peaches destined for the bees whose

habits he was observing. I like to think of his indifference to the guineas, save as means to the great end he had in view, and am inclined to respect, rather than otherwise, his impatience and irritability with minds not akin to his own. I like to picture him struggling to embody in words, ideas to which accumulating facts were leading him, but which as yet eluded his grasp, and but flitted, phantom-like, before his mind! And I would carry my reflections to that period of his career when he became more earnest than ever over his purpose, because promptings of diseased action within had told him that death might come ere yet his task was done! Of that self-sustaining spirit of his, ardent with the love of science for its own sake, looking on into the ever-expanding future rather than to the narrow present, we may say, as did Shakespeare, of his actuating passion:

"It was builded far from accident;
It suffers not in smiling pomp, nor falls
Under the blow of thralled discontent,
Whereto the inviting time our fashion calls.
It fears not policy, that heretic,
Which works on leases of short-numbered hours,
But, all alone, stands hugely politic!"