have all united to engender a state of feeling in the highest degree injurious to the mental condition of the community. And in investigating the moral causes of insanity, we shall discover ample evidence of its frequent origin in the vices of a spurious and hollow civilization."

We have derived much pleasure from the perusal of Dr. Robinson's treatise, which is evidently the production of a philosophic mind, and we trust it will be extensively read, believing that his views are generally sound, and knowing that his experience has been considerable. The suggestions also of Dr. Seymour and Mr. Eccles are well worthy of consideration, at a time when Parliament needs to be guided by the unprejudiced opinions of experienced men in legislating upon a very difficult subject, under the influence of a sort of panic created by exaggerated statements, and increased by the fears which have their origin in very imperfect knowledge of the subject on the part of the public.

Review VII.

1. *The Oxford Museum.* By Henry W. Acland, M.D., Regius Professor of Medicine, and John Ruskin, M.A., Honorary Student of Christchurch.—*London*, 1859.
2. *A Manual of Qualitative Chemical Analysis.* By A. Beauchamp Northcote, F.C.S., Demonstrator to the Professor of Chemistry at Oxford, late Senior Assistant in the Royal College of Chemistry, London; and Arthur H. Church, F.C.S., of Lincoln College, Oxford, late Assistant to Professor Brodie.—*London*, 1858.
3. *A Handbook of Chemical Analysis, adapted to the Unitary Notation.* Based on the Fourth Edition of Dr. H. Will's 'Anleitung zur Chemischen Analyse.' By F. T. Conington, M.A., F.C.S., Fellow of Corpus Christi College, Oxford.—*London*, 1858.
4. *A Letter to the Provost of Oriel; on a Scheme for making Oxford more Accessible to Medical Students generally.* From C. H. Pearson, M.A., Fellow of Oriel College, and late of St. George's Hospital.—*London*, 1858.
5. *A Letter to the Rector of Exeter; on Some Proposed Changes in the Residence required by the University for Degrees in Medicine.* By Gilbert W. Child, M.B., of Exeter College, Physician to the Radcliffe Infirmary.—*Oxford*, 1858.

Six years have now passed since we called attention to one out of the many reforms which were then being commenced at the Universities of Oxford and Cambridge. The school of Natural Science, which existed only in embryo, has now, in Oxford at least, attained some growth and organization. Evidence of this is appearing, not only esoterically, in the form of attendance on the professorial lectures, in the increasing number of students of the practical branches of physical science, and in the more general diffusion of appreciative respect for these pursuits among the members of the colleges; but fruit is also being borne of which the outer world can form a judgment.

We have much satisfaction in pronouncing a high estimate of the two manuals of Chemical Analysis both, wholly or in part, emanating from Oxford men, whose titles are prefixed to this article. Both of them appear to possess accuracy and fulness of detail which would do no discredit to any class of observers; while they are superior to most former works of a like character in the very points in which the advantages of Oxford training ought to be most apparent. Even the casual reader can hardly fail to be struck by a greater completeness of plan, a more accurate adjustment of subject, and a more harmonious subordination of less important parts than is usual in works of this nature. The joint authors of the larger work, by their own statement, seem implicitly to suggest this deficiency in former manuals when they "request the attention of chemists, and all those engaged in instructing pupils in Chemical Analysis, to the following features," of which we extract some of the most prominent:

"1. In the first part of the volume, at the end of each group of elements or salts, concise tables are given, which show at a glance the most striking properties of the more common substances, as well as their most characteristic reactions.

"3. In describing the salts and reactions of the various acid and basic radicals, *the same order is invariably preserved.* The monobasic salts come first, then the bibasic, and lastly the tribasic, the basic elements commencing with those most decidedly positive.

"4. If, in treating of any basic or acid radical, a salt of characteristic properties is described, *the corresponding salt of all basic or acid-radicals subsequently spoken of is invariably noticed.*

"5. The most characteristic compounds of each radical are printed in a conspicuous type."

Indeed, the subsequent arrangement of this work fully justifies the hope expressed by the authors, "That they have attained some degree of unity and simplicity, as well as of completeness, in the present treatise."

Not a little of this clearness and unity of design depends on the adoption in both works of the Unitary Notation. It is somewhat remarkable that a system proposed by Gerhardt sixteen years ago, and possessing such undoubted claims to general employment, should as yet have met with only limited acceptance in England. The chemical school of Oxford has already conferred a boon on the general body of students by setting its stamp of approbation on so manifest an advance in chemical nomenclature.

We sincerely hope these may prove to be only the first of a long series of treatises on the various sections of Experimental and Physiological Science hereafter to emanate from Oxford. For, so far from sharing the old opinion of the unfitness of the Universities as places of study for this branch of human learning, we believe them in every respect well adapted for its successful prosecution. The advantages seem to extend in a twofold manner; not only will the tone of thought and the matter of education provided at these seminaries be improved and enlarged by the addition, but all those classes of the community, whose preliminary training is in some way connected with

the Universities, and indeed many who are less closely united to them, will be furnished with new outlets of energy, and fresh means of usefulness.

One of the healthiest signs in the history of modern thought is the increasing turn towards a minute and reverent study of nature. It is in part, perhaps, a reaction from the over-great concentration and individualism which were the characteristics of the end of the last century and the beginning of the present. But, whatever be the essential cause, we cannot doubt that greater use of the observing powers, and a disposition to be more occupied by the facts of the world about us, pervades our literature, our art, our theology, and perhaps, we may add, our science; indeed, it would seem that this progress, commencing from the inner recesses of experimental investigation, had not only brought out great results for science itself, but had pervaded the tone of general thought; and that at an epoch of unexampled advance in the discovery and explanation of physical phenomena, the mind of society had, as it were, gained a tinge of this observant and watchful spirit; that where formerly it raised theory and framed system, it is now content to wait in rapt attention for the revelation of fact, for the evidence of purpose, and to labour with an earnest faithfulness to elicit germs of new truth by the closer searching of the means at its disposal.

This is the tendency of the better minds; this gave to a work like the 'Cosmos' of Humboldt its enthusiastic welcome even among classes little read in natural history. The same idea is reflected even in the lighter efforts of fancy; the paintings of the "Preraphaelite" school, the works of Ruskin and of Kingsley, abound in portraits of the common things about us, whose principal attraction is a close fidelity and a reverent admiration for the great design. We look upon the revival of physical science in the Universities as the expression of this general yearning. It is the wakening of a body of men unequalled for power and discipline of mind to the value of even the smallest work of nature about them as an object of study. They had long considered it almost beneath their dignity, as thinking, reasoning men, to use merely their eyes and outward senses in observation of the world around. This was at most the business of a few, specially gifted by caprice of organization, with tastes and faculties fitted for the pursuit. But the same age which speculates with wisdom on the real amount of physical process involved in the action of mind, which estimates the weight of brain substance consumed in thought; which can show almost to demonstration that memory is an actual mark and impression, insensible indeed to our present means of investigation, but none the less material for that reason, stamped on the molecules of the nervous centres; this same age has in part overthrown the false distinction of kind formerly drawn between matter and mind by a sort of unstated axiom. It has shown that reason is only the highest function of our material bodies, and that sight, hearing, and touch, are not far below it in dignity. This age has worthily accepted the practical corollaries of its foregone discoveries, and does not scorn to see

its highest intellects, tutored with all the preliminary and ancillary instructions so properly set forth in our school and University course, bending themselves to the watching and "questioning of nature," which can never be a mean occupation for any created being.

Dr. Acland not only points out in a most convincing manner the causes of this change in the current of University studies, but also directs attention to the fact of its being more a return to the oldest methods than strictly a new discovery. The passage is so excellent as to demand quotation:

"The great tide of human thought had set for centuries, and down even to the close of the Middle Ages, chiefly in the direction of speculative reasoning, poetry, or history. Many circumstances in the condition of our globe tended to repress the outbreak of inquiring and eager interest in external nature, which about the time of the discovery of the New World dawned upon all the educated part of mankind. It is not other than both remarkable and humiliating, that some of those who studied and taught the mental science of Aristotle, or the speculative dogmas of the schoolmen, should have wholly forgotten the successful energy which Aristotle and Galen, in the very dawn of literature, had expended in investigating the laws of organic life. It is probable, indeed, that the very condition of the Church in the Middle Ages, which led men to study the Bible less, and value their own fancies more, did, in fact, close their eyes to the astonishing revelation of the unwritten as well as of the written Word of God. Oxford, "the ancient seat of learning," was not exempt from this intellectual one-sidedness. It cultivated chiefly classic lore, and pursued the metaphysical notions of the schoolmen; even these were not always taught in the far-seeing spirit of true philosophy. It has taken some centuries from the epoch of Roger Bacon, followed here by Boyle, Harvey, Linacre, and Sydenham, besides nearly two hundred years of unbroken publication of the Royal Society's Transactions, to persuade this great English university to engraft, as a substantive part of the education of her youth, any knowledge of the great material design, of which the Supreme Master-Worker has made us a constituent part."

While we feel deeply the value of the natural and experimental sciences as an addition and superstructure to the general educational course, we cordially agree with the same writer in rejoicing that there has not been a mere substitution of the one for the other. "The addition," he says, in the work before us, "has been made; the substitution is, I hope, averted. The further my observation has extended, the more satisfied am I that no knowledge of things will supply the place of the early study of letters—*litteræ humaniores.*" Obvious as is the soundness to all of this proposition, perhaps there is not any branch of professional labour in which it is so strongly exemplified as in our own art of medicine. There is hardly one of us who will not, at some time or other, have been painfully struck by the absence of coherent and dispassionate reasoning on medical evidence exhibited by men well versed in all the facts, and well practised in all the mechanics of their study. If it be true that in former times we had occasionally to accept the reproach against University medical men, that they were deficient in the knowledge of facts, and in the manipulative skill only to be acquired by a kind of labour particularly repugnant to a cultivated mind; it is still more undeniable that we have very often to

wonder that energetic work, and earnest thought on the practice of medicine, aided by a store of all the material information needed for the task, should come, before our very eyes, to so little or so false results, when unsupported by balance and sobriety of judgment, by closeness of logic, and pertinacity in holding to the important point. These powers, unless when given exceptionally to a very few minds, seem only to be acquired by patient and persevering devotion to those studies which the consent of mankind has universally conceded to be the "exercitations" and as it were gymnastics of the reasoning powers.

"I do not doubt," says Dr. Acland on this point, "the value of any honest mental labour. Indeed, since the *material* working of the Creator has been so far displayed to our gaze, it is both dangerous and full of impiety to resist its ennobling influence, even on the ground that His *moral* work is greater. But notwithstanding this, the study of language, of history, and of the thoughts of great men which they exhibit, seems to be almost necessary (as far as learning is necessary at all) for disciplining the heart, for elevating the soul, and for preparing the way for the growth in the young of their personal spiritual life; while, on the other side, the best corrective to pedantry in scholarship, and to conceit in mental philosophy, is the study of the facts and laws exhibited by natural science."

But besides speculative improvements which result from the addition of physical science to the University course, there are some which will commend themselves to the most practical minds. High among these we are disposed to place the fact that it is converting many men who once lounged through their stated time of residence in almost idleness, into earnest workers. We allude to those young men who have some leaning towards the study of natural history. This is a large class at the Universities; many come up from the country schools with a very considerable knowledge of subjects, which only needs a few sanctifying principles to become philosophical; either they are sportsmen, or fishermen, or learned in horses, cattle and sheep; not uncommonly they have a rough knowledge of botany or entomology, of geology or agriculture. Most persons look upon boys as so alike, so deeply marked with the Latin and Greek stamp of public schools, as to have hardly any individuality. But we speak from some observation, in saying that these biases which often become the ruling passions later in life, are sometimes begun very early. It is, perhaps, to be regretted that the cramped and Procrustean nature of the ordinary routine destroys many of these proclivities before they have had time to ripen into pursuits. All members of this class are alike characterized by a habit of acute observation, and by senses more than ordinarily keen; and to them the schools of natural science open a wide field of occupation. By those who have energy there is much distinction to be gained, and the opportunity of serving the cause of science; and those who, from lack of purpose or of ability, do not attain any eminence, will at least be made more happy and more useful members of society. Many of those who attended the physiological lectures at the Christchurch Museum have been young men of standing and of position in their respective districts; it is undeniable that from their studies in that direction much good has followed; some have since

given proofs evident to the world of the value of the lessons they then learned, and of the habits of observation they there acquired; and in the cases where no such proof can be given, there is strong ground for conjecture, since no one can have failed to remark what a vast accession it is to the character of a country gentleman, or a clergyman of some remote district, if his tastes rest on a basis of the study of nature. The merest sports of the former—hunting, shooting, or fishing, and, still more, the more serious business of farming, rearing live-stock, and the like, gain a double interest to himself, and probably a higher degree of success; the latter may turn his knowledge to use in a quarter where it is deeply needed—he may show himself a judicious sanitary reformer, as far removed from the charlatan theorists who, at the present time, have been unfortunately too much accepted as representatives of that science, as from the stolid obstructives who protect every time-hallowed nuisance against a day of pestilence and death.

The infusion of a certain tincture of physical science into the Universities shows signs of progress in another direction, from which we hope much. This is what may be described as the border-ground between physics and metaphysics and psychology. There is between these a large space, as yet hardly travelled over. It is true that the world has seen many futile attempts to found systems of physics on a more or less unstable basis of metaphysical speculation. But the opposite course is at once the more valuable and the less traversed. It has long been our hope to see the production of works on mental science by physiologists, and on metaphysics by physicians, for we feel sure that such labours may establish the most valuable results. Indeed, where the attempt has been made, even in a partial manner, it has not been without signal success. Sir B. Brodie's psychological inquiries are a typical instance worthy of imitation. On some of the questions involved there is deep interest of a legal and political character, such as the influence of temperament, imagination, excitement, fanaticism, or disease, on moral and criminal responsibility. Education would receive a valuable contribution in an experimental inquiry upon the physiological problems involved in school discipline. In this department there is much dangerous error abroad, much injudicious treatment sanctioned, which only need a clear exposure and temperate suggestions for their reformation. On many other points—memory, instinct, sleep, and the physical basis of mathematical conceptions—we feel assured that there is much to be yet discovered, to which the surest road lies in a well-digested course of physiological inquiry, carried some steps higher into the regions of first principles than is usually deemed the duty of less transcendental physiologists. It is not unreasonable to expect that such works may emanate from the physical students of the Universities.

Evident as are the advantages which are accruing to Oxford and Cambridge from the addition of natural science to their studies, the consequent gain of the various professions which depend more or less closely upon physics, and specially that of medicine, is even more conspicuous. The main social cause of this was clearly stated in the

former article above referred to. It was there enunciated as a fact that "the raising of the medical profession to its due rank depends mainly on the scientific education of the upper classes throughout the country." Subsequent events have only confirmed this view, and although the lapse of time has rendered some modification of the prospects then suggested very necessary, still much has been done, and more is in progress of accomplishment. It is true that the proposed reduction of collegiate expenses, and the establishment of "Affiliated Halls," has not been favourably entertained, neither have we as yet reached what was there looked forward to—"a golden age, when our attorneys, country surgeons, civil engineers, &c., should receive the benefits of the very highest form of education, conjoined with judicious discipline." But the Oxford Museum there spoken of as a vague possibility is now an existent reality. And it is a creation which for grandeur of conception and perfectness of execution is well worthy of the age and the University which have established it. We shall have to speak farther on of its artistic excellences, and of the remarkable manner in which the pliability of a Gothic style has been moulded to requirements entirely modern. Here we are most concerned with the wideness of its design and the completeness of its provisions.

"A few words," says Dr. Acland, "will explain the principles which determined the kind of accommodation. For the illustration of nature the student requires four things,—first, the work-room, where he may practically see and work for himself; secondly, the lecture-room, where he may see and be taught that which by himself he can neither see nor learn; and as an adjunct to these, a room for more private study for each; thirdly, general space for the common display of any illustrative specimens capable of preservation, so placed in relation to the rest of the building as to be convenient for reference and comparison between all the different branches; and lastly, a library, in which whatever has been done or is now doing in the science of this and other periods and countries may be conveniently ascertained.

"The centre of the edifice which is to contain the collections consists of a quadrangle. This large area will be covered by a glass roof supported on cast-iron columns. The central court is surrounded by an open arcade of two stories. This arcade furnishes ready means of communication between the several departments and their collections in the area. The roof springs from above the upper arcade, so that the arcades on both floors are open to the covered court. The arcade on the ground-floor is entered from the centre of each side of the court, and ready communication is made from it to every part of the collection.

"Round the arcade is ranged upon three sides the main block of the building. The east is wisely left unencumbered by rooms, to afford ready means for future extension. Beyond, or outside the main block, to the north, because the coolest side, are an open yard for the anatomical and zoological departments, and beyond it, dissecting rooms. On the south side are the rooms which require special arrangements for experiments or light, a yard for purposes connected with chemistry and experimental physics, and further still, out-buildings, containing workshops, furnace-rooms, weighing-rooms, and laboratories. Thus all noxious operations are removed from the principal pile, but joined with much convenience to the lecture-rooms, and communicating easily with the central court, common to all the departments.

"The laboratory for the chemical students is the large detached building seen at the south-west angle of the museum.

"On the upper floor are a large lecture-room for 600 persons, intended for occasional use, the entomological collections of Mr. Hope, and along the front, the library and reading-rooms, together 200 feet in length."

The writer then proceeds to explain that it is proposed to transfer the collection of works on medicine from the Radcliffe building to the museum, and to appropriate that fine edifice to the purposes of a reading-room for the Bodleian Library, which is urgently required.

The detail in which we have given these arrangements implies our high opinion of their merits. Indeed, it is beyond all contradiction that the museum just in process of completion presents the most perfect specimen of such a structure that modern ingenuity has devised. In actual size it is unequalled in England; and when the unity of plan and disposition of parts is considered, we may safely challenge Europe to produce its peer. It will be deemed a strong statement that the mere building of such a structure is a boon to science, and a proportionate advance in the social standing of all who are engaged in scientific professions; and yet there is perhaps warrant for the assertion. Even if we could suppose it never to be worthily used, it stands a monument to the dignity of science—an evidence of the value which one of the oldest and noblest Universities in Europe set upon its pursuit—and a tangible proof of the reality of the labours which, proceeding silently in the laboratory and dissecting-room, bring forth results to move nations, and influence the destiny of races. It is the noblest memorial of those giants among men, to whom was given in their generation a deeper insight into the hidden things of nature, the worthiest mausoleum of those whose bodily presence is gone from among us, but whose discoveries live and work only the more widely and energetically as time rolls onward.

Viewing the whole subject, more specially in relation to our own study of medicine, there is much cause for satisfaction. For the recent changes at the Universities are one evidence out of many that it is beginning, as a profession, to occupy the minds not only of the authorities, but also of that class who, on finishing their educational career, have to choose a path in life. It cannot be denied that such a tendency was to be expected, both from the increasing estimation of scientific pursuits and also from that cyclical progress which seems to be a characteristic of mind as of matter. A few years have comprised two sections of the last revolution—the first, in the overwhelming tide of students who, some fifteen years back, hastened to devote their energies to Theology, and its representative, the clerical profession; the second, dating perhaps some eight or ten years back, in the increased study of law and scientific politics, and in the crowd of men adorned with all scholastic successes, who have filled to overflowing the various Inns of Court. There remains but one of the highest professions untried, and we have little doubt that the next decennium will contribute its share to the cycle by swelling the ranks of the medical profession in a proportion far above the previous averages. Hitherto, we are bound to confess that the increase, though appreciable, is not very striking;*

* We regret that a publication like the 'Saturday Review,' which has hitherto main-

but it would probably have begun before now had not a diversion arisen; had not the moving masses been drawn out of their natural orbits by a heterogeneous attraction. This has been supplied by the sudden throwing open to competition of so much government patronage. We consider that the public offices, the army and the Indian service, are drawing away many who would, in an unchanged state of things, have chosen the medical profession. This view gains some corroboration from the fact that the engineering and other similar departments have given a value to physical knowledge, and to manipulative skill, which were formerly only represented among the highest professions by our own.

It is from considerations of this nature, and from a general sense of inexpediency, that we oppose ourselves to such plans as that proposed by Mr. Pearson, of Oriel, in the pamphlet whose title is prefixed to the present remarks. It was with some satisfaction that we heard it had been negatived by the authorities. The suggestion of any means of rendering more numerous the body of medical graduates at Oxford was so far undeniably good; but the contrivance which he advanced for attaining this end seemed open to much objection. Not only was the reduction of residence almost a confession of social inferiority in those who would present themselves, but the scheme had several other dangers, which Dr. Child well enumerates in his letter to the Rector of Exeter. Dr. Child shows that it would be difficult hereafter to exclude the other faculties of Divinity and Law from the advantages of a measure which, whatever it might appear anteriorly, must in time get to be regarded as a causeless indulgence. Or if this should not happen, a still greater danger would lie in the possibility of a separate *camaraderie* of medical students springing up, not similar in scholastic standing with their contemporaries in the other faculties, and so necessarily isolated from that equality, tempered by competition, which forms so valuable a part of college discipline. Far better than these well-meant attempts to lower the standard of University and professional education to the social level of those who are now excluded, is any method by which some may be attracted into our society, who, under existing circumstances, are inclined to look down upon it. Much will be done towards this end by the daily increasing number of rewards offered for proficiency in science, and much also by the incentives of ambition furnished in the scientific fellowships and professorial chairs; but by far the foremost is the Museum itself; for with a knowledge of the great works of nature comes to the best minds a reverence for them—a longing after a deeper insight, and in our own more special subject an awe-struck consciousness of the physical dangers among which we all thread our way; with a proportionate earnestness in ministering our part of relief and assistance to the countless forms

tained so judicious a tone on these subjects, should indulge in such unfairness as occurs in an article headed The Republic of Plato (April 30th, 1859). Making every allowance for the hard necessity of introducing a dull topic with sufficient smartness, and for the pungent odour of the rushes of the Cam which pervades the composition, it is difficult to think that the writer seriously believes his own argument; impossible to suppose him prepared to accept its logical consequences.

of disease and corruption which are allowed so mysteriously to prey upon our corporeal organization.

There remains one branch of the subject which is by no means the least important. It is represented by the letters of Mr. Ruskin, published with the Lecture of Dr. Acland. It may be generally stated, as the importance of a proper estimate of the dignity of our profession, of its close and intimate relations on the one hand with abstract science, and on the other with the refinements of art. This is a principle which lies at the foundation of all progress in our social and political standing. For it is beyond contradiction that one main reason of our present want of influence lies in the inadequate conception which many practitioners form of their duties and obligations. They view medicine too much as an art, too little as a science; perhaps also they allow themselves to regard it as a reputable means of making money, and to forget that this necessary adjunct is its very lowest and most tradesmanlike side. Οὐ γὰρ βάνανσον τὴν τέχνην ἐκτησάμην is the motto we would wish all members of a liberal profession to adopt; and though we might be debarred at times from sources of immediate personal gain, there would infallibly be a large balance of advantage in the end. There is probably no indirect influence which will more tend to bring about this healthier tone of feeling than the humanizing power of art. For though the old sneer at medicine, lately repeated,* that it is atheistical and materialist in its tendencies, is far from universally true; still it has some foundation, for such a result has at times followed from it, but only, we think, when studied by minds originally blunt to delicacy and refinement, proceeding on a technical and unworthy appreciation of the objects of their pursuit. In Mr. Ruskin's view of the case, the contrast is put very strongly before us; we see the light in which the cultivated artistic mind is disposed to view the subject; and while we acquiesce fully in his facts, we can hardly fail to regret that such words should not rather owe their origin to a member of our own society. He says:

"I reverence physical science, more as the source of utmost human practical power, and the means by which the far distant races of the world, who now sit in darkness and the shadow of death, are to be reached and regenerated. At home or far away, the call is equally instant: here, for want of more extended physical science, there is plague in our streets, famine in our fields; the pest strikes root and fruit over a hemisphere of the earth, we know not why; the voices of our children fade away into silence of venomous death, we know not why; the population of this most civilized country resists every effort to lead it into purity of habit and habitation, to give it genuineness of nourishment and wholesomeness of air, as a new interference with its liberty, and insists vociferously on its right to helpless death. All this is terrible; but it

* Nos médecins sont une classe d'hommes extrêmement éclairée, et, selon moi, la première de la France sans comparaison. Aucune autre ne sait autant, ni autant de choses certaines. Aucune n'est si bien trempée d'esprit et de caractère. Mais enfin leur rude éducation masculine d'écoles et d'hôpitaux; leur dure initiation chirurgicale, une des gloires de ce pays; toutes ces qualités ici entraînent un grave défaut. Elles aboutissent en eux à l'extinction de la fine sensibilité qui seule pourrait percevoir, qui prévoit, dévine les choses."—J. Michelet: L'Amour, p. 223.

is more terrible yet that dim, phosphorescent, frightful superstitions still hold their own over two-thirds of the inhabited globe; and that all the phenomena of nature which were intended by the Creator to enforce his eternal laws of love and judgments, and which, rightly understood, enforce them more strongly by their patient beneficence and their salutary destructiveness, than the miraculous dew on Gideon's fleece, or the restrained lightnings of Horeb; that all these legends of God's daily dealing with his creatures remain unread, or are read backwards into blind hundred-armed horror of idol cosmogony. How strange it seems that physical science should ever have been thought adverse to religion. The pride of physical science is indeed adverse, like every other pride, both to religion and to truth; but sincerity of science, so far from being hostile, is the pathmaker among the mountains for the feet of those who publish peace."

One of the most painful manifestations of the false position taken up by many members of our body, is strongly contrasted with the liberal and comprehensive spirit of the preceding quotation. We mean the sort of antagonism which, especially in country districts, springs up between the medical man and the visiting clergy. Much of this is undoubtedly due to the injudicious meddling of the latter with the special subjects of medicine, on which the wiser course were faith or silence. But as much, or more, is due to the irritable sense of annoyance, far too common among our brethren, at any influence in the sick-room, independent of their own. Such opposition, where it does exist, is the greatest misfortune for all concerned; most directly to the poorer classes, who habitually look up to the doctor and clergyman as the two great luminaries of the place, and who feel in a thousand ways the misery of a divided allegiance. It has already come in our way to show a probable source of amendment on the one side, by a greater diffusion of the general principles of natural science among educated men; and the best hope of an improvement, not less needed on our own side, seems to lie in the re-association of the poetic sentiment, if we may dare to say so, with the sterner matter of professional avocations. It is a pity that the two have ever been so divorced, and the separation is only of these later times; from the days of Hippocrates to those of the Rosicrucians, till the age of Van Helmont, or even of Sir Thomas Browne, medicine was indissolubly joined with a religious and æsthetical element; which, if it was at times degraded into superstition and pageant by vulgar minds, formed, nevertheless, its highest attraction to a superior order of intelligence. Dangerous it truly is, to trust such a guide in the reasonings and in the observation of our art; but the history of our predecessors shows that the closest logical analysis, and the most stringent accuracy in experiment, are not incompatible with a sanctifying reverence, and a fervour akin to enthusiasm for the wonderful objects of inquiry. We may call to mind the fine painting of Andreas Vesalius,* as he stands with darkened windows beside the corpse from which life has not long departed, and pauses before breaking rudely even into the ruins of the temple of life; in the eyes, turned with earnest gaze towards the crucifix, we read that

* And. Vesalius was one of the first to use post-mortem examination as a verification of diagnosis; in 1564 he was condemned for this by the Inquisition. And yet the religious element of his mind can now be traced in his works.

highest flight of man's intellect, which, while it scrutinises with critical niceness the traces of function and contrivance, can still look through these to the beauty, the innate fitness and harmony, which,* like notes of thrilling music, pervade all created things.

If, as the preceding example seems to show, the union of such different qualities in one mind is not impossible, it is surely our duty to desire and inculcate it. With this view, we decline to join in the disapprobation so strongly expressed by a few persons at the decorative element in the Oxford Museum. Ornament can only be held objectionable when it interferes with matters of more necessary import. At present such fear is not to be entertained; while we can point to solid and substantial works like the two excellent chemical manuals, of which mention has been made, issuing from the Oxford school, there is no danger of a deficiency in real earnest productive labour, equal to what the meanest and most microscopic conception of the scientific man's mission can give birth to. And we hold that all delicacies of workmanship serve a useful purpose; by entwining an element of beauty about the sternness of the facts, they endear these the more strongly to the inquirer, and, like the sculptured capitals of the museum pillars, crown the rugged representative of science with a repeated remembrance of the fair forms in which science is enshrined.†

If it be wise at all times to enlist in our service the refining power of artistic sentiment, it is most particularly desirable during the course of the educational process; for the mind of a student is especially open to these secondary influences; he is young and ardent in his new pursuit, his conceptions of its dignity and usefulness are as yet unsettled, every day is adding new facts and fresh ideas to his stores, which will hereafter more or less bear the tincture and colour of the place and time in which they were first gathered. Which of us does not now and then go back in memory to a period long passed by, on opening some old book, some dusty collection of minerals, or of withered botanical specimens, once objects of deep interest and study? All the feelings of that time have faded away and been forgotten, we seem to ourselves other men since then, and yet we are aware that throughout the whole intervening space our conception of that branch of study has been moulded on the associations with which it was then intimately blended. It is perhaps with profound intuition of a half-evolved truth that the present age is making association play so great a part in the educational method; for while we cannot as yet define the exact relation of this power to memory, their resemblance and kindred is indisputable. Much of the success of our great public schools seems due to its operation; and the Universities have always prided themselves on their power, not only of imparting knowledge, but also of moulding individual character to a greater polish and increased fitness for social life, by the force of similar agencies. Few

* ἐκ πασῶν δὲ ὀκτὼ οὐσων, μίαν ἁρμονίαν ξυμφωνεῖν. Cf. Plato, Repub. X., Mythus of Er.

† Each pillar in the great quadrangle is formed of a different rock or marble, in classified order. The surmounting capitals are carved into representations of plants, in corresponding botanical series. No absolutely conventional foliage is introduced, each specimen being worked from nature.

men long resist the combined influence of the *genius loci* so strongly embodied in the institutions and buildings themselves, the refined habits, the powerful and regulated public opinion, and the silent force of the religious element, closely bound up with the collegiate system itself.

We rejoice to see the domain of these forces extended over the students of physical science, and specially over those destined for our profession of medicine. No antidote could be found so efficacious against the vicious lessening of the moral horizon, and the disorganizing laxity of habit, besetting sins of that class, which are perhaps in part due to the nature of the educational course itself. Until recently it might be said that these advantages applied only to a limited number, from which the majority of our brethren are excluded. It is indeed true that only a small numerical proportion would be contributed by the Universities to the ranks of the medical profession, even if the wishes of the most sanguine adherents of the new *régime* were to be fulfilled. But there is another channel opened, by which the University influence is being very widely, and, as we think, judiciously, diffused, and by which no profession will profit more immediately than our own. The recently enacted statutes for the examination of those *qui non sunt de corpore Universitatis*, are already beginning to attract crowds of candidates for the certificate of proficiency in all the large towns. To no class of young men will such a testimonial be so really valuable—by none, as we hope, will it be more energetically striven after—than by those who purpose commencing their career as medical students. For, in the first place, it is fixed at a period of life which very accurately marks off a division between the general educational course and the commencement of more specific professional studies. If, by so doing, it in a measure tends to cut short that most unprofitable portion of the ordinary student's career, which is represented by the apprenticeship in a country town, preliminary to attending hospital lectures in London, it will at least have done a negative good; and will, in return, have entailed some positive advantage, by raising the standard of acquirement in the ordinary branches of liberal education. We would willingly exchange, in the great majority of cases, the scanty, imperfect, and purely empirical information of a private practitioner's surgery, for some better mental training and more intimate knowledge of the great writers of ancient and modern times, for the prominent facts of history, and the higher branches of mathematics. In the second place, these examinations may be made useful as a first winnowing—a preliminary classification of the examinees, which will tend to guide the judgment of friends and relations in determining a young man's future path in life. Medicine is the last of all occupations not absolutely mechanical on which a youth should be thrust hap-hazard, and because, as often happens, his father followed it before him. It needs more definite bias and predilection than any other for its satisfactory pursuit, and it presents more points of distaste and discouragement to an ill-matched aspirant. The mercantile man and the government *employé* can give certain hours of the day to

their business, and these over, devote their energies without scruple to other more congenial studies and amusements. Even the barrister, who is probably more called on for severe and continuous mental exertion at times than any other professional man, has usually abundant intervals to recruit his strength; and, except in the case of an overwhelming practice, can throw aside business for a while without damage to himself or his clients. But the medical man must keep himself always in readiness; no time is free from the possibility of calls on his assistance; his practical knowledge, extending as it does over one of the largest areas occupied by any science, must be ever fresh, clear, and ready at hand. Books are but an inefficient auxiliary. His whole life should be one of preparation for emergencies, his temper of mind that of a sentinel on guard. Is it not of the last importance that requirements so exceptional should, if possible, be founded on special gifts and predilections? It is our earnest hope that these newly-organized examinations, which we owe to another member of the Acland family,* may in some degree supply this test. They present, indeed, sufficient provision for examination and reward in the domain of science and natural history to enable a fair estimate to be formed of the candidate's fitness for the demands of his proposed profession. In this way much good may be done, not only by the early exclusion of the incompetent and unsuitable candidates, but also by the discovery of latent capacity, and by the means afforded for distinguishing a mere sciolistic whim and fancy for mechanical and physical amusement, so common among intelligent lads, from that steady preference and election of a certain class of subjects, which commences in faculties and bodily endowments adapted for their pursuit, is fostered by friendships and opportunities not the less powerful for being often overlooked, and terminates by developing into a temper which is almost always able to command success for its highest aspirations.

It is perhaps not unreasonable to hope that an extension of the University brotherhood, a dependence more or less intimate from the same ancient *Alma Mater*, may tend to draw closer together the bonds uniting different members of the same profession. Any means which should effect this would be an incalculable boon to our whole body; for if there be a mark of inferiority more painfully characteristic of medical men than any other, it is an utter lack of corporate feeling. "Every man for himself" is almost the motto of many practitioners, and though some may rise above this short-sighted and suicidal selfishness, hardly any attain that measure of *esprit de corps* and of unanimity which ensures esteem. The ordinary hospital connexion seems in most cases utterly insufficient for its production. There is, as a rule, little or none of that legitimate pride of clique among pupils of the same medical school which is so apparent in our best public schools or in members of the same college at either University. And its absence gives just ground for regret, for probably no security is so good against attacks from without and schisms from within. It is

* T. D. Acland, Esq., of Spreydencote.

not indeed inconsistent with much personal difference of opinion; it necessitates little or no interchange of overt acts of friendship, but it produces nevertheless a closer union, a more conciliatory tone, and a larger share of that tacit freemasonry of thought by which each individual member is a support and helper to the others.

Our earnest wish is for the establishment and increase of this good understanding among the scattered disciples of the healing art. It would more tend to raise them than any legislative enactments against quackery, or any mere examination-test, however stringent. And while we see with pleasure faint glimmerings on the horizon of a better and a brighter day, it is the bounden duty of every individual among us to gird himself up to help forward the good work which that day is bringing to light. Conspicuous as physicians are and have always been beyond all others for personal earnestness and self-devotion, there is still room for a higher conception of their social responsibilities and of their mutual inter-dependence as members of a world-wide guild and confederation. Let us aim at the attainment of our forefathers' standard, for there is none higher or more worthy, and let each accept the obligation of the oath so nobly tendered by the Father of Medicine himself.*

"To reckon him who taught me this art equally dear to me as my parents, to share my substance with him, and relieve his necessities if required, to look upon his offspring on the same footing as my own brothers, and to teach them this art if they shall wish to learn it, without fee or stipulation, and that by precept, lecture, and every other mode of instruction, I will impart a knowledge of the art to my own sons and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen which, according to my ability and judgment I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. With purity and with holiness will I pass my life and practise my art. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption. Whatever in connexion with my professional practice or not I see or hear in the life of men, which ought not to be spoken abroad, I will not divulge, reckoning that all such things should be kept secret. While I continue to keep this oath unviolated, may it be granted to me to enjoy life and the practice of the art respected by all men in all times. But should I trespass and violate this oath, may the reverse be my lot."

* Hippocrates, Ὅρκος, Sydenham Society's translation, vol. ii. p. 780.