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GROUND-WORK OF CULTURE.

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ADDRESS

DELIVERED IN

KING'S COLLEGE, LONDON

AT

THE DISTRIBUTION OF PRIZES ON OCTOBER 2 1883.

BY

HENRY W. ACLAND, F.R.S.,

REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD,

HON. PHYSICIAN TO H.R.H. THE PRINCE OF WALES,

PRESIDENT OF THE MEDICAL COUNCIL.

1883

LONDON: J. AND A. CHURCHILL

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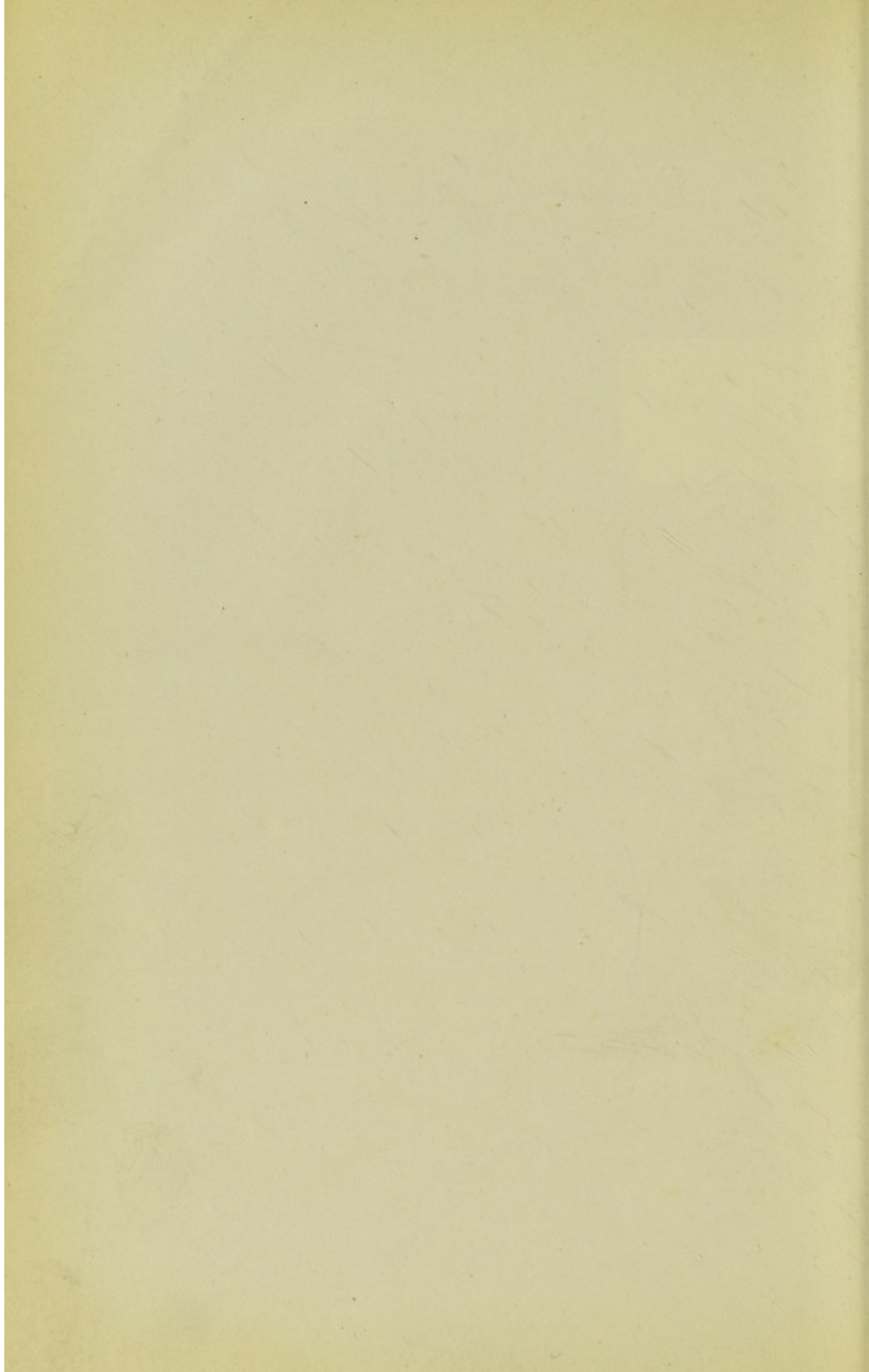


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Prof. Allen Rowson  
with the author's  
grateful regards.

Med  
K19593



*GROUND-WORK OF CULTURE.*

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## ADDRESS.

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IN the year 1847 the first Professor of Surgery in King's College, in concluding the Hunterian Oration, thus addressed a highly critical audience in the Theatre of the Royal College of Surgeons of England:—‘By the institution and protection of seminaries of learning, in which is cultivated *Science* anterior to the Sciences, as the Sciences to the especial Professions, may we best ensure the growth and increase of professions united in their attachment to all ancient institutions and in all the hereditary loves, loyalties and reverences that have ever been the precious birthright of an English gentleman—professions united with each other, and in union with the National Church . . . . .’

Joseph Henry Green never addressed an audience which he did not hold bound as by a spell. He rarely addressed one which he did not convince by his logic. His biographer, one also of the ornaments



and lights of King's College, relates that on this occasion the meeting showed signs of dissent. A feeble minority began to groan and to hiss. An overwhelming majority shouted applause, and for a moment discord seemed to be impending—when the orator, writes Mr. Simon, 'by one stately movement of head and hand silenced the whole meeting so that a pinfall could have been heard, repeated his words with an emphasis so resolute and yet so conciliative that not one murmur resented them, and then, in language which might have been Plato's, concluded his sentence and oration, "with the *National Church* . . . as the universal organ according to the Idea, for educating, harmonising, and applying all those elements of moral cultivation and intellectual progress, of which Religion prescribes the aim and sanctifies the use<sup>1</sup>."

The occasion of the distribution of prizes in a Medical School may scarce seem a fit occasion for recalling to mind this pregnant utterance, and this remarkable scene. But reflection will, I think, show the occasion to be not inapt, and of all Schools this the fittest.

The time is not come, nor can it ever come, when the distribution of prizes in a great Medical School can lose its interest for thoughtful men. There is something in the occupation of the student of Medicine

<sup>1</sup> Simon, *Life of Green*, vol. i. p. liv.

which touches every well-constituted mind with singular force. In many vocations in life a certain self-interest, aiming at success, is the mainspring. Though this success depends generally, and ought always to depend, upon the right performance of duty undertaken, whether in profession or in trade, still self-interest is and will be a chief motive.

But in the life of a Student of Medicine this is not, or at least need not be, the case. There is no corner of human nature which he may not one day or other be destined to explore. He may perchance be fitted intellectually for the study of some one of the Sciences with which Medicine is connected, and may be devoted to it. His progress, in that case, is watched with interest only in reference to the Science in question. Competent observers note how much he adds to the mere knowledge of fact or of law in the world ; and they estimate him accordingly. But in reference to the practical work of his future profession, men take measure of his whole character, as fitted by sympathy and singleness of purpose, as well as by scientific knowledge, to relieve the varied sufferings and sorrows of afflicted humanity.

What therefore is to be the true aim of those who seek to influence the medical education of the future should be made clear. Is it to fit average men exclusively or chiefly for amassing knowledge ; or is it to make them fit to relieve the sick and the

suffering by every known means of knowledge, of goodness, of unselfish practical care ?

Mr. Green, of whom personally I shall presently have more to say, told a great scientific and professional audience, that the groundwork of professional education was a high general culture with scientific discipline, and that these two should be in union with Religion.

In King's College no uncertain sound on this matter has yet been given. King's College originally laid down certain principles to guide her destiny as a great seat of education. Were her principles right ? Do they need revision ? or change ?

To these difficult questions I purpose, with much diffidence, to devote the short time at my disposal. Neither my brevity nor the limits of my insight can be the measure of the seriousness of the enquiry or of its necessity at the present hour.

Everywhere, as in the highest periodical literature, so in the less refined journals, there is a demand for secular, to the exclusion of religious, education. A protest, not less loud and strong, is made against such demand as illiberal and mistaken, and as injurious to the best interests of human society in the future. The demand and the protest are not confined to one country or one language. Wherever active thought and public life have fair play the discussion is carried on with no little warmth.

King's College was originally founded in the year 1829. It was laid down as 'essential, to maintain indissolubly the connexion between sound religion and useful learning' (I quote the words), and, 'in King's College, instruction in the doctrines and duties of Christianity as taught by the Church of England, should be for ever combined with other branches of useful education.' By an Act which received the royal assent in May of last year, 1882, it was enacted that the 'College shall continue as a body politic for the purpose of giving instruction in the various branches of Literature and Science, and the doctrines and duties of Christianity as the same are inculcated by the Church of England.'

Into the history of the circumstances which led in 1829 to the adoption of this clause, or into any statement of the precise limitation of the doctrines which may be held with integrity within the pale of the Church of England, this certainly is not the time to enter. It is only to be noted that the energetic and devoted persons who founded this College, in what it is now the fashion to describe as a narrow, if not intolerant spirit, did so fully aware of the great social movements of the period,—of Catholic Emancipation which took place in the same year, of the agitation whereby the extension of the suffrage was to be secured in 1832, and of the general tendency of the time to sweep away all so-called restrictions as

fatal to the healthy growth of scientific knowledge and of political freedom:

In the midst of this general ferment, at a notable epoch of our constitutional history, the founders laid down that the educational system 'was to comprise religious and moral instruction, classical learning, history, modern languages, mathematics, natural philosophy, medicine and surgery, chemistry, jurisprudence, &c.; to be so conducted as to provide in the most efficient manner for the two great objects of education—the communication of general knowledge, and specific preparation for particular professions.'

'General knowledge, and specific preparation for particular professions.' What is general knowledge, and what is the specific preparation for the Profession of Medicine? Is it better that this preparation should be, in modern phraseology, wholly secular and physical, or should it be, as the founders of King's College provided, a mixed training, secular and religious?

I have neither the power nor, to-day, the time to thoroughly answer this question. But it is one that has to be met, and speedily. One of Bacon's prayers was that 'human things may not prejudice such as are divine; neither that from the unlocking of the gates of sense and the kindling of a natural light anything of incredulity, or intellectual night, may arise in our

minds towards divine mysteries. But rather, that by our mind being thoroughly cleansed and purged from fancy and vanities, and yet subject and perfectly given up to divine oracles, there may be given unto Faith the things of Faith.' This conflict between the things of Faith and the things of Sight is as old as Socrates. I am glad to think it is now as sturdy as ever. It is often assumed that the old culture of the Universities and the yearning for the Spiritual Life were to be swept away as relics of the dark ages, and that 'useful knowledge' (this was the phrase) alone was the proper subject-matter for training a robust mind. But a reaction is setting in. Men begin to ask whether, after all, a great and noble life cannot be lived without endeavouring to provide that the largest mass of fact with which an educational artillerist has loaded the young instrument shall, on a given day, be discharged.

'But the old simple life has passed away,' it is said. 'It is only knowledge of things which is real in this world, though we are not quite sure what constitutes knowledge. All things cognisable are Material; behind Matter nothing is ascertained or ascertainable, though we are not quite sure yet whether Matter be, or be not. If there be aught else, then, to veil our ignorance as to what that is, we will call it *Force*. Of anything beyond in nature, of Will, human or superhuman, we know not, and therefore take no

account. We are in an age of fact and a practical age. We trust our senses, untrustworthy as they are, and that which they can verify by experiment. Of all things else, of the "things of Faith," we so doubt, that we consider most of them to be Vanity, or Falsehood, and would dismiss them as poison from the youth of the future who shall have none of them.'

Doubtless authority, if it override investigation, is of little worth. When we approach in our day a discussion as to the nature of Man, it is something to believe that we are, in the main, at one with Plato, with Aristotle, and with Galen—with Dante and Fra Angelico—with Linnæus, with Newton, Galileo, Kepler, Herschel—with Butler and Kant, in whom the precise study and lifelong contemplation of the material world and of human nature produced the conviction, that as there is a finite Human Will, so there is, though known only by analogy, an Infinite Will, an absolute, superhuman, intellectual Power—the supreme idea of all perfectness, interwoven with all Good—to be inferred, wheresoever the feeble powers of the creature can scan the manifestation of the work, as of a Creator and Preserver.

'Yes,' it is said, 'but all these men whom you quote pertained to the days of ignorance. We, the true ancients of the world, have outlived their infancy; we have seen one by one the weakness of these men of

the dawn exposed ; and we at length have the true light. The poet of Israel was deceived when he sang "He counteth the number of the stars, and calleth them all by their names." He did not perceive, as we now do, that not fewer than some 40,000,000 of suns are within the range of our scientific calculations. He did not see, as we now see, how fatal it is to the old faith that we have thus enlarged the conception of the contents of the physical universe. The few thousand stars, which, to the unassisted eye of the Arabian herdsman, seemed countless, were justly calculated to inspire him with awe. We who read the larger figure, we who see or infer so many millions, can read, in the everlasting Law which pervades Infinity, the negation of Intelligence and Will. We who can now note the chemistry of the sun, as easily as Faraday read the flame of the rushlight, we see, by this our gained power, proof of the incompetence of a superhuman Power to create, to evolve, to preserve, with intelligence and will. We disbelieve what we do not understand. Faith in probabilities and in abstract good has perished with knowledge. In the days of man's infancy alone would an afflicted Seer cry out, "Lo! these are parts of His ways; how small a portion is heard of Him!"'

But let some one reply, 'It is not so. You mistake the situation. It is not the *quantity*, but the *quality* of modern knowledge, which constitutes physical



science. It is this *quality* which has wrought so great change in the interpretation of nature.'

Well then, let us ask ourselves more closely, What is the change in *quality* of knowledge, which parts off the ancient from the modern *Idea of the Universe*, and gives the latter the right to reject the conclusions of ancient simplicity?

Now if we reject the notion that the *quantity* of acquired human knowledge is destructive of Faith in a Supreme Intelligence, and enquire into the bearing thereon of its *quality*, we have to consider what alteration in this respect of *quality* has taken place in modern times. The alteration appears to lie chiefly in two points, first in the enlarged, rapid, and often unexpected application of scientific knowledge to the practical circumstances of common life—as for example, the use of chloroform derived from Chemistry, steam and electricity from Physics, and the biological relations of lower animal and vegetable forms to Medicine and Surgery. Amongst these, one illustration must suffice—one in which, through Wheatstone and Daniel, King's College has a special interest. When Franklin and Galvani made their experiments respectively into the currents of the thundercloud and the nerve-tissue of the frog, how little could their wildest imaginings realise the tremendous forces that were to minister as slaves of the every-day life of man.

The world at large, on the other hand, which profits by the results of purely scientific research, such as is scoffed at as useless, knows little of the intellectual labours which have been gone through to accomplish such results. Here also take one instance only. In any future great war this country will probably be protected as well as attacked by gigantic ironclads, armed with huge guns, some weighing 100 tons, which will be fired by the electric spark. Fixed torpedoes, a subtler foe, exploded automatically, will under certain circumstances bring sure destruction on the invader. These tremendous instruments will be watched by delicate electrical apparatus from forts upon the shore; their very movements being attentively noted by the ear, and their condition below perhaps an angry sea, carefully noted through the telephone.

Now what observation has been here! what experiments devised by imagination succoured by science! what search after abstract truth! what induction of law! what application of mathematical method, of mechanical ingenuity, chemical science and skill, in relation to the inorganic world, to the kingdoms of life and organisation, to the arts of peace!—before this one strange power could thus be brought to bear on the protection of a nation, on the destruction of human life!

The mind becomes dazzled when it scans such results. Man seems, to the unreflecting, as if he were

the creator of forces which he is but marshalling for his own ends. Yet man himself in his specialised nature may be none the greater for all these things. Many a heart in Cæsar's legions beat as true as ours, or thrilled as deeply with tribal desperation among the resisting Britons, near two thousand years ago—perhaps at the very spot where these fiery contests may one day rage.

Will any one dare to say either that such applied science in itself raises or lowers all who personally profit by its conditions? Will he not rather admit at once that Cæsar or Alexander, Gustavus Adolphus or Napoleon, Clive, Henry Lawrence, or Havelock, or other great commanders who will wield the tremendous forces of future warfare, were what they were, or will be what they may be, despite of the scientific epoch in which they have been or may happen to be placed? that there is something outside and beyond the application of science to the arts of life, which helps him on towards his highest goal? that it is a delusion to suppose that the best faculties of man are or can be called out by his material surroundings alone, or by a knowledge of their nature? and that men feel, now as ever, a yearning for light and good which no material surroundings supply? As we dismissed the idea that the *quantity* of modern knowledge has altered the conception of the Idea of the Universe,

and of its moral government, so we may reject the thought that this *quality* of practical utility in applied science has directly wrought any such result; though it may have so done by fostering luxury, frivolity, or love of ease.

It is, then, some *other quality*, if any, in knowledge or in science that has changed men's conception of the Universe.

This may be stated briefly because it is known to all. It is the conception or hypothesis that the whole material frame of the Universe is the outcome of necessary Law, and that this Law allows no room for any Power other than is necessarily inherent in Matter.

Volumes would be needed to record either the consequences which follow from this conviction, or a tithe of the arguments which have been written for or against it. Suffice it now to remark that many are from this dogma led to accept as proved that the evidence of Design in the Universe is manifestly false—that there is no analogy between the constitution and course of Nature (so called) and Religion—that there is no evidence of the possibility that the individual human soul is guided by a Being whose highest attributes are infinite Goodness and Love—and that there is no clear boundary line between Man and the 'beasts that perish.'

As I have now said, the arguments for or against

this view of the Universe, sharply and absolutely fatal to Christianity, are so voluminous and so intricate, as to be far beyond my power or my time now to summarise. But addressing my fellow students as man to man, in the midst of the wordy strife, I may be allowed to say a few words of counsel and, I hope, of peace.

That men must accept some sort of EVOLUTION of the present order of things as true, no one ought now to doubt. We may now all believe this earth was 'without form and void'—that the land was divided from the waters—that life appeared in non-sentient and sentient forms—that original forms have both endured and have perished through ages uncounted and uncountable—that man appeared late, perhaps latest, on the planet—that our race has existed for a period far exceeding even the suspicions of philosophers fifty years ago—that man is divisible into various races—that these races have many differences in respect of tendency to modification, of resistance to external conditions, of evolution towards the highest standard of intellectual gifts, and of conviction of relations to a supreme Ruler of the Universe.

Further it has to be noted that in this century the precise investigation into the material condition of our planet, of our solar system, of the Universe, has brought fruit such as the giants of the race—

as Aristotle, Galileo, Kepler, Newton, Haller—did not and could not foresee. Yet while allowing this we are bound, notwithstanding the modern telescope, spectroscope, microscope, and analytical and synthetic chemistry, to marvel at the knowledge and sagacity as well as the prudence and reserve of our forefathers, and our indebtedness to them.

All this admitted, one is forced to say, but in no dogmatic spirit, that many of the inferences of Materialists (I use the term as one of designation, not of criticism) are the result of too narrow data and too hasty generalisation. So, in past times, the faith of Religionists throughout the world's history has been often founded on ignorance and superstition, and has been supported as well by the credulity of the masses as by the evil passions of rulers. But are these sad pages in the history either of Religion or of Science to prejudice us against the one or the other? Can we not both seek with confidence further knowledge of the Universe which the present age lays bare for us, and also strive for the development of the spiritual yearning after the pure and the true, which, nearly 1900 years ago, was kindled in man by showing him his true relation to the Supreme Good.

It is no doubt more than probable (1) that from infinitely minute matter, widely diffused, were formed incandescent masses, of which our planet is among the

least; (2) that they cooled into the condition in which, as far as we can judge, the life and sensation, whereof we are conscious in ourselves and infer in others, became as they exist now in man; (3) that successive changes occurred through myriads of years in these cooling masses before life appeared, have occurred since life appeared, and are occurring still—as witnessed the catastrophe in Java but the other day, an awful phenomenon which recalls pristine modes of local geological evolution; (4) that the evolution from inorganic to organic, and within the organic from the simpler to the higher forms, has been, upon the whole, progressive to a higher moral and intellectual type, with breaks, hindrances, cataclysms, variations, causes, of which many are unexplained, and many unknown; (5) that as yet there is no certain evidence from analogy or direct observation of the existence of similar or analogous life in worlds other than our own.

Many general considerations of a like kind might be added to these; but, these, as they are here stated, seem sufficient to suggest certain lessons for us all:—the first, that the greatly extended knowledge of the physical universe gained in the last half century is such as to require a revision of our interpretation thereof; secondly, that notwithstanding the marvellous discoveries in that time of geologists, physicists, and biologists, this knowledge is

still fragmentary and incomplete ; and thirdly, that the nature and growth of the spiritual life in man, as he has been since the revelation of Christianity, is little if at all affected by the consideration of the material steps by which the evolution of this planet, as a whole, has been carried on.

I will here add a very few words, in passing, specially for the student preparing for the medical profession.

Do not allow yourselves to be perplexed or dazzled by the controversies as to the relation between Physical Science and Religion. Of all discussions they are the most fruitless, unless we except purely metaphysical speculations. Scientific acquirement is the result of patient industry and careful self-education, not of controversy. Religion is in part the fruit of self-mastery and reverence, not of doubt and of wavering. The student of Medicine has, of all men, under conditions, the greatest opportunities, if he has received a good education before his hospital days, of forming a true judgment of the Nature of Things. There is no department of precise knowledge, whether of Physics, of Chemistry, of Biology, that is not open to him. All the fascination, that the material world can display, is his. His senses are open as many other men's are not. He sees daily in the facts before him the blessing of virtue, the evil of vice, the curses of ignorance. He notes in these at once



the bane and the antidote. To him pure research and abstract science, as Pasteur and Lister have shown him, bring the rich fruit of applied and practical remedy. The all-embracing enquiries of Hunter and of the guardians of his treasure displayed in Lincoln's Inn Fields, satisfy both his craving for the highest biological truth as to the origin and evolution of things, and his desire to know the causes and laws of disease, of decay and of death, and the mode of averting, healing, soothing the sufferings of mankind. To him all this is practical and not mere work of the closet. His is a life of observation, of action, of experiment. These are to him not abstract questions only, they have a definite beneficent end. He cannot pursue in detail every branch of a growth so widespread as is his profession, but he learns enough to take interest for life in every advance of every science related to it. Through the more recent aims and newer modes of Biological enquiry, there is in Histology and Embryology a field of fact virtually without limit. In the last century discoveries in these directions were to be reckoned by hundreds or by thousands. It is far otherwise now. For instance, the species of living and extinct organisms now known (whatever species may mean), exceed half a million. The idea of Evolution has raised questions of the origin and development of all of these, and of their affinities and differences at

every stage of their formation. The mode of investigation, as you are well aware, demands and obtains individual sections of perhaps several thousands to an inch in the same adult, nay even, it may be, in the same embryo. The number which will be so examined cannot now be estimated. Individual organs will be in many cases similarly studied. The abnormalities of each, and the relations of the abnormalities in classes and races will be alike tracked out and described both in respect of their causes and of their laws, and in regard to the modes of their prevention. The more important of them all will be described by Photography or by the Graver in one or other of over five hundred journals of different nations. The prospect is boundless in the region of Morphology alone. I have not here even hinted at the abstruser relations of advancing Physiology, or at the special directions in which it impinges on the domain of Mind on the one hand, and on the problems of inorganic science on the other, and the experiments it proposes in both. Though all these facts, advanced within these walls during the early days of Physiology in this country, by Todd, Bowman, and Beale, and on which I have so lightly touched as bearing on the evolution of our race, are allied to the daily work of the Medical Student, yet his main interest must centre in the sufferings of man and their alleviation; in the sufferings of the in-

dividual and of the race; in the prevention and alleviation of those sufferings in the individual, in rural and urban societies, in nations, in the world. From these neither Teachers nor Examiners nor his own tastes must draw him away. I could say much more, but I prefer to quote a passage from one of the greatest clinical teachers this metropolis has ever produced. This will tell you the temper in which you may best master your scientific studies and stand related to your fellow-men:—

‘Diseases are not abstractions; they are modes of acting, different from the natural and healthy modes—modes of disorganising, modes of suffering, and modes of dying; and there must be a living, moving, sentient body for all this.

‘This body must be your study, and your continual care—your active, willing, earnest care. Nothing must make you shrink from it. In its weakness and infirmities, in the dishonours of its corruption, you must still value it—still stay by it—to mark its hunger and thirst, its sleeping and waking, its heat and its cold; to hear its complaints, to register its groans.

‘And is it possible to feel an interest in all this? Ay, indeed it is; a greater, far greater, interest than ever painter or sculptor took in the form and beauties of its health.

‘Whence comes this interest? At first, perhaps, it seldom comes naturally: a mere sense of duty must

engender it; and still, for awhile, a mere sense of duty must keep it alive. Presently, the quick, curious, restless spirit of science enlivens it; and then it becomes an excitement, and then a pleasure, and then the deliberate choice of the mind.

‘When the interest of attending the sick has reached this point, there arises from it, or has already arisen, a ready discernment of diseases, and a skill in the use of remedies. And the skill may exalt the interest, and the interest may improve the skill, until, in process of time, experience forms the consummate practitioner.

‘But does the interest of attending the sick necessarily stop here? The question may seem strange. If it has led to the readiest discernment and the highest skill, and formed the consummate practitioner, why need it go further?

‘But what if humanity shall warm it? Then this interest, this excitement, this intellectual pleasure, is exalted into a principle, and invested with a moral motive, and passes into the heart. What if it be carried still further? What if religion should animate it? Why, then happy indeed is that man whose mind, whose moral nature, and whose spiritual being, are all harmoniously engaged in the daily business of his life; with whom the same act has become his own happiness, a dispensation of mercy to his fellow-creatures, and a worship of God.’

To these thoughts of Latham I would add no other words than these—that as Latham spoke and taught, so he lived and died.

It will have been noted that no attempt has now been made to give a definition as to what is to be included under the term 'Religion,' or what is the method to be pursued in a religious as distinguished from a secular education. The disputes of Christendom alone have rendered it impossible to accept Religion and Theology as synonymous terms.

Unhappily for mankind, here as elsewhere, the Human element too often overshadows the Divine. The form is sometimes made to seem of more importance than the substance. Yet the essentials of the spiritual life are simple enough. They may be, and are, hard to teach and hard to attain. They are taught chiefly by example, which implies individual attainment. They are acquired by practice, which means individual self-sacrifice. They are summed up in the weighty words, *μετάνοια, πίστις, ἀγάπη*. These gifts, we are told, are not self-originated,—having life, they are born of other life, *ὁ καρπὸς τοῦ πνεύματος* <sup>1</sup>.

Any system of education which has not seriously brought before the student some considerations concerning the spiritual life thus faintly portrayed,

<sup>1</sup> Cf. 'Natural Law in the Spiritual World,' ch. 1. H. Drummond, 1883.

has been, for him, faulty and inadequate, and is behind the Science of the day. Any scheme of the Universe 'condemns itself which leaves out of sight all that can be learnt of the character of a Heavenly Father from the study of the moral Nature of Man'.<sup>1</sup> No amount of acquirement in positive knowledge of physical science can remedy the deficiency incident to a wholly secular and materialistic education.

For reasons which I need not here relate, the Medical Council has abstained from entering upon this stormy topic in its recommendations on general education. Nor would I presume to-day to examine even in the briefest review the countless speculations which are variously designated Materialistic or Agnostic or the like. Modern literature teems with these. They are of singular diversity in respect of their force and their value. Some are the production of earnest, sober, patient seekers after truth. Some would seem to be the occasional exercises of dialecticians. Many impress the reader by their vagueness, many by their unwarranted assumptions, many by the inconclusiveness of their facts and of arguments. Some few rise to the height of pathetic and noble despair. Here and there one claims to serve as a guide to a higher earthly life, and is moved by a profound desire to lessen and to solace, if by any means, the

<sup>1</sup> Cf. 'Reign of Law,' Rev. Professor Salmon, D.D., 1873.

sorrows of mankind and the sufferings with which 'the whole creation groaneth and travaileth together until now.' Any attempt to describe these various kinds of thought would but waste your time, and bring us to no conclusion. I would therefore only take the opportunity of saying a few words of profound respect and sympathy for all efforts which, under these circumstances, have been and are made for improved secular and specialised instruction, whether literary, scientific, or technical, which are not in their aim and intention antagonistic or aggressive. The importing religion into scientific teaching is fraught with danger both to Religion and to precise knowledge. It seldom brings good to either. It exposes the teacher of Science to the risk of weakness and timidity. It disposes the half-informed Religionist to rely on broken reeds of material evidence, and not on the impregnable armour of Faith and Love. It seems to me that the day is come when each should support the other in the pursuit of his special vocation. The one should be encouraged in the fearless investigation of fact and cause and law in the material world; the other in the seeking to foster and comprehend the evolution of the spiritual life in the individual and the race. We seem to descry the dawn of a happier period. Already, God be thanked, many strong men, whether devoted by profession to the quest after physical truth or to the promotion of

pure morality and the religious life, see that the love of specialising, however necessary, has its own dangers, and that the physicist and the religionist have each more hope of looking rightly upon the deep secret of the Universe by union and sympathy than by misunderstanding and discord.

In the life of more than one of the Professors of King's College, all this has been fully set forth to the world; but in the life of one especially—Frederick Denison Maurice. He had lived in Guy's Hospital among medical students, philosophical and simple. He loved them, cared for them, understood them. To the poor and the sick he gave his powers, his life, his holiness. He studied human nature among all these. He came and did good work for years among you. For opinions deemed inconsistent with the dogmas of the Anglican Church you lost from among you the brightness of his character, contact with the profound depth of his solemn convictions, the sympathy of his loving nature. But he and Joseph Henry Green will stand out while English literature endures, as types of strong men who, having approached education from very different standpoints, came to the same conclusion.

Mr. Green, from the side of consummate knowledge of the material and spiritual organisation of man; of man as part of the animal creation; of man as the object of scientific, philosophical and æsthetic study;



of suffering man, to be cared for by the highest skill and sympathy, through the advanced surgery of his time—tells you that the groundwork of education is to be found in the elements of moral cultivation and of intellectual progress, of which Religion prescribes the aim and sanctifies the use.

Mr. Maurice scanned with historical insight the light as well as the cloudland of metaphysical enquiry, from its dawn among the Greeks and Arabians to the mazy consummation of the most modern thought-painters. He studied with wide sympathy the teaching, false or fair, of all the religions of the world. He tells the same tale, the result of a philosophic life in part spent, as I have said, in the walls of a great hospital, near the laboratory and the dissecting-room.

And lest, to some, these references to the philosophical biologist and surgeon and to the liberal divine may seem too narrow, to savour too much of the closet, too little of the world; lest you blame me for not referring to more great names from your own roll (and how many living and not living I might now name!), I will quote from the senior member of your own Council, himself a chief force in modern progress—the Prime Minister of England. To him we owe some exquisite lines, in which he, great master of modern speech, has translated into the ancient tongue of the Western Church words which express the result of his own strong keen scrutiny into the

phenomena of human life, its aspirations and hopes, in their world-wide and world-long relations :—

Scis te lassum ? scis languentem ?

Luctu contristaris ?

Audin' 'Veni veniensque

Pace perfruaris.'

\* \* \* \*

Persistentem, perluctantem

Certus est beare ?

Vates quisque, Martyr, Virgo,

Angelus testare !

You in this Institution, so steadily progressive in every department of human thought, for either sex, for all professions—you possess the heritage of these and many other great names. To you here, in this vast Metropolis, the centre of liberty, of progress, of science, the seat as of deepest suffering so too of warmest good-will to man, has been consigned by Parliament the precious national duty of maintaining the Unity of human thought, Secular, Scientific, and Spiritual, to be the method and basis of the highest education :

Secular—all the Humanities, History, and Art :

Scientific—all Organised knowledge based on observation, experiment, calculation, and induction in the Material World :

Spiritual—all that pertains to the higher nature of Man, and his relation, by faith, to Supreme Good.

And here I will end these few words on a great subject which affects all your young lives. Believe that no narrow distrust of Knowledge, no want of sympathy with the most unrestrained progress of Research, give any bias to my utterance. Believe rather that the deep conviction of a long working life is that the way to the true understanding of the Material world, to one part of which you address yourself in your Biological studies, is the way which has been trodden by great men from Aristotle to Faraday—a way in which Penetration has not cast out Reverence, and wherein human insight has seen in the surrounding gloom the mystery of Light which it counts to be Divine.

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