

An address delivered at the Birmingham Royal School of Medicine and Surgery / [Vaughan Thomas].

Contributors

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AN ADDRESS

DELIVERED AT THE

BIRMINGHAM ROYAL SCHOOL

OF

MEDICINE AND SURGERY,

AT THE THIRD ANNIVERSARY MEETING,

AUGUST 29, 1838.

BY

VAUGHAN THOMAS, B.D.

FORMERLY FELLOW AND TUTOR OF CORPUS CHRISTI COLLEGE,
OXFORD.

OXFORD,

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1838.

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Mr. President, My Lords, and Gentlemen,

A IN offering myself to your attention, I
have an introductory duty to perform. I have to
acknowledge the honour of having been invited to
address the Royal School of Medicine and Surgery,
upon the return of its Anniversary. In making
B these acknowledgments, I cannot but feel, that
there are many circumstances, some relating to
persons and some to things, some connected with
the origin and early history of your Institution,
and some with its present prosperity and reputa-
C tion, which, whilst they largely add to the honour,
add in an equal degree to the difficulty, of the office
which I have undertaken. If I were to refer to
the printed evidences of your past exertions, I
should find a variety of facts and events, all bear-
D ing witness to the intellectual labours, which have
conducted you to the distinguished position you
now hold among the recognized Schools of profes-
sional science in this country; but at the same
time proving, that the duties, which I have been
E called upon to discharge, are as arduous as they
are honourable. The virtues and talents of those
who have addressed you on former Anniversaries,

would alone be sufficient to prove the truth of my ^A observation. For when I call to mind the exhortations of that able divine and pious philosopher^a, whose “eloquent and affectionate Address” you lately rewarded “with your warmest thanks,” I cannot but feel sensible of the disadvantages under ^B which I labour upon this occasion. I find the like causes of apprehension in the luminous Discourse of the elegant scholar and learned physician^b (now no more) who preceded him the year before. I find them in the Addresses of your venerable Pre-^Csident^c, and in his able and judicious labours to promote the welfare of the Royal School. I find them even in those tributes of affectionate respect, which were recently paid to his personal and professional worth, by Trustees, Governors, Professors, ^D and Pupils, upon his attainment of his eightieth year^d. If I were to enlarge the field of my retrospect, I should discover further proofs of the difficulty as well as dignity of my office, in the general efforts of all, who, by patronage, contribution, per-^Esonal ministrations, professorial services, have re-

^a The Rev. James Thomas Law, Chancellor of the Diocese of Lichfield, addressed the Anniversary Meeting, 1835.

^b John Johnstone, Esq. M.D. Fellow of the Royal Society, and of the Royal College of Physicians, addressed the Anniversary Meeting, 1834.

^c Edward Johnstone, Esq. M.D.

^d See Report of the Royal School for 1836, pp. 11, 12.

A corded their devotion to the cause of improvement
 in Medical and Surgical education, and who, in the
 prosecution of their common purpose, have never
 lost sight of that combination of Christian princi-
 ples with scientific pursuits, which brings blessings
 B upon human knowledge, and makes Medical and
 Surgical studies acceptable to God by their spirit,
 as well as beneficial to man by their success.

If from this general survey I were to turn my
 attention to some circumstances of a peculiar nature,
 C I should find fresh reasons for doubting and dis-
 trusting my own competency to do justice to the
 great cause which has brought us together. I
 should find them in that disinterested love of ana-
 tomical and physiological science, which (about
 D ten years ago) determined an accomplished Sur-
 geon^e of this his native place to enter upon a new
 career of fame, and to endeavour to establish in
 the town of Birmingham, what was so loudly called
 for by the wants of professional life, and the in-
 E creased and increasing rigour of the metropolitan
 examinations; I mean, a School of Medicine and
 Surgery, with the necessary accompaniments of a
 Theatre of Anatomy, a Museum, full Courses of
 Lectures, and a regular attendance upon the Prac-
 F tice of a recognized Hospital. Happily for the

^e William Sands Cox, Esq. F.R.S. R.C.S.

improvement of these branches of a learned education, and happily too for the relief of human nature, suffering under those dangerous and unhealthy labours, without which, (in these great seats of commercial and manufacturing enterprise,) none of the greater operations of trade can be carried on, his philanthropic endeavours^f, forwarded as they were by so many able and zealous, professional and non-professional, coadjutors, were crowned with complete success; a success, which is now attested by the Lectures which are here delivered in every branch of Therapeutic science, by the talents and learning of the lecturers, by the attainments of the pupils, by the annual examinations of those pupils for medals, and by their compositions for those prizes, which have been from time to time proposed by the lovers and promoters of scientific literature. For, let me ask of those who are competent to make the comparison, whether there can be found in the Reports of any School of Medicine and Surgery, metropolitan or provincial, better proofs of successful study and exact enquiry, than those furnished by the printed Essays of your students? by that, for instance, of MR. JAMES WILKES, *on the great Sympathetic Nerve*, wherein the young essayist has taken an historical,

^f See the account given of the origin and progress of the Institution, by the late Dr. John Johnstone, in his Anniversary Address, Oct. 6, 1834, pp. 4, 7.

A as well as anatomical, view of the whole Ganglionic system, and most justly, as well as learnedly, maintains the title of DR. JAMES JOHNSTONE^s to the honour of having preceded others in some of those paths, which have so happily conducted later enquirers to the most important discoveries in these dark regions of profound anatomy. The like evidences of successful diligence are to be perceived in the Essay of MR. WILLIAM HAMMOND, *on Inguinal Hernia*, as also in that of MR. ALEXANDER C WRIGHT, *on the Influence of Air and Soil on Health*; and of MR. EDWARD TURNER, *on the Influence of Alcoholic Drinks, as articles of diet*. After such proofs of power in the teachers, and proficiency in the taught, it can be no matter of surprise, D although as a fact it must be gratifying to every parent of every pupil sent here for education, that no candidate from this Royal School of Birmingham has ever sought in vain for his Diploma from the College of Surgeons, nor for his Licence from the E Company of Apothecaries. The honourable distinction rests not for its truth upon current report,

^s See Mr. Wilkes's Essay, p. 43, for a reference to Johnstone, on the Ganglions of the Nerves, with Baron Haller's Letter to him. See Lobstein's and Vic d'Azyr's opinions, p. 33. The title of Dr. Johnstone's Work was, "An Essay on the Use of the Ganglions of the Nerves, by James Johnstone, M.D. Shrewsbury, 1771;" but his first work was a Paper in Phil. Trans. 1764, thirty-five years before Bichat.

nor private information—it has been proved by ^A authentic evidence—it appears upon the minutes taken before a Committee of the House of Commons—it has become a parliamentary record ^h. Such are some of the facts, and some of the considerations arising out of them, all interesting in ^B themselves, all most encouraging to the well-wishers to improvement in Medical and Surgical education, which, by adding to the fame of your School, have added to the celebrity of your Anniversary, and to the importance of the duties which belong to it, ^C and to the apprehensions of him, who has been called upon to take part in the performance of them. For how can I reflect upon all these combinations of intellectual power with moral worth, of philosophic zeal with religious principle, of pious ^D with patriotic endeavours, all working together for the accomplishment of a good and great design, and realizing, even more than was anticipated, without feeling, that the sphere of my duties has been raised, as well as enlarged, by the rise and ^E enlargement of your reputation, prospects, and purposes—that a higher level, as well as a wider

^h See p. 15, Appendix to Report on Medical Education, *Surgeons*, part 2. See p. 134, App. to Report on Medical Education, *Apothecaries*, part 3. The account of candidates admitted and rejected is there given, and though rejections have been frequent, there is not a single instance of a Birmingham pupil having been rejected.

A range, has been given to the topics of my argument—that they ought to include matters even higher than the dignity of professional studies, and in amplitude wider than the whole circle of natural science? For religious truths and duties demand attention; Divine Providence has claims upon our gratitude—it has claims upon the gratitude of all, who take an interest in the success and reputation of your establishment. And how can these claims be better satisfied, than by upholding the principles which have given stability to your School, and brought a blessing upon its instructions? principles which, operating in many ways upon many persons, have led some to bestow their time and talents as teachers; others to contribute the aids of money as subscribers; others the influence of hereditary rank and personal integrity as patrons, as well as subscribers; others assiduously to watch over the working and welfare of the Institution as managers; and so many to shew, by their presence at its Anniversary, the lively interest they feel in its growing greatness, and future fortunes. After such a representation, will it be necessary for me to denominate the principles, which have produced such good effects? Could any but CHRISTIAN principles, and a CHRISTIAN spirit, have given birth to such diversities of harmonious co-operation? Could any influence but that of Christianity have produced so

rich and various a harvest of intellectual and a moral, scientific and benevolent exertion in so many individuals, from so many classes of social and civil life, from so many ranks and orders in Church and State? It is my happiness to know, that I am addressing a CHRISTIAN SCHOOL OF MEDICINE AND B SURGERY. There was a time in the history of Therapeutic instruction, when every School of Medicine and Surgery was *Christian*, and during that period it would have been an unmeaning, or rather an invidious, application of the term, to c have bestowed it upon any School in particular. But unhappily for the present and eternal welfare of those who are sent to some of the metropolitan Schools, that time exists no longer. What was once a common denomination, has become an hono- D rary distinction. What was formerly the property of all, is now the privilege of some. But, be it title of honour, or term of distinction, or common appellative, the name of *Christian* belongs to you, and to your School. It belongs to its spirit, prin- E ciples, and objects—to the whole constitution and economy of your association; and, under these convictions, I think that I shall best fulfil the expectations of those, to whose good opinion I feel myself indebted, not only for the honour of appear- F ing before you upon this occasion, but the still higher honour of a permanent connection with your

A Institution, (as one of its Trustees,) if I take advantage of the present opportunity, not to enter into the boundless argument upon Medical and Surgical education, (although the general subject loudly calls for re-consideration, and would amply repay the labours of another Gregory¹, or Percival, or Gisborne;) but that I may examine some of those special matters belonging to the general subject, which have been recently pressed upon my attention, by the endowment of an annual Prize-Essay in your Institution.

Rev. V. Thomas appointed a Trustee, Nov. 11, 1837.

The REV. DR. SAMUEL WILSON WARNEFORD, its founder, by permanently securing these honours and rewards to successful competition, wished to direct the attention of students to the truths of Revelation, as well as the phenomena of nature, and to induce them to combine a *Scriptural* apprehension of God's wisdom, power, and goodness, with a practical knowledge of the structure and functions of the human body.

E That friend of man, and faithful servant of God,

¹ "On the duties and offices of a Physician," 1769, by Dr. John Gregory, M.D.—"Code of Ethics and Institutes adapted to Physicians and Surgeons," by Dr. Thomas Percival, M.D.—"Principles of Moral Philosophy, or an Enquiry into the Duties of Men in the higher and middle Classes of Society, resulting from their Professions," by Rev. Thomas Gisborne, 1794.

whose munificence it has been my happiness to witness, under so many different relations to the wants and woes of mankind, perceived, or thought that he perceived, but very few resting-places for sacred meditation in any of those wide fields of natural science, which the Medical and Surgical student is obliged to traverse. He well knew, that nothing could be done by legislative enactment; that nothing had been done by the Corporations, whose privilege it is to pronounce upon the qualifications of students, in order to give a Christian character to professional pursuits; nothing to connect the Creator with his creation; nothing to throw the rays of *revealed* light upon the paths and passages that lead into the recesses of nature. He was also led to apprehend, from recent publications, that there were some, who, by intermingling lessons of infidelity with anatomical and physiological instruction, were doing what they could to rob God of his glory, and man of his gratitude; moral virtue of its best support, human reason of its surest guidance, and professional attainments of their brightest honour. He was therefore the more anxious to testify to CHRISTIAN SCHOOLS of Medicine and Surgery, his sense of their services in the holy cause of religious and scientific education. In the King's College of London, he found a corporate body; and in this Royal School of Medicine and

A Surgery a voluntary association, able by intellectual strength, and willing by religious conviction, to uphold the attributes and will of God, by the testimonies of *Scripture*, as well as the deductions of philosophy; and thus by the joint evidences of revealed and natural truth, to counteract *the oppositions of falsely called science, and of every thing else* (by whatever delusive name dignified or distinguished) *which exalteth itself against the knowledge of God.* (2 Thess. ii. 4.) It is not however to be supposed, that our judicious Benefactor was so regardless of the special objects and purposes of a School of Physic, as to propose any thing that should interfere with, or militate against, professional studies, by calling off the attention of students, and directing it to profound disquisitions in positive or controversial divinity—but as DR. WARNEFORD has annexed to his grant a specification of his intentions, I will now (under the privilege of ancient friendship) take upon me the office of commentator, and (under your indulgence) will proceed (as briefly as the important matters involved in that specification will permit) to explain, or rather expand, the views of my pious and benevolent friend.

F And first, as to the subjects of the proposed Prize Essays:—They may be selected from any of the

Subjects of
the pro-
posed Prize
Essays.

divisions or subdivisions of those professional studies, A which, in the printed *Curriculum* of your Lectures, are set forth under the heads “*anatomy, general, descriptive, and pathological—and physiology.*”

Subjects from comparative anatomy admissible, if to illustrate human anatomy.

The Theses, in short, may be supplied by any of those branches of physical science, which are oc- B cupied upon the healthy or morbid condition of the human body; and if, for the fuller developement of what belongs to *human* anatomy, it should be thought advisable to take *comparative* views of structure and function, sound or sickly in the C lower grades of animal life, the range of choice may be so extended as to include all those instructive fields of *comparative* anatomy and physiology, which bear witness to the labours, or rather record the triumphs, of JOHN HUNTER and CUVIER. D

The depth of the subjects limited and restricted to the material world.

But though so great a *width* has been assigned to the compass or circuit of the subjects to be selected, a limit has been put to the *depth*, from which they are to be drawn.

The subjects must all belong to the sensible E world; they must all lie within the boundary lines of material nature. They must relate to things that are, and appear to be; to facts and phænomena. They must not be such as those which

A Boyle was wont to call *hyperphysical*, as being They must not be metaphysical. above the world of matter, and others *metaphysical*, as lying beyond it.

Without assigning other reasons for this restriction, it will be enough to say in support of its Metaphysical subjects are foreign from the studies and interests of the Pupils. propriety, that it would militate against the necessary pursuits, the present studies, the future interests of the students, to propose subjects which would have the effect of diverting their diligence from those things which they came to learn, (and An exception made in favour of the pathology of the mind. which they do learn with such distinguished success,) in order to direct it to the metaphysics of mind or matter. There is however one subject, (and one which forms a most important branch of practice,) which, if this restriction were carried to its full D extent, would be excluded even from transient notice. It is the pathology of the mind. It is the science of diseases, caused either by hereditary crasis, or by the predominance of some evil passion or appetite, which (by that eternal law which E binds together sin and suffering) often operates in such sort, sometimes on the body, sometimes on the mind, and sometimes on both, as to produce a fearful variety and succession of derangements, mental and corporeal. But how can I characterize F these maladies of the mind, and the very prevailing causes of them, better than by citing the words of

the Reverend and Worshipful Chancellor of the ^A Diocese of Lichfield^k, and saying, that they arise, in numerous instances, from “the hidden working of some master passion acting sympathetically on the nerves, and baffling the utmost skill of the anatomist and demonstrator?” These important subjects, ^B and such as these, would (if too close a construction were put upon the words of the specification) be excluded. Alive to this apprehension, I beg to submit, whether mental pathology, connected as it is with widely-spread and desolating afflictions, ^C (afflictions for the care, relief, and cure of which, my benevolent friend has administered at different times, and for the most part through my hands, no less a sum than £7,450^l,) ought not to be taken

^k See Chancellor Law’s Address, 1834, p. 10.

^l Donations by the Rev. Dr. S. W. Warneford, to the Radcliffe Lunatic Asylum, near Oxford:

1825	.	.	.	£ 200
1826	.	.	.	300
1828	.	.	.	50
1829 and 1830	.	.	.	550
1831 and 1832	.	.	.	500
			(And by a benevolent Lady)	100
1832	.	.	.	1000
1834	.	.	.	100
1836	.	.	.	100
1838	.	.	.	4000
				<hr/>
				£ 6,900

out of the foregoing restriction, but so as to leave it in full force against all general investigations in psychology.

But, whilst I am endeavouring to shew the propriety of excluding subjects which lie above or beyond the realities of tangible, visible, sensible existence, I would not have it supposed, that I thought that no knowledge of the Divine perfections, no evidences of religious truths and duties, were to be derived from the contemplation of the acts and phænomena of the human mind; on the contrary, if, from among the signatures every where impressed by the hand of the Almighty upon the works of his creation, it were permitted man to say of any, that they were superior proofs of the excellency of his wisdom, I should be disposed to place the faculties and functions of the mind before those

Miss Warneford's Donations up to

1825	.	.	.	200
1826	.	.	.	300
1828	.	.	.	50
				<hr/>
				£7,450

This Institution has been placed under the medical superintendence of Dr. J. A. Ogle, who to his exact knowledge of entomology, comparative anatomy, and clinical medicine, and his zeal and ability as a Lecturer in these branches of science, has also directed his studies to mental pathology, and his benevolent attentions to the relief and cure of the afflicted.

of the body, as natural evidences of boundless power, A
 the supreme intelligence, the ineffable goodness of
 God. I see in the mental powers, acts, and habits
 of apprehending and judging, distinguishing and
 comparing, reasoning and inferring, foreseeing, re-
 flecting and remembering, willing and resolving— B
 I see in all these things, and in their relations to
 the external world, and in their subserviencies to the
 wants of man, (especially to his wants as a social
 and moral creature, accountable for his conduct in
 this world to his fellow-men, and to his Maker in C
 the next,) abundant reasons for giving precedence
 to what the Almighty has done for us in the con-
 stitution of our intellectual and moral powers; and
 for placing, in the second place, that other class of
 wise and merciful adaptations, which the body of D
 man exhibits from the hair of his head to the sole
 of his foot; from the superficial tissue of the
 epidermis, to the innermost textures of the vital
 organs.

So also as
 to the meta-
 physics of
 matter, in
 the hands of
 Cudworth,
 Clarke,
 Dugald
 Stewart,
 &c. they
 have esta-
 blished the
 essential at-
 tributes
 against un-
 believers.

So too with respect to the metaphysics of matter E
 as well as mind, they are excluded from the circle
 of approved subjects, not because they administer
 no materials for devout contemplation, no arguments
 for the refutation of philosophic errors and impieties;
 the metaphysics of matter as well as mind, in the F
 hands of Bramhall, Locke, Stillingfleet, Cudworth,

A Clarke, (in former days,) and of Browne, Reid, Beattie, Dugald Stewart, in later times, have been found to be all sufficient to establish against all opposition, the existence, unity, personality, essential and moral attributes of the Creator, and the never-ceasing energies of his superintending, governing, and upholding Providence. But they are excluded in this, as in the former case, because they are foreign from the studies, and adverse to the interests, of those who have been confided by parental care, that they might acquire the greatest quantity of suitable knowledge in the shortest time for the able discharge of their future duties, either as practitioners in pure surgery, or generally in all branches of medical and surgical attendance.

But all metaphysics are excluded as subjects for these Prize-compositions, because adverse to the interests and studies of the Pupils.

If these limitations be not carried farther so as to exclude what have been called the optics, the hydraulics, the mechanics, the chymistry of anatomy, it is because it may happen, from time to time, that the course of an argument, or the nature of a thesis, may necessarily lead the writer to the consideration of those physical laws, which the Ruler of the world has ordained, and actuates, for the determination of the conditions, functions, changes, and effects of parts or particles belonging to the different systems constantly at work within the

The optics, hydraulics, mechanics, and chymistry of anatomy, admissible—and why.

compages of the human body. The Essayist^A would never be able to enter into any of these provinces of Divine speculation without the aid of the sciences, which are taught by your able and assiduous Professor of chymistry, mathematics, and natural philosophy^m. By the aid of these branches^B of general physics it may be demonstrated, that all these laws, though they may appear to be very far removed from the nature and character of religious truths, bear as clear and conclusive evidences to the unceasing energies of Divine Providence, as the^C facts which they produce, or the phænomena which they set before our eyes, or bring within the reach and cognizance of our senses or understanding.

Views of the external relations of the human body to the works of creation are too large and general; they would interfere with the study of minute anatomy, and call off attention from the proper subjects of study in a School of Medicine and Surgery.

The last particular which I shall submit to the judgments of the learned gentlemen here present,^D (as not coming within the purview of Dr. Warneford's specification,) is one, which, though closely connected with anatomy and physiology, is occupied upon the structure and functions of the human body, not so much *ad intus*, (that is, as they are in themselves,) as *ad extra*, that is, in a relative point of view, as connected with the general constitution of things in the external world, and with those ends or designs of the Almighty, which lie beyond the^E

^m The Rev. W. Lawson, M.A. Incumbent of Moseley; appointed January 26, 1836.

A *microcosm* of the human body. These ends and relations have been called by our great Christian physiologistⁿ, *cosmical*, as extending to and embracing the whole natural and moral world.

The cosmical relations of the structure and functions of the human body.

Theses of this sort would lead the student away from minute and patient enquiry into the details of anatomy, physiology, and pathology, for the purpose of taking broad and general views of those adaptations to external nature which are visible in the physical condition of man. I readily admit, that no views can be more philosophical, none more demonstrative of God's merciful provisions for the being and well-being of his creatures. To bring within the field of one capacious survey, the relations and affinities of all things created, and all the various correspondences and adaptations of parts to parts, provisions to provisions, purposes to purposes, is an exercise which will well repay the best efforts of pious philosophy; but still it is an exercise, which requires the *ripest* as well as the richest stores of physical and metaphysical knowledge, and belongs rather to those who have completed, than to those who are but entering upon, their physiological studies. The subject has been admirably treated in that Bridgwater discourse^o, which (with

Such views are very philosophical, and may be made very pious and profitable for instruction.

But requires rich and ripe stores of knowledge.

ⁿ The Hon. Robert Boyle.

^o See the Bridgwater Treatise, by John Kidd, Esq. F.R.S. Reg. Prof. of Medicine in the University of Oxford.

great felicity of style and arrangement, and with A abundant illustrations from the volumes of nature, and the records of ancient and modern science) has brought all these harmonious adaptations to the notice of general readers. The learned writer, by stripping his essay of the swelling robe of B philosophic language, has made it more attractive, and better adapted to the purpose it was intended to promote, which appears to have been to diffuse (in a popular way) a sound and Christian knowledge of the Divine attributes, as manifested in the C reciprocating fitnesses of the constitution and condition of the universe, to the constitution and condition of man, and conversely, of man's constitution and condition to those of the universe. The work, both as to matter and manner, is worthy D of its judicious author—of him, who, to the largest and most solid attainments as chymist, anatomist, physician, unites the Christian piety of Boyle, and Linacre's love of classical literature.

Enough has been now said to designate the E subjects, which lie beyond the boundaries of the specification; but not quite enough to characterize those which lie within them. For their shorter and clearer description, I will take advantage of the distinctions which were made by^F an eminent Sur- F

^F George James Guthrie, Esq. See evidence taken on Medical Education, part 2. *Surgeons*, pp. 35, 56.

A geon, who, in his evidence before the late Committee Anatomy, gross, minute, transcendental.
 on medical and surgical education, speaks of three
 sorts of anatomy, GROSS, MINUTE, and TRANSCEN-
 DENTAL. In adopting his terms, I ought to say,
 that I do not confine myself to the things which he
 B comprises within the meaning of each; he used
 them incidentally and without regard to philosophic
 distribution, but I borrow them for the purpose of
 classifying the several matters in anatomy, as things
 above, things below, and things fit and suitable to
 C the nature of these Essays. Of these, the first, that Gross ana- tomy— what?
 is, *gross anatomy*, may be said to be confined to the
 surface of things, and though most important as a
 branch of general education, and for the diffusion
 of an useful general knowledge of such subjects,
 D and useful too to those, who, as sculptors, would give
 to marble the energies of muscular effort, or, as
 painters, to canvass the softer semblances of facial
 or bodily expression, is worse than useless for every
 professional purpose.

E The last sort of anatomy, as the name implies, by Anatomy transcendental— what?
 soaring too loftily, or plunging too deeply, or
 expatiating too widely, soon loses sight of every
 thing visible, tangible, sensible, in the economy of
 the human body; of every thing discoverable by
 F the knife, the lens, or the chemical agent; and
 often, blindly rushing beyond the ultimate facts in

material existence, becomes involved in the depths ^A and darkness of hyperphysical speculations.

Minute anatomy—
what?

Midway between these extremes, that is, between the common footpaths of a trivial or quadrivial anatomy, and the unknown regions, to which the transcendental aspires, lies the extensive province ^B of *minute anatomy*, the same which has supplied your Professors with the ample and admirably-arranged materials of their 140 Lectures⁹.

Subjects for Dr. Warneford's Prize-Essays to be taken from minute anatomy.

In the character then of commentator upon the specialties of DR. WARNEFORD'S statement, but ^C with great deference to the exact and profound anatomists and physiologists here present, I submit it to your judgment, (regard being had to the studies of this Royal School, and to the objects of those studies as preparations, first for the metro-^Dpolitan examinations, and afterwards for professional duties,) whether the subjects of these Essays ought not to be taken out of some of those *middle* grounds, which, lying between the obvious and the unknown, the manifest and the mysterious, ^E invite and reward enquiry, by the abundance, the certainty, the usefulness, of the knowledge which may be acquired.

⁹ See printed Syllabus of the Birmingham Lectures.

A With respect to surgery, minute anatomy may Minute anatomy the special province of surgery.
 be said to form its ancient hereditary domain. It
 is this minute knowledge, which, when the pupil
 becomes a practitioner, is to direct his hand, and
 (with God's assistance) his heart too, through the
 B intricacies of hidden structure, in cases of deeply-
 seated organic lesion from accident or disease.
 It is this, which is to enlighten and determine his
 judgment under the anxieties, it may be the per-
 C plexities, of a perilous operation. This is the sort A knowledge of it conducts the surgeon's hand, and imparts moral courage in operations.
 of knowledge, which, like the pole-star to the
 mariner, is to conduct him, I do not say through
 trackless deeps, (for to a minute anatomist, no
 deeps are altogether trackless, none are without
 some *indicia*, none without some remembered or-
 D ganizations to guide manual skill, and confirm moral
 and intellectual courage,) but to conduct him
 through conflicting difficulties and surrounding
 dangers, and bring him at last to the haven of
 his rest, even to the happiness of knowing and
 E feeling that he has done well what he had warily
 undertaken, and to the still higher happiness of
 knowing that he has done an act of humanity well-
 pleasing to God; and as a professional service,
 productive it may be of present emolument, but
 F certainly of personal honour, and what is of still
 higher value, the approbation of his own con-
 science.

After the consideration of the matter of the Prize Essays, two things are to be observed as to their manner.

I should now proceed to those parts of the specification which relate to the Christian religion, were I not desirous of making two observations upon the form and style of the proposed Essays.

1. They should be written as monographs.

2. They should be written according to the nomenclature of anatomy, or technologically.

Dr. Paley and others avoid technology.

As I have said so much on their matter, I must confine myself to short general statements as to manner. Under that necessity, I would say, that these subjects in minute anatomy or minute physiology, (integral or morbid,) should be handled *monographically*, as to the general form or structure of the argument, and *technologically*, with respect to the nomenclature of anatomy. In both of these particulars, they should be made to differ from Essays exoterically written for popular use, such as Dr. Paley's Natural Theology, and other works of that sort, wherein great care has been taken to avoid the language of the dissecting room. In his work, Dr. Paley, that great master of perspicuity of style, has, by the exercise of his known power over parallel and periphrastic expressions, translated scientific into vernacular language, sometimes homely, but always happy, in order to make unknown things familiar to common understandings.

The same, or any other of the numerous books or parts of books, written for the proof of the Divine perfections, from the evidences of wise and

A merciful contrivance, discoverable in parts or in the offices of parts of the human body, might be referred to for the illustration of what is meant by the monographical construction or composition of these Essays. In treatises for popular use, it has been B the object, or more properly the necessity, of authors, to range over the wide plains of natural science, gathering as they went along facts and phenomena from any thing and every thing which presented itself, that by the accumulation of all C sorts of instances from all sorts of subjects, they might confirm their reasonings from final causes; or, if at any time they have tarried a little longer upon the anatomical or physiological evidences of design, it has still been for the purpose of taking D broad and general views of them. But such are not the views suitable to the habits or the studies of the minute anatomist. It is his to pause and ponder upon those passages in the book of nature, which a popular writer would be obliged to despatch E with a few pointed observations.

To write *monographically*, is to write profoundly, The use of
it is to write professionally. Nothing has been mono-
ever effected in any department of medical or graphs.
surgical science, either for the discovery of things
F unknown, or the exacter verification of things
known, or the better application of what was well

known, without the fixation of thought upon a single subject, resolving it into its parts, studying it in its relations, and then *synthetically*, by a well-ordered monograph, communicating the results of individual observation to the experience of others.

Nothing great was ever effected in anatomical and physiological science, but by concentration of thought and monographical argument.

The more the energies of mind and the acquirements of diligence are concentrated in this way, and the more special the purpose of that concentration, the greater has been the success of the enquiry, the more splendid the conquests of industry and talent. If it were necessary to confirm by instances the truth of my observation, I would refer to any one of the various increments which have been made from time to time in the previous amounts of anatomical, physiological, or pathological knowledge; and I would ask, whether any facts or laws have been ever discovered in the structure or functions of the body; whether any new verities have been ever established in anatomical or physiological science; whether any new methods have been ever invented in medical or surgical practice, without a previous application of the powers of thought to one thing at a time, and making it the special subject of some sort of inductive investigation, and afterwards of an orderly argument, like some of those we find under the name of *papers* in the transactions of learned so-

A cieties, or as single and separate monographs in *Le*

Clerc's Bibliotheca. And though it may be too much to expect, that such results can be obtained by the concentrated studies of any but proficient in anatomy and physiology, still it remains an unquestionable truth, that by circumscribing the range of study, the field of observation, and the course of argument, and directing them all towards a single subject, those habits of close attention, patient enquiry, and consecutive reasoning are acquired, which give firmness and fixedness to a student's knowledge; and whether he succeed or not in the scientific contest, which may have led him to this sequestration of thought from general to special subjects, he will be sure to find the future benefit of it, both in the *quantity* and the *quality* of the information he has obtained; in its serviceableness for use, as well as in its amount for distinction.

Though no new discoveries or inventions are to be expected, the method of thinking on one subject at a time, and writing monographically, are sure to be serviceable to the Essay-writers.

The concluding part of this my endeavour to do justice to the intentions of my excellent friend will be confined to a subject, which, if its place in this

The religious character of the proposed Essay.

Address had been settled by the closeness of its connection with man's present and eternal welfare, would have taken precedence of all other topics; it is the consideration of the religious, that is, the scriptural and Christian manner, in which these monographs on points of minute anatomy are to be

It ought to be scriptural and Christian.

written, with respect to those parts which refer to ^A the wisdom, power, and goodness of God, and whatever else may appertain to religious truth and duty.

Some treatises on physico-theology are very equivocally written as to matters of religion.

Socrates, Plato, Tully, confessed their ignorance of Divine things.

Natural religion did not give worthy representations of the Almighty and his attributes.

It is felt as a painful necessity to be obliged to say, that there are treatises on those evidences of design, which anatomy and physiology so abundantly supply for the demonstration of the Divine ^B perfections, which, on points of religion, are so questionably written, as to make it very doubtful whether the writers (in their religious opinions) have made any advances of importance beyond the ^C creeds of Plato, Socrates, or Tully; although those philosophers might have taught them better things; for, by their honest confessions of ignorance, by the anxious hopes they have expressed of a future revelation from heaven, and of some divine assurance ^D of a life to come, they have given an unexceptionable testimony to the fact, that natural religion, left to its own efforts, has never yet been able, not even under its highest culture and in its most anxious aspirations, to teach men to think or ^E speak of the Almighty in any manner worthy of his power and providence, or worthy of the relations which exist between the Creator and the created; I do not say worthy of the relations which exist between our Father in heaven and his children on ^F earth; I do not say worthy of the relations between

A the Redeemer and the redeemed, between the Justifier and the justified, between the Sanctifier and the sanctified; because such relations were not discoverable by human reason, and, lying far beyond the most forward anticipations of heathen philosophy, were reserved for the last and brightest revelations of the will of God.

DR. WARNEFORD then, to save his intentions from misapprehension upon so important a particular as the nature of that religion, whose spirit he wished to breathe, and whose voice he hoped to hear in these compositions, thought it due to his holy office as a Minister of our Church, and to his conscience as a doer of good upon the principles of the Gospel, and to this great and honourable Association as believers in that Gospel, to state specifically his hopes and intentions upon so momentous a concern. He says in his specification, “ the great ends I have in view, are to combine religious with scientific studies and pursuits, to make medical and surgical students good Christians, as well as able practitioners in medicine and surgery; and for the more effectual advancement of these purposes, it is my farther wish, that the compositions written for these Prizes may be of a religious as well as scientific nature; that the subject of them be taken out of any branch of anatomical, physiological, and

Dr. Warneford wished these Essays to shew the writer's faith in revelation, by the citation of Scripture testimonies.

Dr. Warneford's specifications on the subject of religion.

pathological science; that they may be handled in a practical or professional manner, and according to those evidences of facts and phænomena which anatomy, physiology, and pathology so abundantly supply; but always and especially with a view to exemplify or set forth, by instance or example, the wisdom, power, and goodness of God, AS REVEALED AND DECLARED IN HOLY WRIT.

The directions for writing on these arguments differ from those

There is in the concluding sentence, (*as revealed and declared in Holy Writ,*) an advised and purposed departure from the course^r generally pursued^c

^r Thus the Earl of Bridgwater, by Will Feb. 25, 1835, directed, that the treatises under his bequest should be on the Power, Wisdom, and Goodness of God, as manifested in the Creation; illustrating such works by all reasonable arguments. So also in the Boyle Lectures, the Hon. Robert Boyle, by Will dated July 28, 1691, directs his Sermons to be directed against Atheists, Theists, Pagans, Jews, Mahometans, and not to descend to any controversies among Christians; which shews that the arguments must be built on natural, not revealed principles, on reason, not Scripture. Mr. Thomas Fairchild, who died Oct. 10, 1729, by Will directed an annual Sermon to be preached every Whitsunday in Shoreditch Church, on the Wisdom of God in the Vegetable World. But the preachers of this Lecture have very properly availed themselves of the testimonies of Scripture. See the Sermons of Dr. Stukeley, 1760, 1763; and of Dr. Denne, 1730, 1745; and the four Discourses of the Rev. W. Jones, of Nayland, 1784, 5, 6, 7. It must be also added, that John Shute Duncan, Esq. has in his Botano-Theology shewn that his piety is Christian, by the free use of textuary evidences and

A in arguments framed upon the phænomena of the material world, for the proof of the Divine attributes, and from the instructions which have been drawn up for the regulation of these arguments, by those who have given or left money to reward the writers. In those instructions, and in the arguments built upon them, as Nature was made to supply the premises, so too was it so ordered, that there should be no other sort of guidance to religious conclusions, than that which Nature, independently of Revelation, was able to afford.

which have been given by others who have proposed subjects for Prize Essays.

Such methods may be very fit and suitable in a Boyle Lecture, or a Bridgwater Treatise, or in any of those works, which are intended to establish, by physical or metaphysical arguments, the truths of natural religion, against the atheist, the infidel, or the sceptic; although even with such objects in view, I cannot but think, that it is an imprudent condescension, if not a dangerous concession, to philosophical infidelity, for the soldier of Christ to

Arguments framed on natural principles to convince unbelievers are generally left destitute of all support from Scripture.

It is wrong to take lower ground in

illustrations. Mr. Burnett, a Scottish gentleman, by Will left £1240 for two treatises "on the evidence that there is a Being all powerful, wise, and good, by whom every thing exists; and particularly to obviate difficulties regarding the wisdom and goodness of the Deity; and this in the first place from considerations independent of a written revelation, and in the second from the revelation of the Lord Jesus." This is much more satisfactory to the Christian, as a direction for such arguments, than those which make no allusions whatever to the fact of a written revelation.

this argu-
ment, when
the best and
highest is so
close at
hand.

quit the 'vantage ground of his evidences, internal A
and external, miracle and prophecy and testimony
historical, to the fact of the Gospel revelation, and
to plunge into mathematical or metaphysical spe-
culations, upon principles prescribed by the ad-
versary. B

Some writ-
ers pretend
that it is
bad logic to
mix de-
clarations
of Scripture
with natural
arguments.

Writers of this sort too studiously avoid even an
occasional allusion to the testimonies of Scripture,
however appropriate, because they hold it to be
against the rules of good logic, in a natural argu-
ment, (directed against infidelity or atheism,) to C

Whatever
truth there
may be in
this, it is
not relevant
or applica-
ble to the
composi-
tions under
consider-
ation.

blend together the declarations of revealed truth
with rational deductions from the principles of
nature; but whatever reason there may be in
these remarks, (as to discourses levelled against
the errors and impieties of the unbeliever,) they D
do not apply to the compositions under consider-
ation: for these Essays are not to be clothed with
the apparel, nor to assume the attitude and aspect,
of controversy: they are to be written philosophi-
cally, but not polemically; they are to be written E

These Es-
says not to
be written
in a contro-
versial
manner.

to shew the progress, and promptitude, and power
of a student's knowledge in all that relates to ana-
tomy, physiology, and pathology; but without strife,

But they
must boldly
speak and
affirm the
truths of
the Gospel

without animosity: and, with respect to Religion,
it was Dr. Warneford's wish that they should be F
written in the spirit of peace and good will to

- A man; but still with a true *Bercean* readiness of mind, (Acts xvii. 2.) a Christian devotion to the written word, and with that freedom of spirit, which shews that the writer, so far from *being ashamed to confess his faith* in Revelation, is resolved with
- B Boerhaave and Haller, with Bacon, and Boyle, and Locke, and Newton, and all the great leaders of general or professional science, *to speak boldly as he ought to speak*, (Eph. vi. 20.) *to affirm constantly*, (Tit. iii. 8.) as he ought to affirm, whatever the
- C Bible declares, and by heartfelt reminiscences and citations, to interweave the declarations of Scripture with the conclusions of reason, whenever he should have occasion in his Essay to declare, maintain, uphold, the nature, attributes, or will of God.
- D It may be true, that this is not the way to produce conviction in the unbeliever; that it is not the way to *convince* gainsayers, (Tit. i. 9.) or *stop the mouths of* (Tit. i. 2.) adversaries. But these Essays were not designed for such purposes. It appeared
- E to our benefactor's experience, that controversial discussions of this sort should be left to those, whose long familiarity with the questions involved in them, had given increased power to maturity of judgment, and so enabled them powerfully, as well as prudently, to perform these necessary duties of the
- F Christian's warfare. But it has been the expressed
- with Boerhaave and Haller, Bacon, Boyle, Locke, &c.
- Dr. Warneford thought, that controversies or topics connected with natural religion should be left to men of mature years, and exact knowledge and experience.
- He wished these Essays to set forth anatomical,

physiological, pathological facts and phænomena, as instances of what Scripture reveals relating to the wisdom, power, and goodness of God.

And profitable for Christian instruction.

The laws and phænomena anatomical are not to be viewed in a state of severance from Scripture.

But are to serve for the exemplification of what is revealed and declared in the written word.

hope, the earnest wish, of Dr. Warneford, that those facts, which by close attention and exact research have been elicited from some of the recesses of our mortal frame, should not be left, as they generally are left, in anatomical and other treatises of that sort, simply as useful truths, things subsidiary to medical or surgical practice; but that they should be made *profitable for instruction* of another and a higher sort; even for the illustration of what the Almighty has been pleased to reveal upon the pages of the Old and New Testament, concerning his essential and moral, absolute and relative, attributes. These phænomena of our nature, and the laws of these phænomena, (as far as it has pleased God to place them within the reach of inductive science,) are not to be viewed in a state of severance from scriptural instruction. They are not to be looked upon and treated as so many independent evidences of contrivance and design, or as mere physical data from which we are to infer (by unassisted reason) the being and attributes of some great first cause supremely intelligent: such laws and phænomena in these Essays are to be invested with a much higher character; they are to perform a better part; they are to be adduced and applied as instances taken out of the book of nature, for the exemplification of truths recorded in Holy Writ. The things

A that appear are to be converted into notes and commentaries upon the things that are written, which in their turn are to perform the like service to the things that appear. The verities of Scripture, and the verities of Nature, in this manner, (by

B a reciprocity of elucidation,) are to give and receive light to and from each other, proving by their analogies their common origin, as proceeding from the *same Father of lights, with whom there is no variableness, neither shadow of turning.* (James i. 17.)

C It is thus that anatomy, physiology, and pathology, may be made to serve as handmaids to revealed truth; it is thus that the word of God may receive an increase of power and profitableness from the unwritten language, and silent voices of the vein

D and its valves, from the nerve, the fibre, the nutrient, the digestive juice, from every thing chymical, every thing mechanical, every thing voluntary, every thing involuntary, in form or function, rest or motion, within the economy of the human

E frame: all that is beautiful, all that is *wonderful*, all that is *fearful*, in the organizations of the body, are in these Essays to be made use of for the visible demonstration of whatever has been declared in Scripture concerning the wisdom, power,

F and goodness of God; for the brighter and fuller manifestation of his glory, by the concentrated rays of his word and works.

Nature and Scripture are to be made to reflect light reciprocally upon one another.

And especially as to what Scripture reveals concerning the divine attributes.

But not to
them alone,
but also as
to what
Scripture
declares
concerning
the body
and bodily
condition of
man.

Instances of
scriptural
declarations
as to the
human
body.

Neither are these irradiations and reflections of ^A light from the pages of Scripture upon the pages of Nature, and from those of Nature back again upon the pages of Holy Writ, to be confined to things appertaining to the Divine attributes: for are there not many sacred precepts relating to man, ^B and to the bodily form and condition of man, in this life, (and it is to this that my argument obliges me to confine my observation,) which may both throw light upon, and receive it from, the facts that are discernible in our mortal frame? Are there not ^C many passages in Holy Writ concerning life, death, youth, age, sickness, health, the endearing but mysterious relations of paternity and maternity, which as divine testimonies may be suitably cited and applied in these Essays; and which, as texts ^D of Scripture, may be confirmed or illustrated by the living and breathing commentaries of the human body? When we are told in the word of God, *that man is fearfully and wonderfully made*, (Psalm cxxxix. 14.)—*that the eyes of the Lord did see his substance*, ^E *yet being imperfect—that in his book were all his members written, when as yet there was none of them—that the Lord hath set the members, every one of them in the body, as it hath pleased him*, (1 Cor. xii. 18.)—*that he hath clothed man with skin and flesh*, and ^F *fenced him with bones and sinews*, (Job x. 2.)—*that the hearing ear, and the seeing eye, the Lord hath*

A *made even both of them, (Prov. xx. 12.)—that the Lord breathed into man's nostrils the breath of life—that the days of our age are threescore years and ten, and though men be so strong that they come to fourscore years, yet is their strength then but labour and*
 B *sorrow, (Psalm xc. 10.)—that this corruptible must put on incorruption, and this mortal must put on immortality, (1 Cor. xv. 53.)—and that with respect to the power of man over the physical laws of his organization, he is not able to make the hairs of his*
 C *head white or black, (Matt. v. 36.)—when these, and things such as these, have been revealed to us by our Heavenly Father, we at once see and feel not only their applicability to the facts established by anatomy and physiology, but that it is our duty*
 D *to apply them. Neither are these our only conclusions. We cannot but feel that there is a sort of reality in the observation, that men's persons are sacred things—that there is a sanctity in anatomical and physiological truths far beyond and above any*
 E *which unassisted philosophy could discover, when most anxious to raise the dignity of human nature—that the facts and phænomena of man's life and substance partake of the nature of things divine, organized as they were by God's creative power,*
 F *and upheld as they are by his providential wisdom and goodness; and destined, too, by our Saviour's mighty working, to be fashioned like unto his glorious*

Scripture gives a sanctity to anatomical and physiological truths.

body. (Phil. iii. 21.) But is it possible for him, who ^A ponders upon all these coincidences between the things seen and the things written, to prevent his affections from carrying out the conclusions of his reason? Will he not be anxious to transform into religious sentiments the convictions of his under-^B standing, and the discoveries of his philosophy? Is it possible for any one to be sensible of these joint attestations of the works and word of God, and not go forward and gratefully acknowledge that *his tender mercies are over all his works?* (Psalm ^C cxlv. 9.) Will he not ask with the Psalmist's humility, *Lord! what is man, that thou hast such respect unto him?* Will he not confess and declare with the Apostle, *that in him we live, and move, and have our being?* (Acts xvii. 28.) Will he not strive ^D to shew the strength and sincerity of his gratitude, by endeavouring to *glorify God with that body and with that spirit which are his?* (1 Cor. vi. 20.)

Pious and practical results upon the heart and conduct, the thoughts, words, deeds.

But there would be no end of such interrogatories, if they were to cease only when the Scriptures ^E ceased to supply matter for them. I will therefore return to the consideration of Dr. Warneford's principle: I mean, the principle of combining scriptural testimonies with natural deductions in disquisitions upon the phænomena of our corporeal ^F nature.

A When, in this specification, Holy Scripture is made the paramount authority for the attestation of the Divine attributes, it is not meant to detract from the didactic power, the independent instructiveness, of any even the minutest of things created; still
 B less to call in question the lawfulness of studying nature by itself, for the improvement of religious knowledge; for who can doubt the lawfulness of these separate and distinct contemplations, who bears in mind the injunctions of Scripture, *to stand still*, (Job xxxvii. 14.) *to consider*, (ib.) *to regard*, (Psalm xxviii. 5.) *to observe*, (Prov. xxiii. 26.) *to talk of*, (Psalm cv. 2.) the works of creation?

Nothing which has been said is meant to detract from the duty or profitableness of studying nature by itself for religious instruction.

Who would ever dispute its profitableness for religious purposes, who has pondered upon the
 D sacred physiologies of Job and David, and especially upon the interrogatories put to the afflicted patriarch at the close of his holy controversy; or who has weighed St. Paul's natural arguments to the philosophers of Athens, (Acts xvii. 18.) and the
 E people of Lycaonia, (Acts xiv. 11.) and others, in his Epistles to the converts of Rome and Corinth; or who has devoutly laid to heart his Saviour's
 F appeals, to the rains of heaven, to the fowls of the air, the lilies of the field, the hairs of the head, the height of the stature, as independent natural evidences of the universality of God's providential

The physiologies of Job and David.

St. Paul's physical or natural arguments.

Our Saviour's appeals to natural evidences.

wisdom, justice, mercy, and long-suffering? Job, A
 David, Solomon, St. Paul, our Saviour himself,
 all had recourse to the works of creation, as evi-
 dences of sacred truths and sources of religious
 knowledge; therefore the independent contempla-
 tion and use of them for profitable instruction are B
 sanctioned by authorities, which the Christian will
 not be disposed to dispute. But still it is equally
 clear, that since the Divine attributes have been in
 Scripture expressly revealed to us, and in language
 mercifully accommodated to the narrowness of man's C
 comprehension, we ought not to turn our eyes from
 such instruction: we ought not to choose *that lesser*
light, which ruled the night of Gentile darkness,
 and neglect *the greater light*, which now rules the
 day of Christian grace and salvation. D

Nothing
 which has
 been said
 is meant to
 detract from
 arguments
 drawn a
causâ finali.

Neither is it intended, by this especial reference
 to the word of God, to disparage the argument
a causâ finali, or to diminish the influence which it
 rightfully exercises over the minds of all but those,
 who, like Descartes, bewilder themselves in the E
 metaphysics of finality, or those, who, like Hume,
 equally bewilder themselves in the metaphysics of
 causation.

Nothing
 that has
 been said
 is meant to

Neither is it meant to patronize the fond opinion,
 that the word of God was intended to furnish data F

A for the discovery of scientific truths. This was the countenance
the opinions
of Hutchin-
son.
 error of Hutchinson and his followers, who were
 wont to insist upon the philosophy of Scripture,
 (especially that of Moses,) against the truth of the
 Newtonian philosophy. This too was the folly of
 B Paracelsus, “ who (as Lord Bacon observes) pre- Or Para-
celsus.
 tended to find the truth of all natural philosophy in
 the Scriptures, scandalizing and traducing all other
 philosophy, as heathenish and profane.” The same
 sort of error, but in an inferior degree, has been
 C committed by the once celebrated author of the
 book, entitled, “ The Religious Philosopher,” of Or New-
entyt’s er-
roneous
way of
citing Scrip-
ture.
 whom Dr. Desaguliers observed^s, “ that it was to
 be wished that he had applied the texts of Scrip-
 ture which he quotes, as properly as he had done
 D his philosophical considerations,” he having wrested
 them from their right sense, that he might give the
 semblance of support to his anatomical or physio-
 logical observations.

E In short, there is nothing in the specification, Scripture
does not
teach phi-
losophy,
nor should
philosophy
be made
the inter-
preter of
Scripture.
 which will lend any sort of support to the notion,
 that philosophy should be made the interpreter
 of Scripture, or that Scripture should be viewed as
 a treatise on natural philosophy.

If more were wanting for the exposition of the

* See Dr. Desagulier’s preface to his translation of Newentyt.

Dr. Warneford's master-principle might be farther explained, by quoting passages from the writings of those who entertain his views as to this use of Scripture.

It might also be illustrated by the example and practice of writers who have used Scripture in this way.

The unsearchableness of God is to be contemplated upon this occasion.

great master-principle laid down in the specification, I should be able to cite passages from several authors, which represent the Scriptures as designed (besides other sacred purposes) to be commentaries on the works of God. And if these were not enough, I would refer to the works of BOYLE, BENTLEY, BARROW, RAY, DERHAM, and I would put it to the exact judgment as well as religious feeling of this Meeting, whether their eloquence has not been made more persuasive, and their arguments more powerful and convincing, by the textuary precepts which have lent their aid to physical evidences and rational deductions. Their writings, if appealed to, would tell of the profitableness of *the sure testimony* of the sacred "*scriptum est*" of the Recorded Word, for the fuller development and clearer proof of the Divine will, as well as attributes in arguments of this nature.

If from the glorious constellation of those attributes, I were, upon this occasion, to select one, to throw its starry light upon the path of those, who, in the energy of youthful intellect and the power of acquired knowledge, may not be sufficiently alive to that law of God, which withholds his *deep and secret things* from man's discovery, I would select his UNSEARCHABLENESS as an attribute, most declaratory of his power over the *penitiora naturæ*, and

A most expressive of his will, that we should learn to walk humbly and speak warily, as soon as our ignorance tells us that we have reached *the clouds and darkness which surround his throne*. (Ps. xviii. 11. xlvii. 2. lxxvii. 19.)

B Let a proper sense of the *unsearchableness of God* accompany the student in every analytic, every synthetic, process of his philosophy, in all that he does for the verification of facts, in all that he writes in discourses upon them. The deep conviction that the ways of the Almighty are unsearchable, need not destroy nor diminish his thirst of knowledge. It ought to do no more than chasten the spirit of enquiry, check its excesses, and correct its aberrations. The assurance that *the Almighty is wonderful in counsel and excellent in working*, (Is. xxviii. 29.) *that we cannot find out the Almighty to perfection*, (Job xi. 7.) ought not to prevent *our feeling after and finding* (Acts xvii. 27.) his wisdom, power, and goodness, even though the search should

C

D

E

F

Pious and practical use to be made of the attribute of God's unsearchableness.

The practical use of our knowledge of God's unsearchableness, especially in the investigations of minute

conduct us into the minute and deeply-seated wonders of our corporeal nature. For it may be said, that the Divine perfections are exhibited to our apprehension with greater brightness, and proclaim their glory with a louder voice, the more profoundly we investigate these provisions for the well-being of man, in the minuter structures of his

bodily fabric. What Pliny said of the insect, may ^A be applied to every thing minute in the offices and organizations of the body. “In his tam parvis, atque tam nullis, quæ ratio! quanta vis! quam inextricabilis perfectio!” and again, “rerum natura, nusquam magis quam in minimis tota est.” In ^B this passage, let God’s holy name be substituted for that of nature; and instead of an insect, let an instance be taken from any of the minutiae of anatomy, and we too shall be disposed in like manner to exclaim, “What infinite wisdom! what ^C amazing power! what inextricable perfection!” The Lord no where appears in greater glory, than in things of the smallest dimensions, or perhaps we should feel disposed (with the poet Cowper) in silent admiration to ponder upon ^D

Pliny’s exclamation concerning things minute.

May be adopted by the Christian, mutatis mutandis.

Cowper’s admiration of minute objects in nature.

Muscle and nerve miraculously spun,
His mighty work, who speaks, and it is done—
The invisible in things scarce seen, reveal’d
To whom, an atom is an ample field!

The transcendental anatomist will be the first to admit the unsearchableness of God, if he have an honest and good heart.

He who shall have penetrated farthest into the ^E intricacies of organic structure, who, not satisfied with microscopic enlargements of his field of vision, passes onwards to the chymical solution of whatever stops his way, (be it solid, fluid, or gaseous,) and who, by the help of still more subtle agencies, has ^F

† Plin. Hist. Nat. lib. xi. cap. 1, 2.

A advanced even to the very borders of corpuscular
 existence, even he, if he possess *the good and honest*
heart of a Christian philosopher, will be the first to
 confess with the patriarchal physiologist, that *there*
is a way which the vulture's eye hath not seen, a
 B *wisdom which is hid from the eyes of all living,*
 (Job xxviii. 21.)—*that no man can find out the work*
that God maketh from the beginning to the end,
 (Eccles. iii. 2.)—*that he doeth things which we cannot*
comprehend. (Job xxxvii. 5.) Even the transcen-
 C dental anatomist, however searching his solvent,
 however subtle his electric or galvanic current, will
 be obliged to acknowledge, that he who *can bind*
the sweet influences of the Pleiades, and loose the
bands of Orion, (Job xxxviii. 31.) can so bind and
 D loose the influence of galvanism, electricity, and
 every other law or principle, atmospheric or cosmi-
 cal, for the oxygenation, calorification, vitalization
 of the blood and body. The Christian Transcen-
 dentalist will be the last to say, (as it has been
 E said,) “that Caloric in the body must follow the
 same laws as Caloric out of the body^u;” on the
 contrary, convinced that he knows *but part of God's*
ways, and those parts but darkly, he will take care
neither to darken the Divine counsel by words without

^u “Caloric in the body must, I apprehend, like affinity, follow the same laws, and no others, as out of the body.” p. 242, Human Physiology by John Elliotson, M.D.

*knowledge, (Job xxxviii. 2.) nor give such instruction A
as may cause to err from the words of knowledge.
(Prov. xix. 27.)*

But why should I accumulate the testimonies of Scripture upon the unsearchableness of God, and the duty of speaking warily in respect of those B things which he has been pleased to call, *the treasures of his wisdom, (Job xxxviii. 22.)* It is a fact, a truth, a doctrine forced upon the admission of reluctant philosophers, by whatever ascent or by whatever descent they may seek to enter into C the counsel-chambers of Omniscience.

Of such philosophical adventurers and their opinions and controversies, let him^x speak, who may be said to have dedicated the last energies of his great talents and extensive benevolence to D your service, who, though dead, still speaketh concerning the foolishness of presumptuous wisdom in that oration, (so purely classical in language,) which he delivered before the College of Physicians. Such advice, when it comes recommended to your E attention by the name of JOHNSTONE, will not fail to exercise a twofold influence; first, by its own

^x Dr. John Johnstone died at Monument House, near Birmingham, Dec. 28, 1836, having spoken the Anniversary Address, Oct. 6, 1834.

A weight and value, and then by the worth and wisdom of the giver of it, and especially by his affectionate concern for the welfare of this Institution. “When^y, (says the Harveian orator, in language far superior to any that a translation can substitute,) when these things are far removed from the senses and understanding, they permit us to do no more than hunt after the shadows of a false

^y Est etiam, ubi res ipsæ ab intelligentiâ et sensibus humanis longè semotæ, non nisi umbras falsæ scientiæ consecrari nos sinunt. Fatendum est tamen, per multa retro sæcula, viros sapientes et bonos, in re de quâ inter mortales nuperrimè agebatur, omnes et industriæ et ingenii sui nervos intendisse. Me autem iudice nimis intelligendo fecerunt, ut ipsi nihil intelligerent, lectoresque quod nescirent plaudere solitos, monstrationibus istis suis, redderent, multò quàm antea fuissent, incertiores. Quibus igitur in deliciis est, res quas caliginosâ nocte presserit Deus, anxie ne dicam audacter rimari, auctor fuerim, ne oleum, operamque perdant. Etenim argumenta ab utrâque parte tantopere jactata, nullis innituntur germanæ philosophiæ principiis—nullam ab Anatomicâ fœnerantur lucem—nullum quo se tueantur testimonii pondus è sacris litteris eliciunt, nullo—cum officiis hominum vinculo astringuntur, neque ut exitum ullum reperiant, qui disputatores animosè, et quidem acerbè inter se digladiantes conciliaturus sit, naturæ humanæ imbecilitas pati videtur. In aliis sanè artibus, ut se res habet, controversiæ de quibus loquor minimè inter ea ponendæ sunt, quæ ut Celso visum fuit, “cùm ad Medicinam propriè non pertineant, tamen eam adjuvant excitando artificio ingenium.”—pp. 52, 53. Joannis Johnstone, M.D. Collegii Medicorum, Lond. et Societas Regalis Socii Oratio Harveiana, MDCCCXIX.

and delusive philosophy. It must, however, be ^A admitted, that for many ages wise and good men have applied all the energies of their genius and industry to the subject, which has very recently engaged public attention. In my opinion, however, these profound enquirers have, by their ex-^Bcessive desire of understanding every thing, reduced themselves to the state and condition of knowing nothing at all; and general readers, ever accustomed to applaud what they do not understand, have, by these pretended demonstrations, been ^Cmade even more uncertain and unsettled than they were before. To men of this sort, whose delight it is, with a too anxious, not to say too daring, spirit, to explore the things which the Almighty has been pleased to conceal in the blackness of ^Ddarkness—to them I would say, do not waste the oil of your midnight lamp, do not lose the labour of your daily toil. As to the arguments of this sort, which have been so long and so much tossed about to and fro, they rest not upon any ^Eprinciples of sound and genuine philosophy—neither do they borrow any light from anatomy—neither do they derive any kind or degree of warranty from Holy Writ—neither are they connected by any tie whatever with the practical ^Fduties of life—neither does the weakness of human nature make it possible to settle these questions, so as

A to bring about a reconciliation between those who have engaged so warmly, not to say bitterly, in this controversy. Such questions are not to be classed with those, which Celsus represents as assisting medical science, though they do not properly belong to it, by reason of that excitement and exercise of talent which they produce.”

More would I willingly extract, if beauty of style, and truth of observation, and soundness and sincerity of advice, were the only things I had to attend to. But in my character of Clerical commentator upon a Clerical friend's specification, and as a firm adherent to the cause of religious education, and as an admirer and advocate of your Institution, and hearty well-wisher to its pecuniary as well as literary prosperity, I have some last duties to perform, a few parting words to deliver. I have first to thank this Meeting, (distinguished as it is by rank and integrity, by piety and learning, by professional knowledge and reputation, and, I am bound to add, by Academic' worth and wisdom,)

* The Regius Professor of Medicine of the University of Oxford, Dr. John Kidd, and the Clinical Professor in the same University, Dr. James Adey Ogle, were at this Meeting, and assisted in the presentation of medals to the students who had distinguished themselves; also the Rev. George Leigh Cooke, B.D. Professor of Natural Philosophy in the same University.

for the patient attention they have been pleased to bestow upon an Address, which, by reason of peculiar circumstances, has been extended beyond the usual length.

I have also to express the lively interest I have felt in the various demonstrations of talent, attainment, and assiduity, which have been given by the pupils upon this occasion; and I assure them, that my sincere and earnest wishes will ever attend their intellectual efforts to obtain literary honours for themselves, and add to the reputation of their School^a. But I have another, a higher, a con-

^a The names of the students who distinguished themselves upon this occasion are as follows:—

<i>Prize—by whom presented.</i>	<i>Student.</i>	<i>With whom pupil.</i>
The Warneford Prize, by the Rev. Vaughan Thomas.	Mr. T. C. Roden, Birmingham.	Messrs. Lukis and Roden, Kidderminster.
Gold Medals for good conduct, by the Hon. and Very Rev. the Dean of Lichfield.	Mr. Edwin Chesshire, Birmingham, Mr. E. Smith, Derbyshire.	Mr. Pye Chavasse, Birmingham, Messrs. Cartwright & Waddy.
The Jephson Prize, twenty guineas; the Rev. J. Angel James.	Mr. G. M. Grant, Northampton.	Mr. Francis Elkington, Birmingham.
The Meredith Prize, five guineas, by James Taylor, Esq.	Mr. Joseph Hobbins, Wednesbury.	Mr. Underhill, Great Bridge.
Medal—Surgery, offered by William Sands Cox, F.R.S. by Dr. Kidd, Reg. Prof. of Med. Oxon.	Mr. George T. Cooper, Bilston.	Mr. Cooper, Bilston.
Medals—Practice of Physic, offered by John Eccles, M.D. by Dr. Ógle. Prof. of Clin. Med. Oxon.	Mr. S. M. Grant, Mr. J. Randles, Overton, Flintshire.	Mr. F. Elkington, Mr. Hadley.
Medal—Materia Medica, offered and presented by James Johnstone, M.D.	Mr. Edward Smith, Derbyshire.	Messrs. Cartwright and Waddy, Birmingham.

including duty to perform: it is that of a Minister of God. In that character then I close my argument with *a word of exhortation*. (Heb. xiii. 22.) Sensible, my Young Friends, as you must be of the great defectiveness of man's knowledge, even when he knows the most, and in the best way; sensible that there are millions of particulars in the mechanisms and chymistries of this mortal body beyond the utmost stretch of human intellect; you will do well to ponder upon that saying of the great instaurator of human science, Lord Bacon, "Dignius quiddam est credere, quam scire qualiter nunc scimus."

Whenever the anatomist or physiologist is occupied upon the unsearchable ways, the unfathomable depths, of God's wisdom and knowledge, it is better (regard being had to the kind and quality of his information) to say I BELIEVE, than to say I KNOW; it is an expression more worthy of the piety of man, more suitable to his intellectual insufficiency, more declaratory of a Christian spirit. *He that cometh to God is required to BELIEVE that he is.* (Heb. xi. 6.)

It is through FAITH that we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear. (Heb. xi. 3.) It is by an act of FAITH, that (in those sound words which have been supplied by most sure warrants of Scripture, and which set forth the universal belief of Christians

from the beginning) we say, “ we BELIEVE in one ^A God the Father Almighty, Maker of heaven and earth, and of all things visible and invisible.” In like manner, and still by an act of FAITH, we confess that “ there is but one living and true God, everlasting, without body, parts, or passions, of infinite ^B wisdom, power, and goodness, the Maker and Preserver of all things; and that in the unity of the Godhead there are three Persons, of one substance, power, and eternity, the Father, Son, and Holy Ghost.” These divine attributes and personalities ^C of the Godhead, not deduced by reason, but revealed to faith; not reasoned out from the works, but established by the word, of God; have been committed by our Saviour to the keeping of His Church, and the teaching of His Ministers; *and* ^D *woe unto me if I teach them not—in season, out of season*—for they all rest upon the sure testimony of that written word, which, in the words of Locke ^b, “ has God for its author, salvation for its end, and truth without any admixture of error for its subject-^E matter.” The divine attributes in these Essays are to be treated as matters of Christian faith, rather than as matters of human knowledge—they are to be embraced upon the testimonies of the revealing Spirit, rather than coldly received as the results of ^F

^b See Locke's Posthumous Works.

A anatomical or physiological speculation—they are to be admitted freely into the heart, to animate the affections, and call forth the best energies of love and reverence, not left to float upon the brain as things purely intellectual, unproductive of moral B effects, and unaccompanied by practical improvement. It was the hope and wish of our common friend, that the contemplation of the revealed attributes should lead to the knowing and doing of the revealed will—that the *doing of the will of God* C should operate to the better understanding of the doctrine of his Gospel, (John vii. 17.)—that a conscientious sense of obligation should lead to a practical performance of duty—that the student should learn to venerate the wisdom which he D discovers in the human fabric, and love the goodness which he experiences, and fear the power which he acknowledges, and obey the authority under which he lives, and worship Him whose attributes and perfections, revealed in the word and exemplified by the works of God, cannot fail, with God's E assistance, to awaken piety and prescribe devotion. In short, it has been Dr. Warneford's hope, that every student might have the happiness of being able to say with the great father and founder of F all the natural sciences^c, “ Thy creatures, O Lord,

^c Lord Bacon.

have been my books, but thy Scriptures much more: I have sought Thee in the courts, the fields, the gardens, but I have found Thee in thy temple.”

THE END.

have been my books, but thy Scriptures much
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tells the gardens, but I have found Thee in thy
temple"

