

**The grievance of the university tests as applied to professors of physical science in the colleges of Scotland : a letter, addressed to The Right Honourable Spencer H. Walpole, Secretary of State for the Home Department / by George Wilson.**

### **Contributors**

Walpole, Spencer H. 1806-1898.  
Wilson, George, 1818-1859.  
Royal College of Physicians of Edinburgh

### **Publication/Creation**

Edinburgh : Sutherland and Knox, 1852.

### **Persistent URL**

<https://wellcomecollection.org/works/s8zte8xr>

### **Provider**

Royal College of Physicians Edinburgh

### **License and attribution**

This material has been provided by This material has been provided by the Royal College of Physicians of Edinburgh. The original may be consulted at the Royal College of Physicians of Edinburgh. where the originals may be consulted.

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection  
183 Euston Road  
London NW1 2BE UK  
T +44 (0)20 7611 8722  
E [library@wellcomecollection.org](mailto:library@wellcomecollection.org)  
<https://wellcomecollection.org>





THE  
GRIEVANCE OF THE UNIVERSITY TESTS,

AS APPLIED TO

PROFESSORS OF PHYSICAL SCIENCE IN THE COLLEGES  
OF SCOTLAND:

A LETTER,

ADDRESSED TO THE

RIGHT HONOURABLE SPENCER H. WALPOLE,  
SECRETARY OF STATE FOR THE HOME DEPARTMENT.

BY

GEORGE WILSON, M.D., F.R.S.E.,

LECTURER ON CHEMISTRY, EDINBURGH.

LIBRARY  
COLL. REG.  
ED. EDIN.

EDINBURGH:

SUTHERLAND AND KNOX, 23, GEORGE STREET.

LONDON: SIMPKIN, MARSHALL, & CO.

---

MDCCCLII.



MURRAY AND GIBB, PRINTERS, EDINBURGH.

R55235

THE

RIGHT HONOURABLE SPENCER H. WALPOLE,

SECRETARY OF STATE FOR THE HOME DEPARTMENT.

---

24, BROWN SQUARE, EDINBURGH,  
August 12th, 1852.

SIR,

THE recent death, at an advanced age, of the learned and renowned Dr Thomas Thomson, who for half a century adorned the University of Glasgow, has left a vacancy in its Chair of Chemistry, the right of presentation to which belongs to the Crown. Several of my chemical brethren have offered themselves as candidates for an appointment which is naturally an object of ambition to the chemists of the country ; and I would join them in submitting my claims as a chemist, to your consideration, not doubting that they would be fully and impartially judged ; but I am debarred by an insurmountable obstacle. I am not a member of the Church of Scotland, and cannot therefore honestly say that I submit to its discipline, neither can I sign the Westminster Confession of Faith as the confession of my faith. It would accordingly be a mere waste of your time and of mine, to collect and submit testimonials to you, for even if you considered my claims superior to those of the other candidates, and appointed me professor-elect, the University of Glasgow would decline to accept and instal me, unless I took the so-called Tests, and as I could not take them, I should be refused the appointment. In short, it is incumbent on you to present a candidate who will certainly subscribe the Confes-



sion, and the Formula of obedience to the Church, which together constitute the Tests; for the Crown is powerless to procure exemption, for its presentee, from the application of these Tests, in any of the Universities of Scotland.

In this position of matters, I, as an aggrieved party, address myself to you, not to the *Senatus Academicus* of the University of Glasgow, because I have no right to complain that it enforces obedience to a law of the land, especially when that has been so recently defended by the Secretary of State, and approved by a majority of the House of Commons. My appeal is to you, because—

1st. The vacant Chair is in the gift of the Crown, and will not be filled up without your sanction.

2d. I am constrained to infer from the arguments which you employed against the second reading of Mr Moncreiff's *University Tests (Scotland) Bill*, that you have been misinformed concerning the actual position of affairs, so far as the admission of professors to the Scottish Universities is concerned.

3d. I am induced by the weight which you attach to the assumed absence of any substantial grounds of complaint against the present system of University Tests, to believe that if it can be proved that they are an oppressive grievance to the cultivators of the physical sciences in the country, and alike, though not in equal degree, to the members of the Established and of the Dissenting Churches, you will not refuse to reconsider your statements, and amend the grievance of which they complain; and

4th. I trust to be able to show you that it is possible to satisfy all reasonable parties by a legislative enactment; and that nothing short of this, will cure the evil by which I and so many others suffer.

In what I have stated, I have perhaps imputed to you opinions which you do not hold. That you may judge how far this is the case, I must trespass on your patience, so far as to lay before you an extract from your speech in the House of Commons, on April 27th, 1852, as reported in the *Times* newspaper of two days later date. After referring to the Treaty



of Union between England and Scotland, and the Act of Security regarding it, you are reported to have said, "He (Mr Walpole) admitted that a strong reason might justify an alteration of those conditions, or of the conditions of the treaty between England and Ireland, but the reason must be strong and conclusive. The question then was, Whether the hon. gentleman (Mr Moncreiff) had shown any reason sufficient for this alteration? It was singular enough that the hon. gentleman said the number of petitions *pro* and *con.* were not materially different. Unquestionably the majority was in favour of the bill; but was that a reason why they should alter an important article in the Treaty of Union, especially when, as the hon. gentleman had shown, *the practice was relaxed where a good reason for such a relaxation existed?* But the hon. gentleman said that by this Test they were limiting the field of their choice. Unquestionably they were, to some extent. But almost in the very next breath the hon. gentleman answered his own argument; for he said that, at that moment, *not fewer than twenty-four of the University Professors had not taken it.* But then it was said, If it were relaxed in twenty-four cases, why not take it away altogether? The answer was obvious. The Test was maintained to prevent those who occupied the professorial chairs from educating the youth of the country contrary to the principles of the Church of Scotland; *but when they had confidence in them, and were satisfied they would not endeavour to do so, then the rule was relaxed.*"

I have marked in italics the passages to which I wish to refer, retaining the context only to guard against misrepresenting you by partial quotation.

From the words in italics, it seems to have been inferred from Mr Moncreiff's statement, that among the eighty Professorships in the Universities of Edinburgh, Glasgow, St Andrews, and Aberdeen, there are twenty-four Chairs, the occupants of which have been excused taking the Tests, because the Senates of the five several Colleges which together make up those Universities, have, in more or fewer cases, "*relaxed the Test,*" when satisfied that the professor-elect "would not educate



the youth of the country contrary to the principles of the Church of Scotland." The actual fact, however, is, that the whole of the twenty-four Professors referred to by Mr Moncreiff are included in the one University of Edinburgh, in which, for nearly a century, none but theological Professors have been required to comply with the Tests; whilst in the four other Colleges of the country, every Professor has complied at least with the letter of the law. The misapprehension which thus occurred appears to have been shared by other members of the House of Commons. Thus Mr EWART (who however opposed your views) was permitted, without contradiction, to condense your argument on the question in dispute into the words, which I quote *verbatim* from the *Times*,—"The right hon. gentleman (Mr Walpole) said, 'I admit that the strict letter of the law is violated; but that is because the parties who administer the Tests (the *Senatus Academicus*) have a discretionary power to insist upon them or not, as they shall think fit.'"

SIR GEORGE CLERK also stated, that "he believed that no case of real grievance had been made out against the existing system."

I think, then, I cannot be mistaken in imputing to you, and to those who seconded your views, the belief that in Scotland there is nothing but a nominal opposition to the admission of those who are not members of the Church of Scotland to the non-theological chairs in the Universities. And I venture to believe that many who would not have hesitated to pronounce medical chairs no part of the Ecclesiastical Institutions of the country, and who would have regarded it as no interference with the Treaty of Union to open those chairs to Dissenters, thought it needless to support a bill which dealt only with an imaginary wrong.

I trust, therefore, that you will bear with me whilst I endeavour to point out how real and oppressive the grievance is. In so doing I shall strictly confine myself to the question: Is it just to exclude from the Chairs of PHYSICAL (including MEDICAL) SCIENCE in the Universities of Scotland, those who are not members of the Established Church? The question, Who should fill the Chairs of Literature? I leave unconsidered, be-



cause it is at present complicated by the discussions which have arisen in Scotland, whether certain Chairs are purely literary and philosophical, and therefore such as should be open to all; or partly theological, and, therefore, free only to members of the Established Church. Moreover, the claims of the Chairs of Literature need no defence from me, and I might justly be termed presumptuous if I became their champion. I may be counted the same in reference to the Physical Chairs. Allow me, therefore, to vindicate my present appeal by stating the grounds on which I, as personally an aggrieved party, address you. I cannot do so, without exposing myself largely to the charge of egotism, but I will be as brief as possible.

I became a student of medicine at an early age, and duly completed the circle of medical study. After spending four years in the Laboratory of the Royal Infirmary of Edinburgh, I was for eighteen months one of Dr Christison's chemical assistants in the Laboratory attached to the Materia Medica Classroom in the University of Edinburgh, and I afterwards occupied, for six months, a similar post in the Laboratory of Professor Graham, University College, London.

I graduated at Edinburgh in 1839, and began to lecture there in 1840, under the sanction of the Royal College of Surgeons of Edinburgh, of which I am a licentiate. In 1844 I was appointed by the Directors of the School of Arts (which corresponds to the Mechanics' Institutes of other towns) their lecturer on Chemistry, and in the same year, with the sanction of the Highland and Agricultural Society of Scotland, I became lecturer to the Veterinary College of Edinburgh. I have lectured to the Philosophical Institution here on three different occasions. For the last eight years I have regularly delivered nine lectures on Chemistry every week, during the six winter months.

I have also, since 1840, spent much of the leisure at my disposal in scientific inquiries, the results of which have appeared in publications, of which I have furnished a list in an Appendix.

For three years (the statutory period) I was a member of council of the Royal Society of Edinburgh. At present I am a councillor of the Chemical Society of London; a member of the



Chemical Committee of the Highland Society ; and an honorary member of the Pharmaceutical Society of Great Britain. The Cavendish Society, which was instituted for the cultivation of the Literature of Physical Science, and which includes among its members nearly all the British chemists, selected me to write the "Life of Cavendish," a duty which necessitated the elaborate discussion of an important scientific historical question. I have been Vice-President of the Royal Scottish Society of Arts, and for some years Editor of its Transactions.

You will forgive the parade of these matters, which cannot, as things are, be reported to you through the customary medium of testimonials from others. I refer to them only to defend myself by the plea of ten years' experience as a lecturer on chemistry, the authorship of several contributions to physical science, and the place assigned to me by my chemical brethren, against the charge of presumption in accounting myself personally wronged by the present system of admitting professors into the Universities of Scotland.

To prevent any misunderstanding, let me further state, that I am a member of a Congregational Church. There are two sections of Congregationalists, Independents and Baptists, who differ as to the mode, the subjects, and the significance of baptism, but agree in other respects, in reference to doctrine and church government. I am a Baptist, but regarding a difference with respect to baptism as not a valid ground of separation between Christians who are at one in other matters, I am a member of a church, the majority of whom, including their minister, the Rev. Dr W. L. Alexander, are Independents.

And now, having disposed of personal matters, in what follows I shall be able to put myself almost entirely aside. All who are not members of the Church of Scotland, are in the same position as regards the majority of the northern Universities. Thus, there are five Chairs of Chemistry in Scotland, one in Edinburgh, one in Glasgow, one in St Andrews, and two in Aberdeen. With the exception of that in Edinburgh, the whole of those chairs are closed against all, without exception, who will not take the Tests.

Let us then for a moment consider what the nature of those



Tests is. They are two in number: the one being the acknowledgment (in terms to be presently mentioned) of the Confession of Faith; the other, submission in ecclesiastical matters to the Church of Scotland; which is done by signing a written statement generally called the *Formula of Obedience*. The Tests, accordingly, are commonly and conveniently referred to, as the *Confession* and the *Formula*. It will suffice, without reference to their history, to quote from the Act of 1707 the words in which they are described. I have placed (1) at the part referring to the Confession; (2) at that referring to the Formula.

“ Her Majesty, with advice and consent foresaid, statutes and ordains, that the Universities and Colleges of St Andrews, Glasgow, Aberdeen, and Edinburgh, as now established by law, shall continue within this Kingdom for ever; and that, in all time coming, no Professors, Principals, Regents, Masters, or others bearing office in any University, College, or School within this Kingdom, be capable, or be admitted, or allowed to continue in the exercise of their said functions, but such as shall own and acknowledge the civil government in manner prescribed, or to be prescribed, by the Acts of Parliament: As also (1), That before or at their admissions, they do and shall acknowledge and profess, and shall subscribe the foresaid Confession of Faith as the confession of their faith; and (2), That they will practise and conform themselves to the worship presently in use in this Church, and submit themselves to the government and discipline thereof, and never endeavour, directly or indirectly, the prejudice or subversion of the same; and that before the respective Presbyteries of their bounds, by whatsoever gift, presentation, or provision, they may be thereto provided.”

Three things are thus required of every Professor,—I. That “he shall *own* and *acknowledge* the civil government.” II. That he shall “*acknowledge, profess, and subscribe* the Confession of Faith, as the confession of his faith.” III. That he will “*practise and conform* himself to the worship of the Church of Scotland, *submit* to its *government and discipline*, and neither, *directly* nor *indirectly*, attempt to prejudice or subvert it.” More briefly, he must be a loyal subject, a believer in the doctrines of the



Confession of Faith, and a member of the Scottish Church. Each of those requisitions is by the Act of Security equally imperative. The Professor is to be as true a confessor of the faith, and as veritable a member of the Church, as he is to be a loyal subject of her Majesty. And, in strict conformity with this view of matters, the Professor is required to attest his confession and church-membership before "the presbytery of his bounds,"—a requisition which, by its very wording, seems almost to ignore the possibility of any Non-Presbyterian having part or lot in the matter.

Such was the original spirit of the Act. The Episcopalian who should comply with its requirements, in so doing renounced Episcopacy, and passed from the bishop of his diocese to the presbytery of his bounds. The Independent and Baptist who should comply, renounced Congregationalism, and acknowledged the Kirk-sessions, Presbyteries, Synods, and Assemblies, of which, as portions of the machinery of church government, they had hitherto known nothing. The member of the Society of Friends surrendered all his peculiarities, and submitted to ecclesiastical authorities, against whom his whole previous life had been a protest.

For a long period the arrangements worked well, and none but *bona fide* Presbyterians and members of the Church of Scotland filled the Scottish Chairs. In truth, the only charge brought against the Church, and that by its own laymen, was that it too faithfully obeyed the Statute, and secured the closest adhesion to its Confession and the fullest obedience to its government, by using its influence to fill the Chairs in the Universities with clergymen, who were *ex officio* expositors of the Confession and rulers of the Presbyterian Church. By and by a change occurred. Learned Presbyterian laymen claimed and obtained professorships. Edinburgh became famous as a School of Medicine, and Chairs were created, which only medical men could fill. Secessions likewise took place from the Church, till at length, after the lapse of a century, more than half the population of the country (many say a large majority of its inhabitants) have ceased to be members of the Church of Scotland.

Such is our present position. There are more than thirty Chairs of Physical (including Medical) Science in our Universities, and



the professor-elect to each may be required to acknowledge allegiance to the Queen, belief in the Confession of Faith, and obedience in ecclesiastical matters to the Church of Scotland.

We have no difficulty in attesting our loyalty. John Dalton or William Allen, had either been your presentee to the vacant Chair of Chemistry, would have declined to take an *oath* of allegiance (which the law does not demand from members of the Society of Friends), but both would heartily have made affirmation of their obedience to her Majesty, and the rest of us would make oath, if required.

The two remaining requisitions manifestly cannot be honestly complied with by those who are not members of the Church of Scotland; for Presbyterian Dissenters cannot profess submission to the Church in government and discipline, although they acknowledge the Confession as their standard of faith; and Non-Presbyterians can honestly sign neither Confession nor Formula of obedience; for the one is not the confession of their faith, and the other they daily disown, or disobey.

In your place in Parliament you assigned as a reason for not abolishing the University Tests, that the rule or practice of applying them was "relaxed, where a good reason for such relaxation existed." In reality, however, so far as a single professor is concerned, the Tests are either applied *in toto*, or withheld *in toto*. There is no *via media*; and accordingly, the University of Edinburgh, including the Town Council, who are its patrons, choosing the one alternative (which the law, nevertheless, does not warrant), has put aside the Tests altogether, in the case of professors-elect to its lay Chairs, and has avowedly admitted Non-Presbyterians, although known, and professing to be Non-Presbyterians; whilst the occupants of *all* the Chairs in the four other Universities of Scotland have been required to sign alike the Confession and the Formula, and have been admitted *as* Presbyterians, whatever they have been previous to their admission, or have become after it. In proof of this, I need only here mention that the Presbytery before which professors have made confession of their faith, and acknowledgment of their obedience to the Church autho-



rities, retains their signatures in attestation of their allegiance to Established Presbyterianism, and certifies this allegiance to the *Senatus Academicus*.

Four out of the five Scottish Universities or Colleges are thus barred against all but Presbyterians of the Established Church, and the entrance to the University of Edinburgh has already more than once been menaced (as it is at this moment), and may be closed any day. A single member of the Town Council is entitled by law to shut its gates against professors-elect who are not Scottish Churchmen; and high legal authorities have given it as their opinion, that every member of the *Senatus Academicus* has a similar power. There are thus, even in Edinburgh, at least thirty-three, and, if the claim of the Senate be admitted, fifty-eight parties, any one of whom, in opposition even to all the rest, may put the Tests to an obnoxious candidate, and exclude him from a Chair, though he were an Owen, a Herschel, or a Faraday.

Such is the state of the Scottish Universities in reference to the Tests, which you seemed to think so excellent, that it called for no improvement, and which Sir George Clerk pronounced emphatically to involve no grievance. Those who are under it, find it a sore grievance. In the present state of the country, it has become so difficult either to administer or to obey faithfully the Act of Security, that all parties are placed in a false position by it.

Nor can this be wondered at. Nothing need be urged in proof of the fact, that conscientious members of one communion cannot become conscientious members of another. I am more solicitous to draw your attention to the reasons why the Confession of Faith is and must be reluctantly signed in general by laymen, even those who are members of the Church of Scotland.

The Westminster Confession is not a brief summary of religious principles, like the "Apostles' Creed," but an elaborate dogmatic treatise on theology, which enters with much minuteness into nice distinctions, in reference to questions of great difficulty. No one who knows the circumstances of its origin, and how many learned and pious divines of different churches



assisted in its compilation, will speak of it otherwise than with respect; and the fact that the clergymen and elders of all the Presbyterian Churches in Scotland acknowledge it as the authoritative standard of their common faith, invests it with additional claims to regard. For my own part, I look upon it with reverence, and have studied with profit and delight much that it contains. The doctrinal points on which Presbyterians dissent from Congregationalists are few compared with those on which they agree, and I am more anxious to promote the diminution than the increase of the points on which they differ. But it is a very serious matter for any layman, who has not made scientific theology a special study, to sign the Westminster Confession *as the confession of his faith*. It consists of thirty-three chapters, of which I subjoin the titles.

Chap.

- I. Of the Holy Scripture.
- II. Of God, and of the Holy Trinity.
- III. Of God's Eternal Decree.
- IV. Of Creation.
- V. Of Providence.
- VI. Of the Fall of Man, of Sin, and of the Punishment thereof.
- VII. Of God's Covenant with Man.
- VIII. Of Christ the Mediator.
- IX. Of Free Will.
- X. Of Effectual Calling.
- XI. Of Justification.
- XII. Of Adoption.
- XIII. Of Sanctification.
- XIV. Of Saving Faith.
- XV. Of Repentance unto Life.
- XVI. Of Good Works.
- XVII. Of the Perseverance of the Saints.
- XVIII. Of Assurance of Grace and Salvation.
- XIX. Of the Law of God.
- XX. Of Christian Liberty, and Liberty of Conscience.
- XXI. Of Religious Worship, and the Sabbath-day.
- XXII. Of Lawful Oaths and Vows.
- XXIII. Of the Civil Magistrate.
- XXIV. Of Marriage and Divorce.



- Chap.  
 XXV. Of the Church.  
 XXVI. Of Communion of Saints.  
 XXVII. Of the Sacraments.  
 XXVIII. Of Baptism.  
 XXIX. Of the Lord's Supper.  
 XXX. Of Church Censures.  
 XXXI. Of Synods and Councils.  
 XXXII. Of the State of Men after Death, and of the Resurrection of  
 the Dead.  
 XXXIII. Of the Last Judgment.

It would be easy to show, by a few quotations, how difficult are the questions on which the Confession pronounces. I fear, however, that I might expose myself to the charge of treating lightly very solemn things, were I to illustrate a position—which all who know the Confession will concede to me—by reference to the chapters which treat of God's Eternal Decrees, of Election, Predestination, Free-will, Justification, Sanctification, Assurance of Grace, and the like high matters.

I will therefore select Chapter XXXII., which treats *Of the State of Men after Death, and of the Resurrection of the Dead*. It may, I trust, without offence to the most pious mind, be discussed here, as an example of the minute and unrestricted declarations which characterise the Confession. The chapter in question, moreover, is one which, from its subjects, falls within the range of study of a medical man or a natural philosopher, more than most others in the Confession, and is therefore likely to receive his special and intelligent attention. It has the advantage, likewise, of being brief:—

“CHAP. XXXII.—OF THE STATE OF MEN AFTER DEATH, AND OF  
 THE RESURRECTION OF THE DEAD.

“1. The bodies of men, after death, return to dust, and see corruption; but their souls (which neither die nor sleep), *having an immortal subsistence*, immediately return to God who gave them. The souls of the righteous, being then made perfect in holiness, *are received into the highest heavens*, where they behold the face of God in light and glory, waiting for the full redemption of their bodies; and the souls



of the wicked are cast into hell, where they remain in torments and utter darkness, reserved to the judgment of the great day. Besides these two places for souls separated from their bodies, the Scripture acknowledgeth none.

“2. At the last day, such as are found alive shall not die, but be changed; and *all the dead shall be raised up with the self-same bodies, and none other, although with different qualities*, which shall be united again to their souls for ever.

“3. The bodies of the unjust shall, by the power of Christ, be raised to dishonour; the bodies of the just, by his Spirit, unto honour, and be made conformable to his own glorious body.”

I have marked in italics some of those points on which I would comment. That the souls of men are immortal, I, in common with all Christians, believe; but the best of men have differed as to the source or origin of that immortality; and surely it is not essential that a lay professor should hold that the soul *has* or possesses *an immortal subsistence*—i. e., as I understand the words, possesses immortality as a necessary and intrinsic attribute of its psychical immateriality. Would you think a man less a Christian, because he declined to endorse the statement in question, fearing lest it should seem to encroach upon the prerogative of “the King of Kings, and Lord of Lords, *who only hath immortality*,” or should tend to lessen our obligation to Him who said, “I am the Resurrection and the Life”?

Again: Is it reasonable that a teacher of physical science should be bound to declare, not only (as every Christian would willingly do) that he believed that the souls of the righteous after death go to heaven, but in addition that they are “received into the *highest heavens*”? Would you deny his Christianity, because he declined to be positive on a matter so far beyond human inquiry, and felt it to be difficult to reconcile the statement of the Confession with the declaration of the Apostle Peter concerning one righteous man, namely, that “David is not ascended into the heavens”?—a passage generally understood as referring only to David’s body, but which appears plainly to teach that David is in no sense exalted to those highest heavens where “Christ sitteth at the right hand of God.”



Once more: Why should a Christian Professor of Anatomy or Physiology be required to declare, that at the Resurrection "the dead shall be raised up with the *self-same bodies, and none other, although with different qualities*"? The passage is obscure in grammar; but even if we understand it as signifying, that the body possessed during life by each individual shall be restored to him at his resurrection, "the self-same, and none other, although with different qualities," is it not hard that hundreds of persons should be required to declare their belief in the resurrection in these questionable terms?

The most pious and orthodox divines have differed widely as to the mode in which the future immortal resurrection-body is to be identical with the present mortal one; and surely a layman may be permitted to decline giving any opinion on so difficult a question, and may plead in his defence the words of the Apostle John, "it doth not yet appear what we shall be." A true and even lively faith in the resurrection is compatible with the absence of all endeavour, or even power, to realise its phenomenal conditions. In reference to the accounts of it contained in the New Testament, the wisest as well as the weakest of men might say with the good Monk of the Golden Legend:—

"I believe, oh God,

What herein I have read;

But, alas, I do not *understand*."

The chapter on which I have commented is after all one of the simplest in the Confession. When it enters on such topics as Predestination, Election, Liberty, Necessity, and Freewill, it insists on conclusions with which multitudes cannot intelligently concur. It is only certain minds which are competent to discuss such questions, and their possessors will always be rarer among the cultivators of physics than among any other class of educated men. The very qualities of intellect that make a man a good chemical analyst, a keen microscopic observer, a skilful mineralogist, a dexterous dissector and operating surgeon, or a proficient in any of the physical sciences, and the arts related to them, imply in the majority of cases the absence of that speculative



power and metaphysical insight, without which it is vain to approach many of the topics discussed in the Confession. There is many a good and pious man fitted to adorn a chair of physical science, who could not say *Yes* or *No* to many of the questions on which that document pronounces decidedly. It is told of one gentleman, a member of the Church of England, who was presented to a chair, that he requested time to study the Confession of Faith, which was new to him. Time was granted, although those who knew the cast of his mind were not sanguine as to the result. At the end of twelve months he was still requesting delay; but as this was demurred to, he signed the Confession, without affecting to understand it.

This gentleman's case is not singular, if common report be true. Scotland rings with accounts of the incidents alleged to have occurred at the application of the Tests to famous professors: how, for example, one celebrated scholar mended his pen over and over again, lifted it from the table and threw it down, fingered it nervously, and at length, there being no remedy, dashed in his signature: how a well-known physician declared, that what he had signed "was the confession of his faith, and *a great deal more*;" how another professor-elect declared that he regarded the Tests merely as "Articles of Peace;" how another signed the Confession and Formula, but "took care not to read them;" how another stated that, having signed the Confession, he was on his way to a bookseller's to find out what it was he had signed; how another reported, that "they gave him something to sign, and he signed it." So faithfully, indeed, on one occasion, did a professor act up to the belief, that the "signing of something" was all that was required of him, that he contrived to sign the wrong thing, and involved himself in serious difficulties.

I do not venture to assert, from personal knowledge, that all those *on dits* are true. Many of them are understood to be founded in truth; the whole of them are very generally credited; and this belief, whether well founded or not, represents the interpretation which the country puts upon the attachment of lay signatures to the Confession and Formula, by those who are not members of the Church of Scotland. I reluctantly refer to



these matters, which, however, cannot be overlooked in estimating the important question to be afterwards considered—Can the Tests be taken as a form? With a view accordingly to that question, I quote here the description of the taking of the Tests which appeared in “Tait’s Magazine” for August 1851. I have been informed that it is from the pen of a gentleman in business.—“If our candidate were a second Joseph Priestley, and held his principles firmly and intelligently, it would fare ill with him; but if he is a man of the world, he stumbles into the meeting of the Presbytery as if by accident, lifts a pen mechanically, and, as if in a fit of absence, subscribes his name. The poor man is signing so many papers at this particular crisis in his history, that really it is no wonder if he is afterwards somewhat oblivious as to the fact whether he signed this given paper or not. He has ugly reminiscences of grave-looking gentlemen in black, who offered to tender certain explanations which he declined; he signed as a matter of form, and thought no more about it. His brother professors have done the same thing, and the ink lies light on their consciences; and why should its gall penetrate his?”

Such is the uncontradicted account which a public journal gives of the mode in which lay professors are understood to comply with the Tests; and it is not the least mischief which these Tests have done, that they have exposed such accomplished, honourable, and upright men, as the Non-Presbyterian Professors of the Universities in Scotland have been and are, to the charge of having belied their consciences, and set an evil example to the country, in the matter of taking what is equivalent to a solemn oath. At the same time they have been held (where they have been condemned) to commit a venial crime, as men always are when they transgress a law which, by the mass of the community, is felt to be unjust, and by the transgression of which the country, as a whole, is believed to be a gainer.

You will perhaps reply to what I have urged, that a sanctioned transgression is equivalent to a relaxation of the Tests. The country, however, which gives this equivocal sanction, does not apply the Tests. It is before a Presbytery of the Church that they are taken. How the Church understands them will pre-



sently appear. Before referring to this, I would notice another and preliminary point. It is urged, that no man is or can be expected to sign such a document as the Confession of Faith as in every item his confession of faith; and that it is unjust, of the lay public at least, to accuse one, who in general agrees with its doctrines, of having acted wrongly, because, though dissenting from certain of its statements, he has appended his name to it. I fully concede this; let every man who, after faithful study of the Confession, feels that, upon the whole, it is his faith, sign it, and I for one will acquit him of all wrong or inconsistency, even though he is not permitted by the Presbytery before which he signs, to make any explanation, but must accept or reject the Confession entire. The concession of this, however, will afford no justification of those who sign what they acknowledge they have never read, still less studied, and from central doctrines of which they do not scruple to say that, so far as they understand them, they dissent. And if this be the case with the Confession, it is still more true of the Formula, which none but a professor of casuistry in a school of Jesuits would engage to torture out of its plain signification,—that he who signs it will, if not at the moment of signature, at least in future, be a *bona fide* member of the Church of Scotland.

It is not to be supposed that honourable, educated men, like our Professors, have sheltered themselves under such pleas as I have been considering. These have been suggested by others, who have unwisely undertaken their defence.

The great argument used by those who are not Scottish Churchmen, in justification of their taking the Tests, is, that these are a mere form, or as others phrase it, that they are “Articles of Peace.” If this view of their character be the true one, and that taken by the Church of Scotland and the community in general, then assuredly the Tests are relaxed sufficiently to admit all to the University Chairs of Scotland who are worthy of admission.

In that case, however, it cannot, I think, but strike you, that they would never have been petitioned against; and that the number of petitions for their abolition shows that they are still



felt to be a grievance to many. A very brief explanation will suffice to show that the Tests are real, not formal requirements, as obligatory as an oath, and as much excluded from the operation of any qualifying or dispensing power. They have seemed to be less binding, only because our Non-Presbyterian Professors, who are Episcopalians, have, except in Edinburgh (to which none of my remarks apply), been generally transferred from English Universities, where the Westminster Confession and Presbyterian form of Church government are not very familiar matters to the Graduates or Fellows. When these accordingly have been presented to Scottish Chairs, they have naturally enough contented themselves with complying with the request to sign their names to a document which they were given to understand was only an article of peace; in other words, an acknowledgment that they would not devote their time to waging war with Presbyterianism, or to overthrowing the Church of Scotland. How sincerely a great mathematician from Cambridge, or a great Grecian from Oxford, faithfully bent upon doing the work of his Chair, could declare that he had not crossed the Tweed to gain adherents to the Church of England, all can understand; how willingly such gentlemanly scholars as the English Universities breed, would show all possible courtesy to the ecclesiastical authorities of their adopted country, those who know them best will most appreciate. And it would have been an ungracious act for any Presbyterian to warn them that their signature bound them to much more than mere neutrality. Episcopalians, accordingly, who were quietly admitted to Chairs, and, without protest or complaint, were permitted Sunday after Sunday to attend their own church, might naturally imagine themselves to have complied with all that was required of them, when they gave a nominal adherence to Established Presbyterianism. Within these few years, however, others than English Episcopalians have been candidates for Chairs, and the exact requirements of the Tests have come to be better understood. They are now perceived to be as stringent as words can make them, and to have been deliberately placed side by side with the oath of allegiance which, as well as they, is exigible



from every professor. It may be, however, that the words in which the Tests are embodied, are lawfully permitted to be so interpreted as to afford a sufficient relaxation of what their letter unreservedly requires. Unfortunately no latitude is permitted, otherwise I should not be a complainer. To the administration of the Tests two parties are necessary—the giver and the taker; and all will acknowledge that whatever be the force of an oath read literally, its stringency may be greatly modified, if the giver or applier can *authoritatively* abate its apparent stringency, and assure its receiver that he only binds himself to its modified requirements.

When Naaman, the Syrian, addressed Elisha, “In this thing the Lord pardon thy servant, that when my master goeth into the house of Rimmon to worship there, and he leaneth on my hand, and I bow myself in the house of Rimmon: when I bow down myself in the house of Rimmon, the Lord pardon thy servant in this thing”—and Elisha answered him, “Go in peace”—all who believe that the great Hebrew prophet was divinely authorised to grant Naaman the dispensation he asked, will acquit him of sin in bowing in the house of Rimmon. Is there, then, any Elisha who can mitigate the stringency of the Tests towards a Dissenter or a layman, so that for him they shall be something different in their requirements from what they are to a Scottish Churchman and a clergyman? The answer is brief and categorical. *There is no Elisha.* Had there been, the Senatus Academicus of Edinburgh, which has numbered so many learned, pious, and attached clergymen of the Church of Scotland among its members, would not have failed to require from every professor, lay as well as clerical, obedience to a requisition, which would only amount, on that supposition, to a courteous acknowledgment of the Scottish Church as the established Church of the land; and all would have complied with it. But that Senatus has excused even members of the Church from taking the Tests in the case of lay Chairs. The great historian, Principal Robertson,—his esteemed successor, Principal Baird,—and the present learned and pious



occupant of the principalship, Dr Lee,—who for the last sixty years have presided over the deliberations of the Edinburgh University Senate,—knew too well that the Tests must be given entire, without limitation, modification, or commentary, to apply them to those who could not conscientiously take them in the same spirit.

It is true that when a professor-elect goes before the Presbytery of his bounds to comply with the Tests, he need not do more than sign his name to a particular document. He may disown or deny its requirements up to the moment of signature, and from the moment thereafter. The Presbytery cannot enforce obedience to the law which it administers. But even if this mockery of an ecclesiastical court be practised, it does not make the signature of the prescribed document less a reality. The party who attaches his signature, *binds himself* to perform certain engagements, and cannot hold himself guiltless because he is not called to task as a law-breaker. I have been asked, “Why make so much work about signing your name at the bottom of a sheet of paper?” Unfortunately this sheet of paper has certain very grave and significant words on it, which, though not absolutely identical as employed by each Presbytery, are substantially the same, being taken from the Act of Security. They therefore run, more or less exactly, thus (see page 9): “I acknowledge, profess, and subscribe the Confession of Faith, as the confession of my faith; and that I will practise and conform myself to the worship presently in use in this Church [of Scotland], and submit myself to the government and discipline thereof, and never endeavour, directly or indirectly, the prejudice or subversion of the same.” If the signature of such a declaration lays no obligation on him who subscribes it, what subscription does? It is needless, surely, to reply. Some inconsiderate spectators of the proceedings of a Presbytery with a professor-elect, have spoken as if “the outwitting,” as they have called it, of the Presbytery, by a professor assumed to have no intention of practically obeying the Tests, amounted to an assertion and vindication of his independence. It is plain, however, that he who refuses to be bound by his own promise, or oath, outwits only himself.



In reality, the Professor fails to secure his independence at all; for the Presbytery possesses, in permanent record, and can at any time produce, the confession of his faith, and the acknowledgment of his submission to the discipline of the Church of Scotland, by every professor who has appeared before it. On his side, he has absolutely nothing to show in justification of the plea, that he has merely complied with a formal requisition; for, if the Presbytery is compelled to be satisfied with his signature, it is equally excused, nay debarred, from listening to any qualifications on his part, as to the intent or significance of that signature: and, accordingly, it certifies to the Senatus his unqualified reception of the Tests;—thus binding the professor by his own signature, and likewise by the certificate which, in his presence, and generally at his own instance, and by his own hands, it furnishes to the University Senate. The Presbytery cannot do less, and cannot do more. Should it seek to render less or more stringent the requirements of the Act of Security, it might be called to account by the superior Synod, or the General Assembly, of the Church of Scotland; and all three would be directly amenable to the Civil Courts, were they, or any of them, to make any change on a Statute, which can be altered only by an act of Parliament.

The certainty of this has been put beyond dispute by the result of Professor Blackie's signature of the Confession and Formula (when presented to the Chair of Latin in Marischal College, Aberdeen), followed by a declaration that he was not to be understood as committed to all that was contained in the Confession. The Presbytery disputed the sufficiency of such a qualified signature, and endeavoured in a civil court to prevent Professor Blackie's induction, but in vain. The lesson, however, was thus taught to all Presbyteries (which had not learned it before), that they could not receive statements from professors-elect as to their interpretation of the Tests. Were any one accordingly to endeavour to repeat Professor Blackie's act, he would be told by the Presbytery that they could not take official cognizance of anything, but the simple fact, whether or not he signed the document laid before him. Professor Blackie alone,



among all the Professors of Scotland who have taken the Test, took it openly, and with acknowledgment, as a form; for the very questioning of his protest as valid, implied its previous entertainment by the Presbytery, and its more or less formal enrolment in their minutes of meeting. He was too sensitively honourable a man to have signed, on any other terms, what he could not honestly call the confession of his faith; and when it appeared that a qualified signature could not be accepted, he risked the loss of the Greek Chair of Edinburgh, to which he has recently been transferred from Aberdeen, by freely declaring that he would refuse the Test, if it were offered to him. You will thus observe, that the hands of the Presbytery and of the Professor, of the Church and of the University, are equally tied. The one is forbidden to ask, the other to grant, any relaxation of the Tests, however small.

It may still be urged by you, that though the letter of the law forbids a merely formal reception of the Tests, the public conscience has justified a more liberal interpretation of the Statute, so that no one sins against morality, or need find his conscience aggrieved, in disobeying the letter of the law. I will be the first to subscribe to the justice of the principle thus referred to. Assuredly, our best methods of securing justice are very rude, and it would be a deplorable waste of time were we to set about formally abolishing all the obsolete requirements of the Statute-book. The transmutation of the baser metals into gold, the brewage of beer with hops, and the suffering of witches to live, are still, as I am credibly informed, forbidden by legal enactments. The country would be in a poor plight if it could find no better occupation for its legislature than the official slaughter of such doubly-dead mummies as those Statutes are. I know also that, in the history of science, there is scarcely to be found a single error deliberately confessing itself to have been completely found out and justly doomed. The ghosts of errors as old as the Flood are still with us, and every now and then re-appear with a simulated galvanic energy, which looks like life—but to die is the issue of all life, and they never die.

The Tests, however, are not a death-in-life of this kind.



They are unabrogated Statutes still in force, without the least modification, as a recent and striking illustration of their application will show.

When Mr Mac Douall was elected, in 1847, by the Town Council of Edinburgh, to the Hebrew Chair in the University of that city, his appointment was objected to because he was a member of the Free Church. Those who objected to his election did so professedly on the ground (among others) that the Hebrew Chair was one of the Chairs of Theology, which only a member of the Established Church could fill. Into this question I do not enter. I refer to this case for the following reason. The only way in which Mr Mac Douall could be kept out of the Chair, was by putting the Test to him AS A REALITY. It was known that, as a conscientious Free Churchman, he would not sign the Formula of submission to the Church of Scotland, although quite ready to sign the Confession of Faith. Mr Mac Douall acted as all who knew him were aware he would—refused the Test, and lost the Chair. Now, mark how many persons were parties to the acknowledgment of the Test as a Reality.

1. Mr Mac Douall, who, of all men, had an interest in representing the Test as a form, as in that case he could have signed it, and would have secured the Chair.

2. The Presbytery of Edinburgh, who endeavoured to compel Mr Mac Douall's appearance before them as the Presbytery of his bounds, in order that, by obtaining an official recognition of his inability to regard the Test as a form which he could sign, they might secure his exclusion from the Chair.

3. Various members of the Senatus Academicus of the University of Edinburgh, who were parties to resisting Mr Mac Douall's induction as Professor unless he took the Tests, which they knew he would not take.

4. The minority of the Town Council of Edinburgh, which, by a large majority, elected Mr Mac Douall Professor of Hebrew. This minority successfully resisted his induction, by entering a legal protest against its completion, unless he signed what they knew he would not sign.

In this remarkable case, the Presbytery, the Senatus Acade-



micus, and the Town Council, agreed in laying hold on the Tests as a most potent reality, by means of which they could, as in fact they did, exclude an unwelcome professor-elect from a Chair. Another and most important party, namely, 5. The Court of Session, gave judgment in accordance with this view of the *reality* of the Tests. The Judges were unanimous, and expressed strongly their conviction, that subscription was not only a real but a solemn act. One of them, the late esteemed Lord Mackenzie, observed:—"The Act (of Security) requires that the Professor shall be of a pious, loyal, and peaceable conversation, and of good and sufficient literature and abilities. All this I believe Mr Mac Douall to be; but then the Statute goes on, that the Professor shall be submitting to the government of the Church now settled by law, and this I just as firmly believe him not to be; he does not say that he is, and he cannot say that he is. He is a member of the Free Church, and cannot, therefore, submit to the government and discipline of the Established Church; on the contrary, he holds that the Established Church is not a right church, and that it is one which he cannot belong to. I do not see, then, how, when all parties knew this, it was possible to proceed with the admission, without going directly in the face of the Statute."

Lord Mackenzie, it will be observed, holds him who signs the Formula to be a true and faithful member of the Church of Scotland, and that no one who is not such can sign it, as it was and is intended it should be signed.

I might spare further proof of the reality of the Tests. I will add, however, that had Mr Mac Douall failed to display that self-denying integrity, and noble conscientiousness which throughout characterised him, and in an evil moment had taken the Tests professedly as *a form*, he would have been amenable to the discipline of the Free Church, which, treating them as a reality, would have called him to account for mocking one of its fundamental laws. And had the Free Church, in the case supposed, abstained from subjecting Mr Mac Douall to discipline, the whole country would have cried out against it and against him. The country, no doubt, metes out a one-sided justice to



the Free Churchman. It looks the other way, or shuts its eyes, when an Episcopalian takes the Tests; but if a Free Churchman proposes to do the same, it falls upon the public conscience like a flash of lightning, which no closure of the eyelids will exclude. This no doubt is hard, for the Act of Security is well known to have been an act of security against invasion of the Schools, Colleges, and Universities of Scotland by Episcopalians, who are doubly disqualified from honestly taking the Tests, inasmuch as they can sign neither the Confession nor the Formula, unlike the Free Church, or other Presbyterians, who can honestly sign by far the greater and more important part of the Tests, namely, the Confession. It is needless, however, to refer to this. Mr Mac Douall's case has put an end to the possibility of regarding subscription to the Tests as an antiquated form. Those who now take them, and do not thereupon become faithful members of the Church of Scotland, must lay to heart Lord Mackenzie's words, and the verdict which the public will record against them. Whilst therefore I defend those esteemed members of the Church of England who have heretofore mistakenly treated the Tests as formalities, I feel that they can no longer be subscribed except in full good faith by any conscientious man. We are in fact farther off from a tolerated relaxation of the Tests at this moment than we ever were. Nor do I regret this. No man can *study* what a professor-elect is called upon to sign, and conceive that his signature is but a formal addition to a list of autographs which a particular Presbytery, curious, like other learned bodies, in the matter of autographs, has a pleasure in increasing. It must grieve every reverential man, whatever his creed, and though a gainer by the step, to treat the Church of Scotland with a mocking obedience, and to profess an insincere belief in the Confession of Faith. This Confession is a very solemn and earnest document. He who signs it, not only attests his belief in certain speculative theological doctrines, but voluntarily binds himself to perform the most sacred duties, such as keeping the Sabbath holy; offering up family-prayer daily; receiving the sacraments; regularly attending public



worship; faithfully reading the Scriptures, whilst "accepting, receiving, and resting upon Christ alone for justification, sanctification, and eternal life;" and doing all that appertains "to the service of God in Christ."

Of these solemn requirements, which are not to be referred to lightly, I will only say, that he who best responds to them, will be the least ready to regard them as formalities; and that he who worst responds to them, has least need to be guilty of the sin of offering a mocking homage to them. The Royal Preacher of the Hebrews is very plain on this point. "When thou vowest a vow unto God, defer not to pay it; for He hath no pleasure in fools: pay that which thou hast vowed. Better is it that thou shouldest not vow, than that thou shouldest vow and not pay."

From these deepest requirements of the Confession I pass. There is one chapter of it, however, so pertinent to the matter in hand, that it cannot be left unnoticed. It is "*Chap. xxii. Of Lawful Oaths and Vows.*" For brevity's sake (but for that alone), I omit some portions.

"Whosoever taketh an oath, ought duly to consider the weightiness of so solemn an act, and therein to avouch nothing but what he is fully persuaded is the truth. Neither may any bind himself by oath to anything but what is good and just, and what he believeth so to be, and what he is able and resolved to perform.

"An oath is to be taken in the plain and common sense of the words, without equivocation or mental reservation. It cannot oblige to sin; but in anything not sinful, being taken, it binds to performance, although to a man's own hurt. Nor is it to be violated, although made to heretics or infidels."

"A vow is of the like nature with a promissory oath, and ought to be made with the like religious care, and to be performed with the like faithfulness."

"No man may vow to do anything forbidden in the Word of God, or what would hinder any duty therein commanded, or which is not in his own power, and for the performance whereof he hath no promise or ability from God."

Let those who profess to subscribe the Confession as a mere



form, consider what their subscription is defined as importing ; in short, the *definition* given of their subscription, by the very document subscribed.

I cannot, for my part, regret that signature to a document, containing such a chapter as that from which I have quoted, should cease to be regarded as a mere form. You will not, I feel persuaded, regard that conscience as supersensitively fastidious which can find no relaxation of a Test, in being compelled to forswear itself.

Moreover, if a professor-elect should still hope to be publicly vindicated, although he took the Tests as a form, he would be debarred from fulfilling his expectation, by the fact that they are placed, by the Statute which requires them, on the same footing as the oath of allegiance. What would be thought of the professor who should say, after taking that oath, that it was his confession of loyalty, *and a great deal more*,—that he took it, but did not believe it—or had not read it—or was going to buy it to find out what it was—or held it to be a mere form, a vain repetition of words ? It is needless to state what alike loyal subjects of her Majesty, and deliberate traitors to her government, would say of such a mocker. And is a confession of loyalty to an earthly monarch, to be held a more sacred thing than a confession of loyalty to Him “by whom kings reign, and princes decree justice” ?

Such is the present state of matters. There is no class of laymen who may become professors, to whom the Tests are not a grievance. Lay members of the Church of Scotland would, in a multitude, probably in a majority of cases, prefer to be excused signing the Confession of Faith, which they have not minutely studied.

Lay members of the dissenting Presbyterian Churches are in the same predicament, and in addition cannot sign the Formula of obedience. Episcopalians, Baptists, Independents, Quakers ; in a word, all Non-Presbyterians, can sign neither Confession nor Formula.

The entire educated laity of the country are thus aggrieved, and in recompense for this, who are profited ? Literally no



party. The Tests are no tests, but are grievously misnamed. No class of men deal more largely in tests, or are supposed to know better what they are, than chemists. We understand by a test—such, for example, as that for gold—a something which when applied to a body of unknown nature, infallibly demonstrates whether that body is gold or not. Or, to take another example: the country was recently a little frightened from its propriety by the announcement that the English national beverage was poisoned by the deadly substance strychnia. Two of our most famous chemists undertook to ascertain whether or not the statement was true, and reported that on applying to the beer the test for strychnia, they found nothing that answered to the test, and therefore there could be no strychnia present. The double religious test which is applied to every professor-elect at each University gate is intended to secure the admission of the pure gold of earnest Presbyterian belief and faithful Scottish Churchmanship, and altogether to exclude the poisonous strychnia of Episcopalian and Nonconformist doctrine and practice. But, alas, the Tests have lost their virtue. False metal is stamped as fine gold, and the perilous strychnia poisons the fountains of knowledge.

The Tests, in truth, have become, in Lord Denman's famous words, A MOCKERY, A DELUSION, AND A SNARE.

They are MOCKERY of those who apply them, who cannot prevent their being taken by one to whom they are no test; a mockery of him who takes them, who may be compelled to sign what he neither believes nor practises; a mockery of the Church of Scotland, whose faith and practice are confessed and denied in the same breath; a mockery of that Confession which was the very confession of faith of those learned and pious men who drew it up, and is yet the veritable confession of men not less learned and pious; a mockery of the Bible, of which that Church is but a minister, and her Confession but an imperfect human exposition; a mockery of religion and all honest belief; in a word, a mockery of Man and a mockery of God.

They are a DELUSION, for the professor is deluded into the idea that he has taken them as a form; and the Church is de-



luded into the idea that he has taken them as a reality. They exclude the very parties they were intended to admit, and admit the very parties they were intended to exclude, and this the more certainly the further the subscriber departs from the creed and practice of the Church : for the slender obstacle which they offer to the hypocrite is as good as nothing to the infidel, and becomes less than nothing to the atheist.

They are a SNARE, for they tempt men to commit a sin of which they would not willingly be guilty, and to set an example to the community of tampering with the solemnity of an oath, and making light of an open religious confession, which debauches the public conscience, weakens the hands of justice, and saps the foundations of morality.

There is no choice between these alternatives, either to make the Tests true tests, and to allow none but faithful members of the Church of Scotland to occupy any Chair in the Scottish Universities ; or to relax, if not abolish the Tests, in the case, at least, of the Chairs of Physical Science in all these Universities. I leave those who approve the former alternative to defend it ; observing only, that, at all events, it is consistent and intelligible, and the sole policy which a government which refuses to relax the Tests, can deliberately defend.

I urge the latter alternative, and this not on selfish but on public grounds. The chief plea urged by you in the House of Commons against any (I do not say against *all*) relaxation of the Tests, was, that they were relaxed “where a good reason for such relaxation existed.”

Without making further reference to the fact, that such relaxation is permitted only in one of the five Scottish Colleges, and that it is not a relaxation (properly so called), but an entire *abolition* of the Test that is sanctioned in its practice by the University of Edinburgh, I would urge this consideration,—Is it just, either to that University, which includes all the metropolitan Professors of Theology in the Church of Scotland, or to its Professors admitted without application of the Tests, to leave things as they are? The Town Council of Edinburgh and the Professors of the University, at such an admission, do all that they



can. They honestly and openly put aside the Tests, and elect and receive a clergyman of the Church of England to a Chair, for example, of mathematics. They put no constraint on the conscience of the Professor, whilst the University, and, in truth, the whole country, welcome the appointment of a famous Cambridge Graduate and Fellow. Nevertheless, the Patrons and Senatus Academicus of the University have done an illegal thing. The professor obtains his Chair only by sufferance and connivance, and has been declared by learned lawyers to be at the mercy of any future elector to the Chair who demands that the legal Tests be applied to him. Nay more, a single non-elect may, at any time, point to him as an illegal professor—contraband—and smuggled into his Chair, and to such rude words and harsh charges he has no reply to make. Is it just to leave things thus, and expose such men as adorn the University of Edinburgh to charges like these? Is it just to compel two great public bodies to commit, in open day, an illegal act? Since you approve the deed, would it not be better to legalise it, than to put on the same footing the transgression of the law, and the law which is transgressed, by saying that you approve both?

Further, in the Universities of Glasgow, St Andrews, and Aberdeen, there are many Episcopalian professors, all in the position of debtors to the Tests, who (on the most favourable view of their position) have been temporarily excused paying a debt, without receiving a receipt, and may, at any time, be called on to discharge their obligations; whilst all the while they are exposed to the accusation of having undertaken to pay what they cannot pay. They should, in common justice, either be excused the debt, as the lay professors of Edinburgh are, or, still better, things should be so arranged that they can receive a discharge in full.

Such is the effect of the Tests, which, with the most impartial injustice, wrong without exception every one who has to do with them. Moreover, in the present state of religious parties in Scotland, the wrong will every day increase, for they will be taken up in turn as an available offensive weapon by every aggrieved section of the community; and all the more certainly,



that the weapon can be turned to the deadliest account by minorities, even by the minimum minority of one.

In such a condition of matters, I plead with you to make at once a large and liberal adjustment of contending claims. The Government which shall do so, whatever be the colours which it displays, will not need to complain, like the ancient heroes, that bards were wanting to sing its praises. It will be gratefully remembered and honoured by men, whose undying fame will connect with its own earthly immortality, those who ministered to it.

I will not deny that there are difficulties in the way. But they are not insurmountable. The first question to be considered is, the claims of the Church of Scotland. These I desire fully to acknowledge. The convictions which have made me a Dissenter are not such as to make me a polemic. They are too grave and deep to infuse any bitterness into my nonconformity. I have, in truth, no connections but kindly ones with the Scottish Church, in which near relatives of mine have been honoured clergymen; and I have no personal hostility towards the Church of England.

So far as the Scottish Church is concerned, its judgment on the Tests is not difficult to gather. The University of Edinburgh, which has the largest number of lay professors, has for more than half a century admitted them without putting the Tests. And it has been largely through the liberality of Scottish clergymen that these have been dispensed with; for whatever have been the effects of recent decisions of the Scottish Courts of Law as to the powers of the Town Council of Edinburgh, of Presbyteries, and University Senates, there can be no question that Principals Robertson and Baird believed themselves, and were believed by the community, to possess the sole power of opening or shutting the University gates when professors-elect appeared before them, unless the Presbytery of Edinburgh forbade the induction of the professor. And to those Principals, accordingly, and secondly, but in less degree, to the Presbytery of Edinburgh, Scotland owes a deep debt of gratitude for the effectual services which they rendered it. The present learned Principal Lee is not be-



hind his predecessors in liberality of feeling, but unless Government comes to his aid he must give way.

Sofar, however, as the prevalent feeling of the Scottish Church is concerned, one fact is sufficient to prove the willingness of its clergymen and laymen to see Dissenters in Non-Theological Chairs. The Chair of Music in the University of Edinburgh is the only one in the gift of the Senatus Academicus. Since its institution, four professors have been appointed to it. To none of them were the Tests put, and two, if not three, of them were members of the Church of England. Music stands in a peculiar relation to religious worship; yet, although the Church of Scotland has a more direct influence over the Chair of Music than over any other lay Chair in Edinburgh, in virtue of the Principal and the Professors of Theology in the University forming part of the electing body, none of the clerical electors were called to account by their reverend brethren, nor did any lay member of the Church of Scotland complain, because the four Professors of Music were admitted without taking the Tests.

The presence of Episcopalian Professors in the Universities of Glasgow, St Andrews, and Aberdeen, points in the same direction; for, although they have been required to take the Tests, they have not in all cases been called upon to fulfil the obligations of their subscriptions, and not only are many of them openly and avowedly Episcopalians, but some have been allowed to retain Fellowships in English Colleges, which, I need not say, implies their adoption and signature of the Thirty-nine Articles of the Church of England.

These facts are worth many petitions, for they are the unsolicited expression of the judgment of the Scottish Church regarding the possibility of dispensing with the Tests in the case of lay Chairs. No well-wisher to the Church, indeed, would propose to retain them, as their retention and *bona fide* application to all professors could only have the effect of compelling the other churches and religious bodies of the country, and the lay public in general, to erect academic institutions as rivals to the Universities, a step which the whole country would speedily and bitterly regret.



Believing, accordingly, that the majority of the educated members of the Church of Scotland are at one with me in feeling, I venture to make the following suggestions:—

1. Let the whole of the Theological Chairs be secured to the Church in whatever way she prefers, so that all justice may be done to the Theological Faculties of the Universities. The Church of Scotland will then be able, without exposing her solemn Confession to the risk of contempt, mockery, or dishonour, to avail herself of the services of members of other churches; and the country will be free to select its teachers from the widest range.

There remains then the question,—Should the Tests be altogether abolished, or should they in part be retained? For my own part, I desire their abolition; but as this may not be possible in the present temper of the country, I shall be grateful for their mitigation. Allow me, with great deference, to offer you some suggestions as to the mode in which relief may be granted to those who cannot take the Tests—limiting my remarks, however, solely to Chairs of Physical Science.

2. Let lay members of the Church of Scotland be relieved altogether from the Tests. No one surely will object to this. It is needless to ask them to sign the Formula, for that is to ask a member of the Church if he is a member of the Church—a formality which may well be dispensed with. And let them farther be excused signing the Confession of Faith; for surely, if they are known to be consistent members of the Scottish Church, who duly attend its services, and reverently take part in its public prayers, and praise, and other ordinances, they fully attest their religious faith, and may be trusted as public teachers. If, with the direct approval of the clergyman and elders, and with the indirect approval of the entire congregation of a particular church of the Establishment, an individual has become, and remains, a member of the Church of Scotland, is it not enough? Why insist upon his signing an elaborate Confession of Faith as farther evidence of his sincerity? Are there any duties incumbent on any professor which can be compared for a moment with that sacred one of sitting down at the Lord's Supper? He who commemorates his Saviour's death worthily,



may well be excused signing a theological treatise which he has never had leisure to study, and which, perhaps, is beyond his intellectual grasp. And he who dishonours the memory of his professed Lord and Master, will not be rendered more trustworthy as a public teacher, so far as religious character is concerned, though he should sign all the confessions of faith upon earth. If any lay member of the Church of Scotland, notwithstanding, choose to take the Tests, by all means accept and record his voluntary acknowledgment of the Confession and Formula in their full extent.

3. Let members of all the Presbyterian churches of Scotland be held eligible as professors, provided they give proof of a *bona fide* and consistent membership. This is but just. For, as the formal standards of faith, and still more the living faith, of all the Presbyterian churches of Scotland, is the same, if the question of Church and State be set aside, no distinction should be made between one class of Presbyterians and another, provided it is conceded, as in making these suggestions I assume it is, that others than members of the Established Church may fill University Chairs.

If you go this length, although you go no farther, and though my fellow-religionists would still be excluded, I should rejoice at the step. If, however, you got that length, you could surely, without difficulty, go a step beyond. I plead therefore, 4th, For my brethren the Congregationalists. Between Independents and dissenting Presbyterians, there is practically no difference in faith, but only in reference to church government. And as for my special brethren the Baptists, they who hold common faith with the author of the Pilgrim's Progress, cannot be very dangerous Christians. Such, at least, was the opinion of Dr Chalmers, who held in the highest esteem Robert Hall and John Foster, the Baptist ministers; men who, along with many of their brethren, are honoured throughout all Scotland. For similar reasons, Methodists and Members of the Society of Friends should be held eligible for Chairs.

Having thus got the door opened wide enough to let in myself, I might, were my purpose a selfish one, stop here. But, without



stopping to ask whether the door should not at once be thrown ajar, or taken off its hinges and put away altogether, I will at least plead, that it be opened a great deal more widely than it is. I mention, however, only one other class of Christians, namely, members of the Church of England and of the Scottish Episcopal Church. It is not necessary to plead for their admission into Scottish Universities. No professors of Physical Science in the country are more loved and honoured by the entire community than those who occupy Chairs in Edinburgh openly and honourably as Episcopalians.

Justice, however, will not have been done, although Presbyterians, Congregationalists, Episcopalians, Methodists, and Friends, are made equally free to Scottish Chairs. Certain men are, on all hands, the acknowledged teachers, *par excellence*, of the country in each science, and if they have the merit and labour of educating the people, they, or as many of them as possible, should enjoy the honours and emoluments that attach to the office of public educator. Now, in the case of chemistry (which, however, is not singular in this respect, but may be taken as an example), only a very small minority of its great promoters have, at any time, been orthodox according to Scottish standards, so that, if only such are to fill the Scottish Chemistry Chairs, these must often be occupied by men of inferior intellectual rank. Thus, without including the foreign chemists, if we limit ourselves to those of Great Britain from the days of Lord Bacon down to our own, we shall find the following famous names:—Robert Boyle, Robert Hooke, Stephen Hales, Henry Cavendish, Joseph Priestley, Joseph Black, William Wollaston, Humphry Davy, John Dalton, Thomas Thomson, and (I include one living name) Michael Faraday. These great men, in Chairs or out of Chairs, have been the teachers of chemistry to Great Britain. Thomas Thomson, I presume, took the Tests, but I venture to say, that so self-reliant and independent a thinker as he was, had he been allowed to draw up his own confession of faith, would have worded it considerably differently from the Westminster Confession. Joseph Black also, to whom, however, the Tests were not applied, would scarcely, I think, have signed



that Confession as altogether his. Of the others, there can be no question that they would have declined it; yet, if we except Priestley, who, for reasons apart altogether from his religious faith, was obnoxious to the majority of his contemporaries, the other philosophers whose names have been given, have been accepted by the country as its teachers, without complaint being made on either bank of the Tweed, or on either side of St George's Channel, that the religious principles of any were endangered by the teachings in chemistry of those teachers. I do not wish to infer from this, that it is not necessary to inquire into the moral and religious character of a professor of physical science, or to place on the same level Cavendish, who was destitute, to all appearance, of any religious belief, and tender conscientious pious men like Boyle and Faraday. I simply take the list of British chemists as history supplies it, and point to it, as showing how safely a wide latitude may be permitted in reference to the creed of Professors of Physics.

I do not stop to inquire at what point this latitude should be circumscribed. It will be a misfortune if it is *formally* circumscribed at all. I believe Sir Robert Kane to be as conscientious a Roman Catholic as I am a conscientious Protestant, and that his lectures on chemistry would be acceptable and profitable to students of all creeds. I should regret, therefore, to see it inscribed in permanent record in a national statute, that the country held that no Roman Catholic could be trusted to teach physical science to Protestant students. Scotland, moreover, at present goes far beyond excluding merely Roman Catholics from its University Chairs. Protestants of the greatest piety are placed in the same category. There have been few men more pious, devout, gentle, and conscientious, than the late William Allen, a member of the Society of Friends. He lectured on chemistry with great acceptance to one of the largest medical schools of London; was the associate of all the men of science of the day, and an esteemed Fellow of the Royal Society. He was, in addition, renowned over Europe for his catholic philanthropy; yet, this pre-eminently good man, was, according to the Tests, not good enough for a Scottish Chair.



John Dalton, also, world-famous as a chemist, and in life and conversation irreproachable, would have found, had he been a candidate, that the University gates were closed against him, and would have been compelled to infer that even a mock Presbyterian was counted better than the most honest Quaker.

It is not necessary, however, to refer to the dead. Faraday, who is a member and minister of the body of Christians calling themselves Sandemanians, of whose genius, great discoveries, high scientific reputation, rare excellence as a lecturer, conspicuous integrity, religious earnestness and piety, it is needless to write at length, would not be more welcome than Allen or Dalton. He is Christian enough to lecture to her Majesty and Prince Albert; Christian enough to lecture to peers and peeresses; Christian enough to lecture to clergymen, to men of letters, to men of science, to young ladies, professional students, and children, within the walls of the Royal Institution, London, and at the meetings of the British Association; but he is not Christian enough to be made a Professor at St Andrews, Glasgow, or Aberdeen!

With such facts before me, I deprecate the members of any religious body being one and all formally excluded from our physical Chairs. Let members of every religious denomination be free to become candidates, and let each individual be judged according to his own merits. I do not lightly estimate the value of a moral and religious character in teachers, in writing thus. The works I have published may satisfy you of this. I have seen and felt the evil influence which immoral teachers have exerted on their pupils, and have deplored it none the less, that to such teachers the Tests would be the veriest bagatelle. In some respects, indeed, lecturers on physical science have larger opportunities of morally influencing their pupils, than any other class of teachers. The comparatively informal intercourse of a laboratory, where the chemist and his pupils work together for hours daily at researches; the equally informal arrangements of the dissecting-room, where the anatomist mixes freely with his students; the botanical excursion, which under the guidance of a genial professor of botany, will always



more or less partake of the character of a scientific *pic-nic*; the wards of the hospital; or the waiting-room of the dispensary, and other places and occasions of more familiar mingling of teacher and student, than occurs in the lecture-room, give the teacher special opportunities of influencing his pupils. However strictly the proper duties of the laboratory, the dissecting-room, or the sick ward be attended to, topics of discussion—religious among others—will constantly arise, on which opinions will not fail to be given; whilst on some of them, silence will be more significant than speech. In more genial social intercourse, also, the teacher will feel himself free to speak on every topic which his conscience approves; and even should he conscientiously limit himself to purely scientific matters, it is notorious that students take the liveliest interest in all the doings of a professor whom they love, and do not rest till they have learned as much as they care to know of his opinions on all matters. This, in truth, is one of the reasons why I lament that any of our professors should begin their academical career with the faintest appearance or suspicion of having trifled with the reality and sacredness of their admission oath.

There is but one equitable method. Ask of each professor-elect—not to sign any Confession of Faith, however time-honoured and venerable: no, not even the Bible, the fountain of all confessions; but let him (if a formal confession be demanded) make his own confession of faith, leaving him to choose the alternative of declaring that he is without a faith to make confession of. Let this positive or negative confession form part of the documents he submits to the electing body before whom he lays his claims to a Chair. It will then form an essential element in determining his merits, and fall into its proper place as one of many grounds of desert. Yet why demand any formal confession? Those who so solicitously insist on it appear to think that the sole office of the electors to a Chair is that of sentinels at a gate; and that, provided the professor-elect can give the password and make good his entrance into the University, they and the community have no further concern with his faith. No gate, however, can be so guarded that traitors will not find it



easy to pass its warders. The fidelity of those within the walls will ever be a matter more difficult and more important to secure.

In our Scottish Universities, every Professor is, and must be, under a moral control from day to day, which is of more value as a guarantee of high character than all the signed parchments in the world. He is himself (in spite of the Tests) an upright, honourable man; he is responsible to the Senate of his University, which consists of his brother-professors—Clergymen, Lawyers, Scholars, Natural Philosophers, and Medical men; he is responsible likewise to his patrons, whether these are the Crown, the Town Council of Edinburgh, the Senatus Academicus of his University, or a private patron; he is further responsible to the Government; and, not least, he is responsible to public opinion, which tells with especial force upon Universities slenderly endowed,—above all, upon that of Edinburgh, where it is the pride of the Professors to owe their reputation, their influence, and their large classes, to their almost unaided genius, patience, and labour.

An immoral professor, so circumstanced, could succeed in openly and systematically demoralising his pupils, by precept or example, only provided the entire community were as immoral as himself; and if they were, their first step would be to treat the Tests as a cobweb, and brush them away. It seems to me, therefore, needless to lay such stress on the formal exaction of a confession of faith at the entrance of a professor on his duties, as if this were enough, and the great and recurring problem were not to keep him moral all his life through. Moreover, for a professorial Chair, such as the vacant Chair of Chemistry, other qualities are requisite besides moral character. To mention but three, you demand knowledge of chemistry, good temper, and good health; yet you do not exact a formal confession of chemical faith, a formal proof of the candidate's good temper, or a medical certificate of his health. A candidate and his friends are not likely to omit or underrate any of his claims; whilst, at the same time, the electors learn his defects, as well as his merits, much better, by allowing him to state his claims in his own way, than they



would by requiring him to fill up so many formal schedules. You will in like manner learn the nature and grounds of a candidate's morality much more certainly by leaving him to state what they are, than by subjecting him to the unrelenting, indiscriminating action of the Test, which, like a coiner's press, puts the same stamp upon a piece of lead and a piece of gold. Lead is a very excellent metal for many purposes, but it acquires no new virtues by having the gold stamp upon it, and is best to circulate through the country as lead. If at any time it affect to be gold, it can be *truly* tested and assayed, and the deceit detected. The country—directly, through the bodies to whom professors are responsible, and indirectly, through its power to withhold pupils from teachers it distrusts—is Assay-Master of the Universities; and can at any time subject to the furnace of public judgment a questionable professor, and even remove him from his place. No other test has guarded the Scottish Universities from immorality and infidelity, and no other ever will.

It is time that I conclude this letter. I will not do so, however, without again pleading with you, to legislate against the Religious Tests. You cannot refuse to give a legal sanction to a relaxation of which, in the House of Commons, you approved. Grant us at least what the present learned and accomplished Lord Advocate of Scotland, an attached member of the Established Church of his native country, is prepared to recommend. "I desire," says he, "to see a measure introduced which shall secure for these [the Scottish University] Chairs, men of undoubted principle. I care not whether they be Established Churchmen, Free Churchmen, United Presbyterians, or Church of England men. It is all one; for provided they agree with me on the great essentials of the Protestant faith, I will open my arms to them all."—(*Scotsman* newspaper, July 24, 1852.)

The Lord Advocate, I think, would find room for me among those he is willing to admit; but you will permit me, in concluding this letter, to remind you why I make my present complaint to you. I have lectured publicly on Chemistry for ten years. During that period, I have either shown myself to be morally disqualified from acting as a public teacher, and should



be authoritatively forbidden to lecture any more, or I have shown myself morally equal to my task; and however humble, obscure, or even incompetent I may be, I am wronged in not being permitted to offer myself as a candidate for the vacant Chair. Now, painful, delicate, and difficult as is the task of bearing testimony to one's own morality, I am relieved from all perplexity, by the consideration, that to assume myself to be an immoral, irreligious, and unprincipled teacher, would be to impute corresponding immorality, irreligion, and want of principle to the public bodies who gave me my present appointments, and still continue me in them.

I think, therefore, that I may without presumption infer, that I am *morally* equal to the duties of a professor; and that I have just reason to hold, that I suffer a wrong in not being permitted even to *try* to show that I am *intellectually* equal to its duties also. I will confess at once that I have no greater grounds of complaint than many others; but this consideration only aggravates matters; for it forces on me the conclusion, that though I possessed, in addition to my present small claims as a chemist, the added claims of all the chemists in the world, I should not be one step nearer a Chair. If you look over the names of those who have given testimonials to the able and esteemed gentlemen who are candidates for the vacant Glasgow Chair of Chemistry, you will perceive that the immense majority of the witnesses in their favour could not honestly take the Tests, and therefore could not themselves be candidates. That I suffer along with them, does not lessen my suffering; nay, there is a peculiar element of additional wrong in the position in which we sufferers as a body are placed.

When a Scottish Chair of Physical Science becomes vacant, fifty, sixty, or even ninety per cent., of those intellectually fitted for the appointment, are, by virtue of the Tests, declared to be morally disqualified for receiving it. Yet it is those fifty or ninety, as the case may be, who, by testifying to the moral as well as intellectual qualifications of the successful individual, procure for him the Chair. They are not only wronged by this, but the successful candidate is liable to wrong also. For he



may be the very best man of the hundred, and would have gained the Chair though all had tried against him ; whereas he has only the credit of being the best of the small per centage who actually competed.

Thus circumstanced, I plead with you, in the name of myself and of my fellow-sufferers. Ours is a hard case. If we tried for a Chair, and were beaten by an equal who had more influence with the Patrons, we should not grudge him his good fortune, but recall to remembrance that "Time and chance happen to all men." If we were beaten by one undeniably our superior, we should be content to consider the question, "What can the man do that cometh after the king?" If we were beaten by our inferior, we should say calmly, "The race is not to the swift, nor the battle to the strong, neither yet bread to the wise." But as it is, we are precluded from trying our strength at all, and are obliged, in the bitterness of our hearts, to declare, "Promotion cometh neither from the east, nor from the west, nor from the south." For other men there is hope from one political administration, if not from another ; hope from an eastern University, if not from a western ; hope from a Municipal electing body, if not from an Academic one ; hope in many directions to the end of their days. For them—

"With the year  
Seasons return ; but not to us returns  
Day, or the sweet approach of even or morn."

For us, like the blind Milton, the hours are all night : the months all winter :

"And ever-during dark  
Surrounds us."

Our only light is the thought that we are wronged because we will not mock that Confession, which, among other noble passages, contains this one—

"GOD ALONE IS LORD OF THE CONSCIENCE, AND HATH  
LEFT IT FREE FROM THE DOCTRINES AND COMMANDMENTS  
OF MEN, WHICH ARE IN ANYTHING CONTRARY TO HIS



WORD, OR BESIDE IT, IN MATTERS OF FAITH AND WORSHIP. SO THAT TO BELIEVE SUCH DOCTRINES, OR TO OBEY SUCH COMMANDMENTS OUT OF CONSCIENCE, IS TO BETRAY TRUE LIBERTY OF CONSCIENCE; AND THE REQUIRING OF AN IMPLICIT FAITH, AND AN ABSOLUTE AND BLIND OBEDIENCE, IS TO DESTROY LIBERTY OF CONSCIENCE, AND REASON ALSO."

I have the honour to be,

SIR,

Your most obedient humble servant,

GEORGE WILSON.

For us, like the blind Milton, the hours are all night: the months all winter:

"And ever-during dark  
Surrounds us"

Our only light is the thought that we are wronged because we will not mock that Confession, which, among other noble passages, contains this one—

"GOD ALONE IS LORD OF THE CONSCIENCE, AND HATH LEFT IT FREE FROM THE DOCTRINES AND COMMANDMENTS OF MEN, WHICH ARE IN ANYTHING CONTRARY TO HIS



# APPENDIX.

TITLES OF WORKS AND PAPERS PUBLISHED BY  
DR GEORGE WILSON.

## I. WORKS.

1. Chemistry: an Elementary Text-Book. W. and R. Chambers. 1850.
2. The Life and Works of the Hon. Henry Cavendish; including a Critical Enquiry into the Relative Claims of all the Alleged Discoverers of the Composition of Water. 1851. Printed for the Cavendish Society.
3. The Life of Dr John Reid, late Chancery Professor of Medicine in the University of St Andrews. 1852.
4. The Traveller's Library, No. XXVI.—Electricity and the Electric Telegraph. (Reprinted from the Edinburgh Review). The Chemistry of the Stars. (Reprinted from the British Quarterly Review). 1852.

## H. PAPERS ON CHEMICAL AND PHYSICAL SCIENCE.

1. Demonstration of the Existence of Haloid Salts in Solution. Trans. British Assoc. 1833.
2. On Wollaston's Argument from the Identity of the Atmosphere, as to the Finite Divisibility of Matter. Trans. Royal Soc. Edin. 1845.
3. On the Solubility of Fluoride of Calcium in Water, and its Relation to the Occurrence of Fluorine in Minerals, and in Recent and Fossil Plants and Animals. Trans. Royal Soc. Edin. 1846.
4. On the Employment of Oxygen as a Remedial Agent in Asphyxia. Trans. Royal Scottish Society of Arts. 1846.
5. On the Decomposition of Water by Platinum and the Black Oxide of Iron at a White Heat. Journal of Chemical Society of London. 1847.
6. On the Extent to which Fluoride of Calcium is soluble in Water. Trans. Brit. Assoc. 1847.
7. On the Binary Theory of Salts. Journal of Chemical Society of London. 1848.



## APPENDIX.

---

### TITLES OF WORKS AND PAPERS PUBLISHED BY DR GEORGE WILSON.

#### I. WORKS.

1. Chemistry : an Elementary Text-Book. W. and R. Chambers. 1850.
2. The Life and Works of the Hon. Henry Cavendish ; including a Critical Enquiry into the Relative Claims of all the Alleged Discoverers of the Composition of Water. 1851. Printed for the Cavendish Society.
3. The Life of Dr John Reid, late Chandos Professor of Medicine in the University of St Andrews. 1852.
4. The Traveller's Library, No. XXVI.—Electricity and the Electric Telegraph. (*Reprinted from the Edinburgh Review.*) The Chemistry of the Stars. (*Reprinted from the British Quarterly Review.*) 1852.

#### II. PAPERS ON CHEMICAL AND PHYSICAL SCIENCE.

1. Demonstration of the Existence of Haloid Salts in Solution. *Trans. British Assoc.* 1839.
2. On Wollaston's Argument from the Limitation of the Atmosphere, as to the Finite Divisibility of Matter. *Trans. Royal Soc. Edin.* 1845.
3. On the Solubility of Fluoride of Calcium in Water, and its Relation to the Occurrence of Fluorine in Minerals, and in Recent and Fossil Plants and Animals. *Trans. Royal Soc. Edin.* 1846.
4. On the Employment of Oxygen as a Remedial Agent in Asphyxia. *Trans. Royal Scottish Society of Arts.* 1846.
5. On the Decomposition of Water by Platinum and the Black Oxide of Iron at a White Heat. *Journal of Chemical Society of London.* 1847.
6. On the Extent to which Fluoride of Calcium is soluble in Water. *Trans. Brit. Assoc.* 1847.
7. On the Binary Theory of Salts. *Journal of Chemical Society of London.* 1848.



8. On the Action of the Dry Gases on Vegetable Colours. *Trans. Royal Soc. Edin.* 1848.

9. On Some Phenomena of Capillary Attraction, observed with Chloroform, Bisulphuret of Carbon, and other Liquids. *Journal of the Chemical Society of London.* 1848.

10. On the Early History of the Air-Pump in England. *Edin. Phil. Journal.* 1849.

11. On the Possible Derivation of the Diamond from Anthracite. *Edin. Phil. Journal.* 1850.

12. On the Presence of Fluorine in Sea-Water. *Proceedings Royal Soc. Edin.* 1850.

13. On the Presence of Fluorine in Blood and Milk. *Trans. of Brit. Assoc.* 1850.

14. On the Organs in which Lead accumulates in the Horse in cases of Slow Poisoning by that metal. *Monthly Journal of Medical Science.* 1852.

15. On Two New Processes for the Detection of Fluorine when accompanied by Silica; and on the Presence of Fluorine in Granite, Trap, and other Igneous Rocks, and in the Ashes of Recent and Fossil Plants. *Trans. Royal Soc. Edin.* 1852.

### III. PUBLISHED LECTURES.

1. On Isomeric Transmutation. *Edin. Phil. Journal.* 1844.

2. Introductory Lecture at the Opening of the Extra-Academical Medical School, Surgeons' Hall, Edinburgh, 1850. *Monthly Medical Journal.* 1850.

3. On the Sacredness of Medicine as a Profession. *The Fifth of a Series of Lectures delivered and published at the request of the Medical Missionary Society of Edinburgh.* 1849.

### IV. PAPERS ON THE LITERATURE OF PHYSICAL SCIENCE CONTRIBUTED TO THE BRITISH QUARTERLY REVIEW, FROM 1845 TO 1849.

1. Chemistry and Natural Theology.

2. The Life and Works of John Dalton.

3. Biographical Sketches of Cavendish, Black, and Priestley.

4. The Life and Works of Wollaston.

5. Robert Boyle.







