

Remarks on the origin, nature, and importance of medical science / by A.J. Hannay. Remarks on medical education, and on the constitution of the Scotch universities / by Andrew Buchanan.

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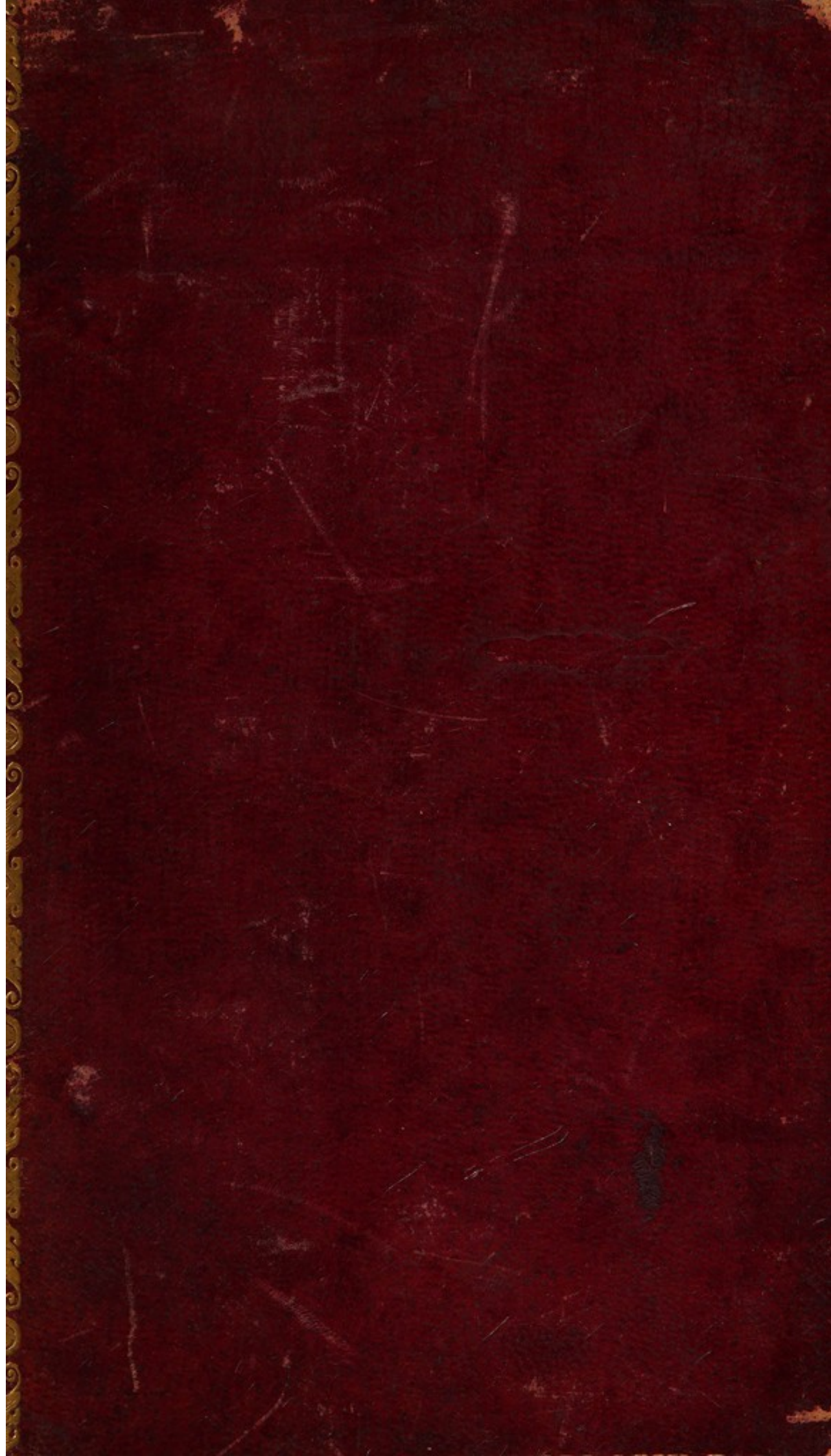
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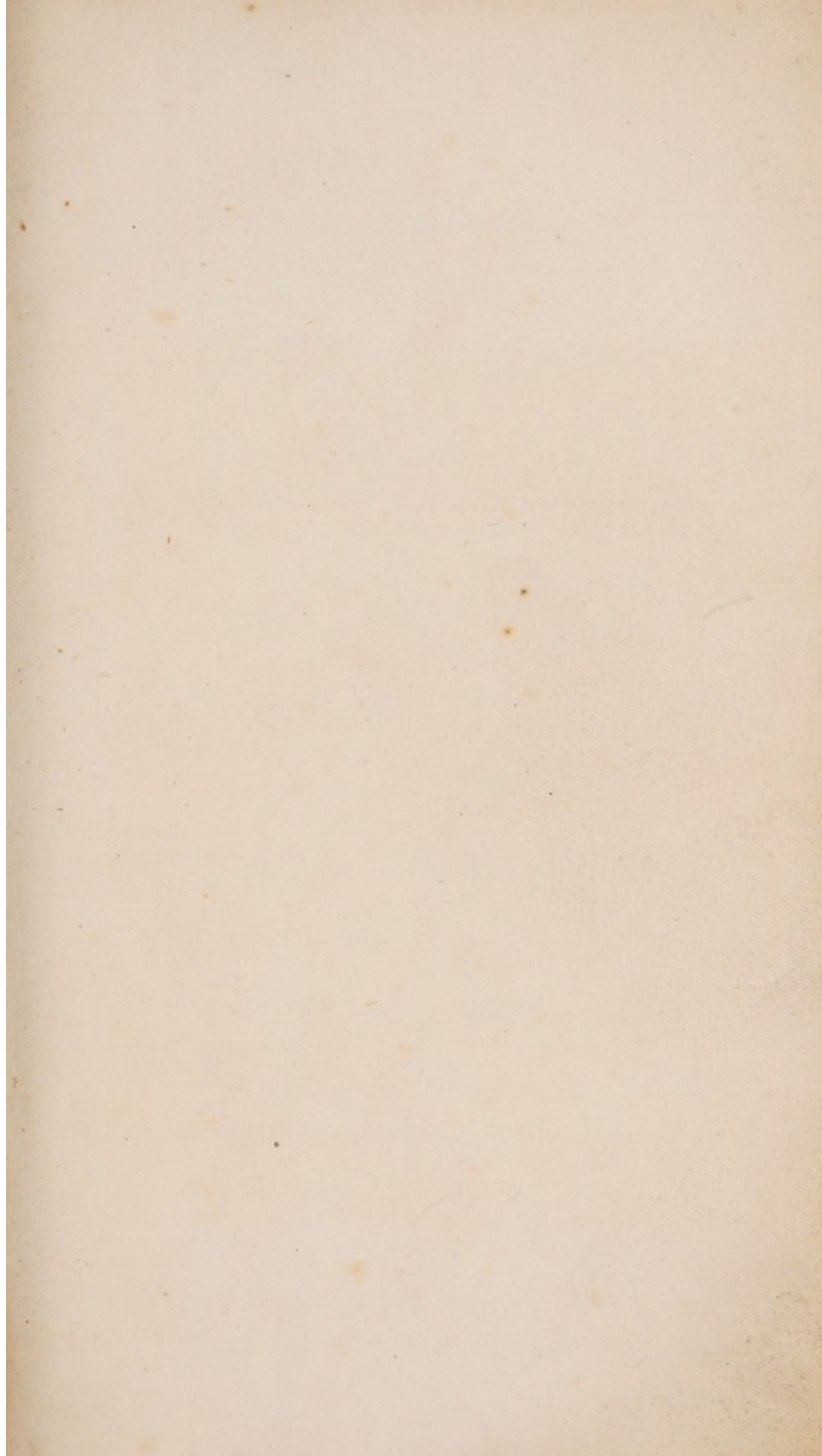
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REMARKS

ON THE NATURE, AND IMPORTANCE

OF MEDICAL SCIENCE,

BY A. J. HANBAY, M.D.

LECTURER ON THE THEORY OF MEDICINE, AT THE MEDICAL SCHOOL, DUBLIN, AND PHYSICIAN TO THE HOSPITAL FOR THE SICK, DUBLIN.

REMARKS

ON MEDICAL EDUCATION,

AS DELIVERED AT THE SCOTCH UNIVERSITY OF MEDICINE,

BY ANDREW ACPHIAN,

LECTURER ON THE THEORY OF MEDICINE, AT THE MEDICAL SCHOOL, DUBLIN.

GLASGOW:

PRINTED BY JAMES HODGKINSON, 1820.

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REMARKS
ON
THE ORIGIN, NATURE, AND IMPORTANCE
OF
MEDICAL SCIENCE.

By A. J. HANNAY, M. D.

Professor of the Theory & Practice of Medicine; Extraordinary Member, and formerly
Senior President of the Royal Medical Society of Edinburgh, &c. &c.

REMARKS
ON
MEDICAL EDUCATION,
AND ON THE
CONSTITUTION OF THE SCOTCH UNIVERSITIES.

By ANDREW BUCHANAN,
Graduate & Regent of the Faculty of Medicine in the University of Glasgow.

GLASGOW:
PRINTED BY JAMES HEDDERWICK & SON.

1837.

THE ORIGIN, NATURE, AND IMPORTANCE

MEDICAL SCIENCE

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MEDICAL EDUCATION

INSTITUTION OF THE SCOTCH UNIVERSITIES

BY ANDREW BUCHANAN

Graduate & Member of the Faculty of Medicine in the University of Glasgow

GLASGOW

PRINTED BY JAMES HENDERWICK & SON

GLASGOW

PRINTED BY JAMES HENDERWICK & SON

1887

REMARKS

ON

THE ORIGIN, NATURE, AND IMPORTANCE OF
MEDICAL SCIENCE;

THE RELATION OF MEDICINE
TO OTHER BRANCHES OF KNOWLEDGE,
EXPOSURE OF CERTAIN IMPEDIMENTS TO ITS ADVANCEMENT,
AND SOME INSTRUCTIONS TO THOSE ENGAGING IN THE STUDY;

BEING THE SUBSTANCE OF

A LECTURE,

INTRODUCTORY TO THE STUDY OF MEDICAL SCIENCE,

DELIVERED AT THE OPENING OF THE

MEDICAL CLASSES OF THE ANDERSONIAN UNIVERSITY.

SESSION 1836-37.

BY A. J. HANNAY, M.D.,

PROFESSOR OF THE THEORY AND PRACTICE OF MEDICINE,
EXTRAORDINARY MEMBER, AND FORMERLY SENIOR PRESIDENT OF THE
ROYAL MEDICAL SOCIETY OF EDINBURGH, ETC., ETC.

GLASGOW:

W. R. M'PHUN, 86, TRONGATE;
JAMES STILLIE, HIGH STREET, EDINBURGH;
N. H. COTES, CHEAPSIDE, LONDON.

1837.

REMARKS

ON THE NATURE AND IMPORTANCE OF
MEDICAL SCIENCE

AND THE POSITION OF THE
PHYSICIAN IN SOCIETY

A LECTURE

DELIVERED AT THE REQUEST OF THE
FACULTY OF MEDICINE

OF THE UNIVERSITY OF GLASGOW

BY JAMES CLARK, M.D.

RECEIVED 1850-51

BY JAMES CLARK, M.D.

LECTURE ON THE NATURE AND IMPORTANCE OF
MEDICAL SCIENCE, AND THE POSITION OF THE
PHYSICIAN IN SOCIETY

W. R. BROWN, OF DUNDEE,
GLASGOW

GLASGOW :—PRINTED BY RICHARDSON, HUTCHISON, AND CO.

1851

A. J. HANNAY, M.D.,
Professor of the Theory and Practice of Physic.

SIR,

WE, the undersigned Students of Medicine attending Anderson's University, being deeply impressed with the importance of the principles advanced in your *Introductory Lecture*, and feeling highly gratified with the clear, impressive, and powerful manner in which they were brought forward, and illustrated on that occasion—respectfully request you to send it to the press, each of us being desirous to possess a copy, in order to derive from its perusal that valuable information which it is calculated to afford, respecting the study and the principles of Medical Science.

JAMES SHORT THOMSON.
JOSEPH BELL.
ROBERT LEGGAT.
ALEXANDER LONG.
JOHN MARCHBANK.
WILLIAM DALZELL.
THOMAS SMITH.
GEORGE SUTHERLAND.
ROBERT FLEMING CULLEN.
JAMES HUTCHISON.
HENRY J. CRAIG.
GEORGE OGILVIE.
JOHN MUNRO.
WILLIAM CAMPBELL.
WILLIAM CHRISTIE.
NEIL M'LEAN.
JOHN ALLISON.
JOHN KING.
JOHN HARDIE.
LYON PLAYFAIR.
JOHN REID.
HORACE PURDIE.
GEORGE WATMOUGH.
JAMES MILLAR.
ROBERT MUIR.
JAMES YOUNG.
JOHN M'LEAN.
JOHN TAYLOR.
HARTLY S. LAYCOCK.
ANDREW M'LAREN.
ROWLAND BALDWIN EAST.
AUGUSTUS O. CURRIE.
JAMES BROWN.
EBENEZER J. BROWN.

JAMES MUSHPRATT.
ROBERT WYLLIE.
THOMAS KELLY.
PATRICK TRAINER.
JOHN F. HODGES.
A. J. GUNNING.
WILLIAM SMITH.
HENRY R. HOWATT.
WALTER W. LENNOX.
SINCLAIR BLUE.
HUGO REID.
THOMAS FORREST.
JAMES STEEL.
NEIL M'MILLAN.
DAVID ROSS.
THOMAS HUNTER.
ROBERT BURGESS.
BENJAMIN M'LAREN.
CORNELIUS O'LEARY.
JAMES HANNAY.
JAMES HUTCHISON.
GEORGE WYLLIE.
ROBERT BISSET.
ADOLPHUS CAINNES.
CHARLES M'CARGOW.
JAMES CAMERON.
ALEXANDER GRANT.
CHARLES DIAMOND.
ROBERT LOW.
J. BROWN.
DAVID WYLLIE.
DANIEL COULTER.
THOMAS NEILSON.

GENTLEMEN,

Your request has determined me to publish the Lecture I had the honour of addressing to you at the opening of the present session. I esteem your approbation of it as a very high reward for the time which I gave to its compilation. I regret that its publication has been so long delayed ; but circumstances, over which I had but little control, prevented me from acceding to your wishes until now.

GENTLEMEN,

I have the honour to be,

Yours, very faithfully,

ALEX. J. HANNAY, M.D.

65, ST. VINCENT STREET, }
February, 1837. }

WILLIAM GIBSON, ESQ.

My dear Sir,
I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the proposed publication of a new edition of the "Lectures on the Principles of Medicine," by the late Dr. William Osler. I am very glad to hear that you are so much interested in the subject, and I am sure that the publication of such a work will be of great service to the medical profession. I have no objection to your publishing the work, and I am sure that it will be well received by the public.

I am, Sir, very respectfully,
Your obedient servant,
Wm. Osler

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I am, Sir, very respectfully,
Your obedient servant,
Wm. Osler

TO

WILLIAM GIBSON, ESQ.,

MERCHANT, GLASGOW,

AS A

Mark of Unfeigned Regard and of Gratitude,

FOR

MANY PROOFS OF DISINTERESTED FRIENDSHIP TO

THE AUTHOR.

TO

WILLIAM GIBSON, ESQ.

MEDICAL CLERK

OF

THE HOSPITAL FOR THE BLIND

AND

HASTY HOUSE OF THE BISHOP OF LINCOLN

THE AUTHOR

GENTLEMEN,

It affords me unqualified pleasure to state to you, and the friends of this University, that whilst the classes for Popular Science expand and flourish, its Medical School increases in usefulness and reputation.

It might have been reasonably expected, that the great increase of Medical schools in the neighbourhood, and in many parts of the empire, would have diminished our numbers. Though we have reason to believe, that from these causes, fewer, on the whole, frequent the schools for medical instruction in Glasgow, yet the registrations of our attendants experience no reduction, and the aggregate of pupils in the Medical School of Anderson's University, during the year that now closes, has not declined.

To many who know and witness the excellent abilities—the many opportunities of improvement carefully cultivated—the untiring zeal and industry which characterize my Learned Colleagues, as well as the completeness of our School, and of its system of tuition, this success might not appear so astonishing or unexpected. But to those acquainted with the grievous disabilities, under which we enter the field of competition with the endowed and chartered schools, it must, as I confess it does to me, appear a wonder that we are not entirely driven out of the field.

I can only attribute it to their forbearance, that with the advantages they have over us, this has not long ago been accomplished by these more favoured institutions, and our

spring of wholesome and refreshing, scientific and professional information dried up to the public ; who, by unabated patronage, still encourage our exertions, and proclaim the value, in their estimation, of the Medical School of Anderson's University.

I could point out a plan by which the chartered medical schools might effect our extinction, without the infringement of any one law, human or divine. By taking advantage of the position and the means with which they are favoured, and exerting their energies with spirit and liberality, this might be easily accomplished. Perhaps, however, they regard the bonds by which we are held, sufficient for the present ; and the more so, that they are invisible, and call forth little or no public concern or sympathy.

But one of our number, a respected colleague,* has broken in on the dulness of the public ear, and, by an energetic effort, made the sound of his chain awaken attention and create inquiry, in quarters that may afford us consideration and aid ; more especially, as, after all, we are not the only sufferers, but merely the apertures through which the community is assailed, and the interests of science retarded.

Let me not for a moment be misunderstood ; for to none would I yield in respect for the ancient, and chartered, literary and scientific institutions of my country. They are, and long have been its greatest ornaments. The country owes them a lasting and unpayable debt of gratitude, and long may they be cherished

* Dr. Andrew Buchanan. I have often thought that it reflects little credit on the Private Lecturers of Glasgow that they have not seconded Dr. B. in a more energetic manner—that the combat has been left to him.

with fondest affection, and their teachers, as I believe in my heart they do at present generally deserve, obtain that honour, and respect, due to their usefulness and importance.

May they long continue to enjoy their reputation, and their endowments, and if in fair competition, they be outstripped by unendowed Schools, let the State compensate them, rather than allow the energies, of other teachers to be kept, as at present, in hopeless thrall, or not meet their due reward.

Some may ask, why all this favour to these schools—they have enjoyed in their monopoly of centuries, a rich reward for all that they have done? I answer, no! The mighty obligations of society to the institutions in question, can never be cancelled.

When science was in all the helplessness of infancy, who cradled her and fostered her in their bosom? It was the Universities of our land. They proved her kind nursing-mothers, and now that under their care she has grown up to strength and maturity, and can call into existence such institutions as our own, shall we, with base insensibility, forget their claims on our gratitude and regard? I am sure every generous mind will respond with mine, in the most determined negative, and loudly demand that they be maintained in all their distinction and pre-eminence—that every means *which may not interfere with individual exertion and public good be employed*, to keep them as schools in which the most gifted and most cultivated intellects, may find an ample field, and a rich reward, for their labours in the great cause of education. This may be effected by continuing to them, nay, if necessary, enlarging, their endowments; also leaving to them the privilege of examining candidates and conferring Degrees—a

privilege productive of no inconsiderable item of income, for all the trouble it occasions.

I do not deny that at one time, it was necessary to confer certain privileges on teachers of medicine in Universities, just as the trades in different towns had special rights and immunities, to protect and encourage their different callings. But certainly the necessity of all such restrictions has now ceased, and should be abolished to a certain extent—the matter may in all safety be left to the keen eye which human nature ever turns to its *temporal* interests and well-being.

In the ingenious essay of my colleague, Dr. Buchanan,* the parallel between the malignant influences of monopoly over trade, and that over the art of teaching is well sustained. In the midst of this great commercial community, we have an opportunity of witnessing the fresh stimulus which has been given to the principal departments of our industry, and the addition that has been made to the productive capital of our land, by the removal of the restrictive regulations under which several domestic trades have been hitherto left to languish—and particularly, by throwing open to the latent enterprise and unproductive capital of other classes, the lucrative branches of commerce, which were formerly engrossed by huge monopolies. Alas ! the monopoly under which we labour, still remains, and, whilst exerting every nerve to free ourselves from it, let us anticipate that when its removal is effected, as I am persuaded it must at no distant period be, the parallel will still hold good, and proclaim that all these

* Of Monopolies in Learning ; with Remarks on the present state of Medical Education, and on the Constitution of the Scotch Universities. By Andrew Buchanan, Graduate and Regent of the Faculty of Medicine in the University of Glasgow.

great interests are managed to the greatest advantage, when they are left to the sagacity—enterprise—industry—and energy of individuals.*

It were a useless waste of your patience to establish, by any formal reasoning on the point, that such monopolies and such exclusive privileges, are no longer required for the promotion of medical science—*it is now admitted on all hands*. The highest members of the profession, without these monopolies and exclusive privileges, have enrolled themselves as Teachers.

The Universities themselves have admitted it, in a way the most practical and unequivocal. I crave special attention to the fact—for it is a cardinal point in my argument—that the Universities of Glasgow and Edinburgh admit their peculiar privileges to be no longer necessary for the interests of medical science, and descend from the strict rigour of their monopoly, with manifest advantages to the profession and to the public; and they are worthy commendation for the act, whatever be the motive, which

* Just before entering the Hall, I was favoured with the following appropriate note from my distinguished colleague, the Professor of Chemistry, who returned a few days ago from a visit of some duration, to Germany. It is well worthy of attention :—

My dear Sir,—In answer to your inquiries, I beg leave to say that Germany affords a triumphant demonstration of the advantage of free competition in lecturing. All medical teachers are placed on the same footing as to privileges, and distinguished merely by the names of Extraordinarius and Ordinarius Professors. This freedom (to use the strong expression of a distinguished ordinarius professor at Berlin, whom I consulted on the subject,) has proved the salvation of the German Universities. For when an Ordinarius Professor proves deficient as a teacher, instead of its being a serious evil to his school, it often indirectly proves an advantage by attracting competent Extraordinarius Professors to the seat of the University, so that the students never lose by it.

Yours, &c., THO. GRAHAM.

I have no right to scan. They have liberally granted to the private teachers in the London and Dublin schools, the privilege of having their certificates recognized, as qualifying candidates for Diplomas in Surgery, and Degrees in Medicine.

I believe, however, that it is but little known to the community, that the teachers in Anderson's University, and the private lecturers in this city, and the pupils who prefer their tuition, to that of the teachers in Glasgow College, are excluded from participating in these bounties; that a student who never was within the walls of a University, can come from London and Dublin, with certificates from private lecturers or teachers there, and in six months obtain from Glasgow College a Degree in Medicine, or a Diploma in Surgery; whilst the certificates of Glasgow teachers, and the pupils bearing them, are utterly rejected, though they may have spent as many years as the other did months in their studies. In short, that the College confers privileges, on the citizens and teachers of Medicine in London and Dublin, (and Paris I understand) which she withholds from those at her own portals. I think Glasgow has a right to know why her own private teachers, and their pupils are excluded from this liberal boon.

The University was reared and endowed, "to irrigate" the City of Glasgow, and this district, with the blessings of science and literature. Who has a better right, then, to share in any bounties this or her other institutions may or can bestow, than her own citizens—their children—and the schools established for their education?

Let us examine for a moment, and with all the delicacy such a subject demands, whether any good grounds for this partiality may exist—whether it be not an act of injustice to

withhold privileges from the people of this city, which she bestows so freely on strangers. In granting the privileges in question, to the schools in London and Dublin, the University of Glasgow has bestowed them on teachers, whose qualifications and modes of teaching, the College can, from their distance, have only imperfect opportunities of ascertaining and estimating. While, on the other hand, they can very easily, and fully satisfy themselves, as to the abilities and methods of the teachers in the private schools in this city; many of whom are *Alumni* of their University, and are well known to most, if not all the Professors, to have had complete courses of preparatory study, and much experience in conducting medical education.*

To prove that no well-founded objections can possibly lie against us as teachers, I would appeal to the fact, that our instructions are held as qualifying for Degrees in Medicine at the Universities of

OXFORD,
CAMBRIDGE,
ABERDEEN, and
ST. ANDREW'S;

As well as for Diplomas in Surgery by

The Boards which superintend the medical department of the Army and Navy, and East India Company; by

The Royal College of Surgeons of London;

The Royal College of Surgeons of Edinburgh;

And, I may add, by every licensing corporation in the kingdom, except GLASGOW COLLEGE!

* Besides, the London courses, which the College recognizes, are only of three months' duration, and in most instances only of three lectures a-week; whereas, the courses given by the teachers of Anderson's University, and others in Glasgow, but rejected by the College, consist of five Lectures, and examinations every week for six months.

And farther, I think it would not be difficult to make Glasgow College itself, admit our ability to teach. But, we must not poach on their demesne, or come between the “wind and their nobility.” If we, however, betook ourselves to London or Dublin, and entered on our vocation as teachers there, our tickets would be accepted in terms of the latest regulations of the College; no doubt, in consequence of the atmosphere of these vast cities, possessing some such secret influence, as raises our energies up to the standard of excellence, attainable in the air, and under the balmy influences, enjoyed in that hot-bed of human intellect, bounded on the one side by the Havannah, on another by the High Street, and watered by the enriching streams of the Molendinar Burn.

Were I, for example, to remove to London or Dublin, and begin, this very season, a course of lectures, “my ticket” would be recognized by Glasgow College; though, whilst I teach in Glasgow, it is of no value. But the only thing which reconciles me to this, is, that were Sir Astley Cooper himself, or any gifted individual like him, to undertake the task in George Street, Glasgow, his powers too, would soon wither and droop—his intellect be “curtailed of nature’s fair proportions”—and his qualifications to teach pass unheeded, and his certificates, according to the present regulations of Glasgow College, be utterly rejected.

I may illustrate the hardship of these restrictions by a case. A Gentleman had, in part, attended the lectures of Professors in Glasgow College; a large proportion of his education however, had been conducted under private teachers in this city; he had not, therefore, a sufficient number of “College Tickets”—in common language, he had not “*fee’d*” all the College Professors, so as to enable him to get his Degree. After a time he found that it would be

to his advantage to have a degree. Though he had far more certificates than the College required, yet, as they were not from themselves, he could not be gratified with a Degree, without again "*feeing*" such classes as he had not the good fortune to have taken or "*fee'd*" before ; and thus a man who had a very complete medical education—had passed a most rigid examination before the Royal College of Surgeons of Edinburgh, and before the Navy Board—had been deemed qualified to serve, and had served his king and country for several years, in a professional capacity, must again become a student—again *pay money* for lectures he did not want or require, and lose his time and his emoluments—injure his prospects, and mar his advancement, ere he could obtain the honours prized by the profession, and esteemed by the public.

Besides, such restrictions are calculated to drive native talent from our borders ; and it would not be difficult to show that such has been the effect.

And will it be believed, that these restrictions are imposed by institutions, proclaiming by a solemn deed, the fitness, and granting the power, of teaching, to every graduate ? Yes ! the diploma granted by the Universities of Scotland to their graduates in medicine, certifies their ability, and confers on these graduates, in the most explicit language, the right of teaching ; and it has been distinctly shown, from the terms of their charter, and from the history of the University, that this special right and qualification of the graduates to teach were at one period respected and effectually recognised.* Now this solemn compact is to all practical intents broken or defeated, by refusing to recognize those taught by us as fit for examination.

* Dr. Andrew Buchanan, *op. cit.*

These arguments derive weight, farther, from the fact that they have been successfully urged with more than one of our Scotch Universities. The University of St. Andrew's deserves the warmest commendations of the private schools of Glasgow and Edinburgh; that ancient dispenser of literary and medical honours having put them on the same footing, as the University of Glasgow has done the teachers of Dublin, London, and Paris.

The University of St. Andrew's has the most ample and undisputed powers to confer Degrees in science. For long this University discharged its high function of granting degrees, in a manner so remiss, as to compromise its own dignity, and lessen the reputation of such honours.—What was of greater moment, the interests of society were thus sacrificed, for, to the charge of unqualified persons, were committed blessings which mankind justly prized higher than all other earthly enjoyments—the preservation of health and the cure of disease. They have now determined on administering this high and important function in a manner more favourable to the interests of Medical Science and of mankind.

There is not a more sacred trust reposed by society, in our licensing bodies, than that of exercising every precaution, to prevent any but those completely qualified, from receiving a degree or a diploma. And I have great pleasure in stating, that the University of St. Andrew's has now adopted and entered upon regulations, in respect to Degrees in Medicine, in every one of which the public interests have been carefully consulted. By steadily pursuing them, their Degree has already attained the highest consideration and respect. Being one of the Examinators called in by that University, I trust I may be excused if I shortly explain the principles by which

it has wrought out this regeneration, and conferred, at the same time, a privilege on the teachers and students of unendowed or private schools.

First of all, it may now be relied on by the public, that the qualifications of its graduates or Doctors in Medicine, shall be of the highest order. The course of study prescribed by the Senate, embraces every branch of medical science which is essential to the practitioner of medicine. They also demand of them, a knowledge of several collateral branches of study, which may be looked upon in part as accomplishments, but in many respects, as improving their minds, enlarging their resources, and so rendering them more efficient in practice. In short, it may be relied on, that the candidates for medical honours are required by the Senate of St. Andrew's to pursue a course of study *more extensive by far, than that required by the University of Glasgow.**

Besides producing certificates of a very ample course of study, the candidate is subjected to a most searching, but fair examination, in presence of the Principal and all the Professors of the United Colleges.

To aid them in the right discharge of this duty, the Senate have called in the assistance of the following gentlemen, whose names, I am sure, are a sufficient guarantee that the examination will elicit the truth as to the candidates' attainments, and that none, but such as have respectable qualifications, will obtain their Degree; that the examination shall be conducted with all impartiality and fairness, and that the interests of the public will not be overlooked, *for these gentlemen have no pecuniary*

* It is commonly said, and I believe it to be true, that Glasgow College demands of its graduates in Medicine, a course of study more limited than any other University in the kingdom.

interest in the passing of the candidate, no fee or reward, except the satisfaction of working out a plan that does justice to the teachers and pupils, of what are denominated, the private schools of Glasgow and Edinburgh, and to the many interests directly or indirectly involved therein.

ROBERT LISTON, Esq., Fellow of the Royal College of Surgeons, Edinburgh, Surgeon to the North London Hospital, and Lecturer on Surgery, London.

J. A. ROBERTSON, M.D., Fellow of the Royal College of Surgeons, Edinburgh, and Lecturer on Surgery and Materia Medica.

J. MACKINTOSH, M.D., Fellow of the Royal College of Surgeons, Edinburgh, and Lecturer on Midwifery and Practice of Medicine.

ALEXANDER LIZARS, M.D., Fellow of the Royal College of Surgeons, Edinburgh, and Lecturer on Anatomy.*

WILLIAM GREGORY, M.D., Fellow of the Royal College of Physicians, Edinburgh, and Lecturer on Chemistry.

ANDREW BUCHANAN, M.D., Member of the Faculty of Physicians and Surgeons of Glasgow, and Professor of Materia Medica in Anderson's University.

The liberal views of the University of St. Andrew's commend themselves to us in various ways. Many eminent and distinguished members of the profession never heard a lecture within the walls of a university. The voice of their country, even of Europe, may declare their attainments to be worthy of the highest honours. They imbibed the first principles of the science they now advance and

* Dr. Lizars has farther shown his respect for a St. Andrew's Degree, by submitting to the examination required and taking this honour.

adorn, from the most illustrious teachers of the day;* but these were not teachers in a University. The regulations of the Universities of Glasgow and Edinburgh demand, before they bestow their highest honours, or a Degree, upon men of this high standing, that they relinquish their avocations and attend as students, lectures addressed to the youngest pupils, for one year if they have been educated at London or Dublin; and for three or four years, if they have had the *misfortune* to receive their elementary education in the private schools of Edinburgh or Glasgow—another hardship inflicted on the private schools of these cities.

Now the University of St. Andrew's meets in liberal spirit the case of the gentlemen just described. It demands that they *have* a complete education, but does not enact that an education can only be complete when conducted within the walls of a University. Ample experience having shown that the best teachers, and, consequently, the most popular and best attended, were very often not to be found in the precincts of a University, but at private schools. The University of St. Andrew's, has therefore, with much justice, recognized the efficiency of Extra-Academic teachers, and accepted their certificates. It will be readily seen that this gives occasion to a spirit of competition, which under proper control, cannot fail to advance the Science and benefit the community.

Medicine, as a science, is yet almost in its infancy, so that new discoveries and modes of practice, affecting the health and comfort of all the members of the community, may be confidently anticipated. Exertion, therefore, as to it cannot be too eagerly called forth, the public having

* From Abernethy, Cooper, Bell, Allan Burns, Gordon, Murray, Barclay, Brodie, Brookes, Baillie, Laurence, Elliotson, Macintosh, Liston, Lizars, &c., &c.

the deepest interest in its advancement, and in distinctly knowing those by whom it has been advanced. Now it is surely a possible case that the medical teachers in Universities may sometimes be less zealous and less able than many private teachers, and that under the latter higher medical attainments may be acquired. If, however, the power of conferring Degrees in Medicine be limited to Universities, exacting attendance upon their own schools, either what may actually be the best medical schools must be deserted, or the persons who attend them and profit by them, must be excluded from certain professional honours; in other words, this would be to establish a monopoly, where monopoly, from every motive of humanity is most to be deprecated; and sacrifice to private emolument the welfare of all classes. Permit the University of St. Andrew's to carry its admirable regulations into effect, and the result will be the most salutary competition between the Medical schools of Universities and of private teachers, from which the happiest improvements in the science of Medicine may be introduced.

The Universities have nothing to fear. If they do their duty their medical schools will deservedly gain the public, and they possess advantages which their rivals do not enjoy. But if they should relax, why should they have an exclusive privilege—deteriorating the science which they are bound to promote, and preventing blessings which would be diffused amongst the whole human race? Upon this ground it is that there should be no interference with the privilege of the Universities to confer Medical Degrees, and that the public should be left to judge where knowledge of medicine can be most effectually procured.

Gladly would I have passed over these subjects in silence, Gentlemen—but duty forbids. To do all that

in him lies, to free science from every shackle, to remove every encumbrance that may hinder the free spread of sound and useful knowledge, is the incumbent duty of every one taking office in Anderson's University—it is the very spirit of his office. Our Institution first led the way in this great cause; and from what I know of the energy, capabilities, and determination of those now “labouring at the oar,” we have every reason to believe, that no opportunity of discharging this, and every other duty, will be neglected.

I now quit the only unpleasing part of my task, a notice of the disabilities under which we labour, and which materially affect our usefulness, and mar our progress. There is much, notwithstanding, to gratify and encourage every one engaged in carrying on this Institution. All may realize the happiness of being instruments, in furthering the generous projects of an exalted mind, of following out plans springing from the union of virtue and science—a union wherein they mutually illustrate each other—and such was exhibited in the Founder of this Institution.

With highly cultivated, and good natural talents, he had a heart overflowing with every generous sentiment. He luxuriated in the blessings and benefits issuing from an enlarged understanding and an educated mind. From these, he saw, must emanate many of the discoveries that have since, and are yet to ornament and benefit mankind—that minister more amply to the wants, comforts, and elegancies of society; whilst the discipline requisite for such attainments would render the human heart and mind more fit for the reception of their best guests, virtue and religion. For the promotion of these noble ends, he dedicated much of his time and all his fortune. He seems

to have been that portion of the moral and intellectual powers to which heaven from time to time applies its kindling beam—one of those agents which gives progressive impulse to the human mind—which carries it forward to higher degrees of reason and understanding—and achieves for mankind those countless blessings successively developed by an all-wise beneficence. This excellent character broke the last link that held enchained benignant science—tore off the shroud in which superstition had long enwrapt her, and showing her to admiring eyes and loving hearts, gave rise to consequences the most important to humanity. I need not tell you what influences this has had on the diffusion of knowledge and a taste for its progress, nor how numerous are those institutions in many countries which acknowledged this as their parent and pattern. There is a kindred spirit abroad over the surface of the earth, giving an impulse to the human understanding. Every department of knowledge feels its invigorating and kindly influence ; its powers appear irresistible, and under the approving smile of heaven, bids fair to ameliorate and elevate the condition of the species. Instances of this teem on every side. In the enlarged views now taken, and enjoyed in our political and religious institutions—in the more universal dissemination of the blessings of education, whereby the human mind is not only enlarged in its capacity, but endowed with a greater relish for piety and virtue. Such gifts I hail as the boon of heaven, and the fruits already growing from it must be hailed by every rightly constituted mind, as an earnest of higher degrees of progressive intellectual and moral improvement.

In the State of the world I find a guarantee that we shall never return to those times of degraded moral and intellectual power, when the human mind scarcely gave

note of its existence. The whole civilized world may now be regarded as one vast empire, the parts of which, though capable of internal movements not extending beyond their own limits, are kept in union and peace by a great watchful and preservative principle, unfavourable alike to external violence and domestic oppression. This union facilitates the communion of thought and of invention—propagates useful knowledge, practical experience, and virtuous principles, which are not, as formerly, deposited exclusively in a few heads, which may be struck off by ravages of the marauder, or the axe of oppression, or consigned to a few leaves of papyrus, which may be lost or consumed—but are spread among countless numbers of men and of printed books, beyond the power of any revolution, short of a universal deluge, to destroy.* Such are the fruits of this spirit: and the application I make of it to our subject, is, that seeing our science has participated in this general illumination—since it, too, having cast off the slough of hypotheses and fancies, now presents an extensive field of laborious, yet honourable research—that in having its study and advancement committed to us, we take upon us duties involving some of the best interests of our race, and for the discharge of which we are morally responsible. Need I show you then, that you should shake off all apathy and indifference in embracing the cultivation of Medicine as a science or a practical art, and that you should summon to your aid that enthusiasm, without a certain degree of which no man has ever been truly great. To rest satisfied with such attainments as shall merely qualify for the immediate practice of your profession, would argue a mind at once devoid of all generous and exalted endowment, and

* Edinburgh Review.

unqualified to pass the very threshold of a liberal science. Your labours in education doubtless are great, but they bear a rich reward; for, whatever may be advanced to the contrary, merit and talent are the most certain (though certainly not always sure) methods of obtaining success in the profession. Besides, a conviction of having exerted our talents to the best advantage is a rich source of consolation. And since misconstructions and disappointments are the unavoidable lot of some in every profession, (without the operation against them of unfair or disingenuous influences) such conviction will prove a retreat of peace and consolation—a sweet refuge of distress.

Moreover, the subject has many attractions in itself; a review of the interesting departments of knowledge Medicine comprehends cannot fail to interest our zeal and encourage enthusiasm. I might speak from what I have seen and experienced of that devotion to the pursuits of his professional studies which warms the heart of many a generous youth; did not I believe that, from your own feelings, you will know it better than from any description.

“ For such the bounteous Providence of Heaven,
In every breast implanting this desire
Of objects new and strange, to urge us on
With unremitted labour to pursue
Those sacred stores that wait the ripening soul
In truth’s exhaustless bosom.”

Medicine is an appellation which, in reference to the etymology of the word, implies the art of curing diseases. This were a definition by far too limited for a science so vast and comprehensive. Taken in that sense, which the extent of subject it involves, and the important ends it has in view, will fully warrant—Medicine may be regarded as

a science which treats of the organization of animated beings in all its wondrous modifications, affected by the influences of surrounding nature, and deduces certain laws and rules, for the preservation of health, or the cure of disease; in short, it is the Physical History of Man. You will observe, I have made two divisions in this definition. In the latter of these is comprehended the practical application of those laws, and this forms what is denominated the art or Practice of Medicine—whilst the collection and generalization of facts, from which these rules have been deduced, constitute the science or theory.

Now since man, and the wonder, and fearfulness of his organization, are the subjects of our study, it cannot fail to engage every generous mind approaching it, with ardour and enthusiasm.

“Call now to mind what high capacious powers
Lie folded up in man!”

He is placed over all the other classes of animated beings; and that science which treats of him will ever claim an exalted place amongst the almost infinite number of natural objects, in the study of which the human mind is engaged. But when we consider the paramount utility of Medicine, it comes before us with an overwhelming interest.

The origin of Medicine, appears to me to be more a curious, than a useful subject. It is one involved in conjecture and obscurity; for the beginning of arts, like that of nations, leaves but feeble traces of their early progress, and time smooths them over as the wave of the ocean defaces the wanderer's steps on its sands.

An acquaintance with some means of assuaging suffering, seems to be impressed, by instinct, on the brute

creation. It is possible that mankind may have derived their first knowledge of them from the same original. It appears to me, that the healing art is to be viewed as arising out of the nature of man, and as drawing its origin from principles and demands of the human race. Almost coeval with man have been his wants and his sufferings. To minister to the one, and alleviate the other, would enter largely and early into his duties and his cares. We thus see reason for an early origin of Medicine, and authentic records carry us back to no period when it was not. Sacred annals are silent, and the heathens, by referring the invention to the gods, do but tell us that the mortal inventor was unknown. This we know, however, that whenever man has asserted his humanity, we find indications of the employment of means, answering to the general notion of a remedy for disease.

The most savage communities have some traces of the healing art. They attach names to, and appropriate remedies for different diseases, and there are several substances applied by them in the cure of disease which enter not into the list of articles of luxury or food. In ignorance of the animal economy, and influenced by the degrading superstitions that shroud their minds, they consider disease the effect of some malignant spirits, who are to be appeased by atoning sacrifices, or exorcised by the rites of a barbarous religion. Such is the state of many parts of the uncivilized world at this day, and the picture of Medicine which the rude hordes of New Holland, and the sable inhabitants of the African desert present, may perhaps be viewed as a representation of that of mankind in their infancy.

We see, then, that Medicine arises out of the principles and defects of our nature, and we shall see also, that as

surely as the sensations and structure of the human frame were the same in remotest ages, so surely must the stern mother of invention have prompted mankind to means of gratification or relief; for when we contemplate the constitution of the human frame and the shocks it is exposed to, we cease to wonder at the frequency of diseases, the brevity of human life, and the consequent desire to ward off the one, and to prolong the other—a powerful principle of the human breast.

Investigation of the animal economy, (which we are entering upon) will show us innumerable powers exercising an influence over it. These are both external and internal. Some of the former are so necessary that we are inevitably exposed to them, as heat and the air we breathe in its various agencies. There is a constant disposition to change in the elements of our bodies. Processes are incessantly going on, by which they are wasted and repaired, and there are a great variety of actions ministering to these changes, or otherwise subservient to the general well-being and maintenance of the system. On the proper function of each of these, in various degrees, depends the health of the whole frame; and there is a bond—a “*sympathy*”—whereby the mal-administration or disorder of one brings others into suffering. When we examine, as we shall do, these powers and their influences over the complex organization and the springs of life—when we consider the indispensability of their application—how slight an application and trivial a cause may produce consequences the most momentous, and diffused with facility from less important to more vital organs by the sympathy subsisting among them, we cease to wonder at the infinite variety of form, at the frequency and the violent nature of the derangements these agents effect in the

animal economy. Hence disease, in all its shapes and agonizing pains—hence, too, the abbreviation of the span of human existence,—

Nascentes morimur, finisque ab origine pendit.

A consciousness of the high importance of the profession he embarks in the study of, cannot fail to encourage the youthful aspirant—to lighten the burthen of his labours, and infuse into the mind all that generous enthusiasm so necessary to the cultivation of our Science; and in the respective courses we are just entering upon, it will be the duty of each Professor—our earnest endeavour—to kindle this animating flame in every pupil, for on this we deem much of the success of our labours will depend.

In the remaining part of this lecture, I shall briefly reply to some of the charges which have been brought against the Science. I shall state the claims Medicine has to rank among sciences, abstractly from its practical utility—and conclude by laying before you an outline of the qualifications of him who would devote himself to the study and practice of Medicine.

The calumnation of Medicine is by no means a modern practice. Two thousand years ago Hippocrates deemed it his paramount duty to meet its enemies—to afford a refutation of their falsities, and such is the obstinacy of the human mind, that until this very day in our own land, there are men of scientific, and even medical authority who have the inconsistency, and I may say the imprudence, to regard Medicine as an art merely conjectural, and to stigmatize it as a mere collection of practical precepts, often applied at random, or at best an experience having no fixed basis or principle, and would vainly attempt to rob it of its estimation and honours. In this respect, Medicine is not singular; it is not

the only branch of knowledge that many affect to despise ; and our astonishment ceases at its treatment when we know calumny alike and rejection have been made of knowledge, of still more efficacious—of more enduring, and vital importance to man. They are similar, too, in another respect of their treatment by many, whilst health beams in their face, and all is external activity and thoughtlessness. Do sufferings confine them to the bed of disease and of penitence, they fly with anxious fears to the aids of the one and the sacred consolations of the other. It may be said this is the case only with minds enfeebled by age or participating in bodily infirmities. To refute this, our own circles may afford many instances, but in the celebrated Rousseau we have an example at once the most classical and interesting wherewith to refute this assertion. He uttered and entertained many opinions disrespectful to medicine. He not only proclaimed its inefficacy, but its injurious tendency ; he laid to its charge, that, failing to cure disease, it inspired man with sorrow, filled him with cowardice, pusillanimity, credulity, and dread of death ; and concludes he, if they cure the body they entirely destroy the courage and firmness of the man. Now medicine that cures diseases cannot surely be injurious, and I appeal to every one who hears me that, if instead of inspiring with a moral infirmity, it does not inspire the sufferer with courage—it is not true I positively aver, that patients become cowardly and credulous in the hands of a physician who, on the contrary, raises their drooping spirits, exhorts them to patience and resignation, and by the confidence he inspires reanimates their hopes. Indeed dire experience taught this proud son of worldly science the falseness of his views and the injustice he had done the healing art—for in the full possession of his exalted, but

sometimes ill-directed mental powers, he addressed to St. Pierre the most ample recantation. If, says he, I were to make a new edition of my works, I would qualify or soften what I have written against physicians. There is no profession that requires so many studies as theirs—in all countries they are the men most truly learned.

Ignorance or misapprehension of the attainments and discipline of mind necessary to constitute the enlightened physician, has often given rise to erroneous views and opinions of his science. “Perhaps,” says Vogel, “there is no science which requires so penetrating an intellect—so much talent and genius—so much force of mind—so much acuteness and memory as the science of Medicine. For the full attainment of its proper and ultimate object, it requires also indispensably the possession of stability of judgment, rapidity of decision, and immovable firmness and presence of mind, readiness of recollection, coolness, flexibility of temper, elegance and obsequiousness of manners, and a profound knowledge of mankind, and of the secret recesses of the human heart. Of all this the most convincing proofs will immediately occur to us. Medicine not only comprehends so very extensive a range of knowledge, but its truths are often so profound, and so much concealed from a cursory inspection, so intricate, so much disguised, distorted, and obscured by a multitude of delicate and invisible causes, that nothing less than the all-commanding eye of the most enlightened understanding—than the all-penetrating and all-searching power of genius, can possibly recognize that which is in darkness—can follow that which is remote into the last traces that it imprints—can distinguish certainty from opinion and probability—can separate the essential from the accidental;

and, finally, can analyse and develop every subject of investigation so completely as to have no fear or doubt respecting any of its properties which are cognizable by human means. In short, if the judgment be not naturally good, and be not exercised and matured, in vain shall the dogmas of the schools be communicated to any one. The science is one of judgment and not of rules; a character peculiarly belonging to Medicine, for to the theologian is the sure volume of inspiration; to the lawyer the statutes of law, or the precedents of former decisions. What was yesterday true or binding in doctrine or authority is equally so to-day. But the physician or surgeon has no standard to direct him in the hour of doubt and of danger. The fathers or founders of his art may assert but cannot determine for him. Upon his own clearness of perception and soundness of judgment must his reputation, and the life of his patient stand or fall. It is of importance whilst considering this matter to distinguish the enlightened physician from the mere prescriber of medicines. We must not believe that the knowledge of the doses, or even the abstract virtues or chemical habitudes, or equivalents of medicinal bodies, alone constitute the physician. He requires a knowledge of the human frame, deep and intimate with all its textures and diseases, and no one who knows the laborious steps of "Experimental Philosophy" by which this has been attained, but will accord to the extensive branch of knowledge in question a distinguished rank among the sciences with which it claims a place, by the exercise of that "great engine," in common with every branch of experimental knowledge. If any science be so based, it is Medicine. If the almost inspired sentence of Bacon, "That man, the servant and priest of nature, only does and understands what he shall have observed in nature's

essence or order,"—be applicable to any science, it is to Medicine, for, as says Baglivi, "*tota ars est in observationibus*,"—the whole art is founded on experimental philosophy. No one will dispute this, or ever did so, who had carefully studied the labours of a Morgagni, a Hunter, a Bichat, a Laennec, a Baillie, a Broussais, and a host of others, whose opinions and views in our department of philosophy, shall be carefully displayed to you, during the courses of lectures now about to commence.

To Lord Bacon's philosophy, Medicine, in common with all the other sciences, is indebted for the overthrow of the scholastic system, and for the establishment in its stead of the method of induction from observation and experiment. As I believe, that to these principles, medicine owes its rank as a science, and its advancement as an art, I am induced to make a few observations on the nature and object, of the views and opinions of that great man.

Since the spirit of Lord Bacon's philosophy began to be rightly understood, science has advanced with rapidity unexampled in the history of all former ages. The great axiom of his philosophy is so simple in its nature and so undeniable in its evidence, that it is astonishing how philosophers were so late in acknowledging it, or in being directed by its authority.

It is more than two thousand years since the phenomena of external nature were objects of liberal curiosity to speculative and intelligent men, yet two centuries have scarcely elapsed since the true path of investigation has been rightly pursued and steadily persevered in—since the evidence of experience has been received as paramount to every other evidence; or, in other words, since philosophers have agreed that the only way to learn the magnitude of an object is to measure it—the only way to learn its tan-

gible properties is to touch it—and the only way to learn its visible properties is to look at it. Nothing can be more safe or more infallible than the procedure of the inductive philosophy as applied to the phenomena of nature. It is the eye or the ear witnesses of every thing which it records. It is at liberty to classify appearances, but then, in the work of classifying, it must be directed only by observation. It may group phenomena according to their resemblances in words, and announce them to the world in the form of general laws, yet such is the hardihood of the inductive philosophy, that though a single well-attested fact should overturn a whole system, the fact must be admitted. In submitting, therefore, to the rules of the inductive philosophy, we do not deny that certain sacrifices must be made, and some of the most urgent propensities of the mind fall under severe restraint and regulation. The human mind feels restless and dissatisfied under the anxieties of ignorance. It longs for the repose of conviction; and to gain this repose it will often rather precipitate its conclusions than wait for the tardy lights of experiment and observation. There is such a thing, too, as the love of simplicity and system—a prejudice of the understanding, which disposes it to include all phenomena under a few sweeping generalities—an indolence which loves to repose on the beauties of theory rather than encounter the fatiguing details of its evidences—a painful reluctance to the admission of facts, which, however true, break in upon the majestic simplicity that we would fain ascribe to the laws and operations of the universe. Now, it is the glory of Lord Bacon's philosophy to have achieved a victory over all those delusions—to have disciplined the minds of its votaries into an entire submission to evidence—to have trained them up in a kind of steady coldness to

all the splendour and magnificence of theory, and taught them to follow with unfaltering step wherever the sure though humble path of experiment and observation may lead them.*

The Preservation of health and the Cure of disease are not the only services that Medical science confers on humanity. No science has more powerfully contributed to the enlightening of mankind—to silence ridiculous creeds—to destroy scandalous and baneful prejudices, many of them a disgrace to the human mind—whilst it affords the most powerful collateral proof of the wisdom of a great Creator—fills our mind with awe and reverence of his exalted and incomprehensible nature.

Being a science of facts founded on observation, it accustoms the mind to the most severe and exact modes of thinking, and teaches us the propriety of exercising our minds, receiving nothing until analysed and tried in the balance of judgment, and never to substitute men and opinions, in place of truth and things.

We may remark also the signal part taken by those who cultivated our art at the revival of learning, and more recently the remarkable impulse given to the progress of every branch of science by those of our profession, more especially in chemistry, natural philosophy, and natural history; nor can we pass over in silence the brilliant discoveries which the genius of Harvey, Sthal, Boerhaave, Linnæus, Hunter, Jussieu, and Quesnay, made in the sciences, whilst investigating nature, to shed a new ray on Medicine, and to establish new remedies for human infirmity.

I have often thought, and still think, that no science ap-

* Chalmers.

pears more calculated than Medicine to afford lessons of a moral and philosophic nature. What an incessant source of profound and salutary reflections does the picture of human weakness and infirmity present to us! We behold no rank, no age, no fortune, enjoy immunities from disease and of death—no respect to the purity of blood—to riches—and to dignities, which, indeed, often prove a fruitful source of sufferings and disease—a bane which embitters the cup of human life. The physician then forms a just estimate of the vanity of human existence; and either from his own experience, or from that of others, is enabled to exclaim, “*Vanitas vanitatum omnia vanitas.*” Almost more than any other profession, he can regard human nature with an elevated look, and appreciate the benefits of a life, from which the gnawing cares of ambition and the wild play of passion are excluded.

A more grave and alarming charge has been laid to Medicine than any alluded to. Its calumniators, and even its friends, have occasionally asserted that the practical tendency of medical studies is to encourage irreligion—to darken the human understanding—to take from piety its best and its most sanguine hope—its longing after immortality. The refutation of this charge is easy, by appealing to facts; Harvey, Hales, Brown, Boerhaave, Heberden, Haller, Baillie, Abercromby, Abernethy, Bateman, and Good, are among the names of eminent medical philosophers that come to my recollection, and serve sufficiently to illustrate the frame of mind as to religion which has always attended genuine excellence in medical science.

He who pays attention to the office of a single organ in a living body—who examines the situation of the eye and the laws of vision, or the instruments by which the infinite variety of articulate speech is accomplished,

—experiences a delight analogous to one contemplating some refined piece of mechanism. But, in the latter case, his mind is engrossed with human invention only, and his admiration is diminished by the idea of imperfection which attaches to the work of human hands. When he regards the less complex, yet more perfect mechanism of animated nature, his thoughts are raised to the Supreme Intelligence which has fashioned elements, that the finite ingenuity of man cannot combine,—for objects that human sagacity but partially comprehends, yet which, when understood, display in their attainment, contrivances so perfect as to lead inevitably to a belief—that nothing results, fortuitously, from properties inherent in matter—that nature is the work of God. The studies of the Physiologist continually serve to illustrate the attributes of that Supreme Mind whose marvellous design he is busied in unravelling. “He reads in the careful provision for the perfectness and preservation of every species, and for the happiness of those which enjoy consciousness, a demonstration of an all-wise benevolence, and he deduces from that remarkable analogy which pervades the innumerable families of living beings, stamping all in their various gradations and diversities with one common mark and impress, a confirmation, if I may make use of such an expression, of his belief of the unity of the Deity.” From points yet more abstruse the veil seems partially withdrawn. The nature of life—the relation of the soul to the body are more than indistinctly unfolded to his view. Principles even of moral conduct derive support, in some instances, from the inquiries of Physiology, which explain the physical connexion between the improvement or degeneracy of races or of individuals, and the observance or neglect of rules derived from higher sources.

At every step is established some point of coincidence between the religion and morality of nature, and of Revelation.

The relations that subsist between the branches of knowledge, usually comprised under the term Medicine, and some other departments of human knowledge, are best illustrated by a few remarks on the qualifications which should be possessed by him, who proposes to make the practice of medicine his profession. These qualifications are either original or acquired. An intended practitioner of Medicine, in any of its branches, should possess a good constitution, as his practice is often laborious, especially in the country. His sight should be good, and his hand steady—more especially if he is to practice surgery. He should possess good temper and suavity of manners, that he may soothe as well as relieve his patient.

With respect to his acquirements, the medical student should have received a liberal education previous to his entering on the study of Medicine. He should be so far master of the Latin language as to be able to read it with ease and write it with correctness, as many excellent works, especially on the continent, and all medical prescriptions, are still written in that language. Greek is no longer regarded as a necessary part of a medical education, as the principal works written in that language have been translated; but it still must be regarded as a valuable accomplishment. Next to Latin, French is the most useful language; indeed, I feel assured that under present circumstances it is of equal if not of higher utility to the student of Medicine, as it is the key to information of the highest interest, value, and importance in medical literature. When time and opportunity allow, the German language should be acquired.

The elements of Mathematics, especially Arithmetic, Algebra, and Geometry, are of importance as introductory to Natural Philosophy, several departments of which, as Mechanics, Pneumatics, Optics, and Electricity, serve to illustrate the laws of muscular motion, the mechanism of respiration, the nature and laws of vision, and the effects of a powerful agent on the system. Logic and metaphysics must form a part of the studies of every man of liberal education. And who requires a more deep and thorough acquaintance with the operations of "the immaterial part," so much as he who should "minister to a mind diseased;" and it comes most ungraciously from the gifted professor of the London University, who has had the honor (and acquitted himself in a manner becoming the place and the occasion) of opening the present session of that Medical School, to disparage the studies in question.

Natural history in its several departments of Zoology, Phytology, and Mineralogy, is essential, as it makes him acquainted with the nature and properties of those animals, vegetables, and minerals, which, as parasites or poisons, become the causes of disease, or supply the stores of medicines in our "well-filled magazines of art." An extensive knowledge of Anatomy is indispensable to the medical student, and especially so, if he is to practise surgery. The surgeon must not only be intimately acquainted with the structure from observation, but must render himself familiar with it by actual dissection. I regard the attention bestowed on this department of medical study as still inadequate to its unutterable importance. Were I devising a *curriculum* of surgical or even medical education, I should exact attendance on anatomical lectures, demonstrations, and dissections, from the first to the last day of its duration. Other departments *may* be acquired after

the schools are left, but for this there is in general no opportunity. I entreat the younger part of my audience to remember this remark—it may save many a bitter regret. This, Gentlemen, is the knowledge which gives coolness and confidence to the surgeon in the most perilous operations—this is the thread upon which often hangs the life of a human being—a fellow-creature who trusts his life to you ;—and will not your honour, and every better feeling of your heart, now be engaged to keep from this moment alive an unquenchable desire for anatomical knowledge.

A competent knowledge of Comparative Anatomy is also very useful, and grows in importance every day by the lights it casts on the structure and functions of the human economy.

Chemistry, is another collateral branch of the greatest importance in a medical education, as it assists Anatomy in investigating the intricate structure of the body—aids physiology in explaining some of the principal functions, especially Digestion and Respiration, and forms a necessary introduction to Pharmacy, or the art of compounding medicines.

“ The object of Chemistry may be said, in general terms, to be the investigation of the properties and composition of all material substances, whether belonging to the animal, vegetable, or mineral kingdom. But still a broad distinction can be drawn between chemistry and the descriptive sciences embraced in natural history, which also regard the material world. These last sciences more particularly regard the *structure* or the manner in which the parts of a body are put together, but the ultimate constitution of bodies, the *materials* or the ingredients of which these parts are composed, form the objects of chemistry.”

When we have attained a degree of knowledge of the

structure and mechanism of our bodies, a natural desire will arise to know something of the wonderful appearances which they exhibit in life and action. The department of knowledge that instructs in these phenomena is called Physiology; which, in this University, is taught partly along with the anatomical lessons, and partly in that division of our labours taken up under the name of the Theory or Institutes of Medicine. In this last department, Physiology, or as it may be defined, the study of the nature and mechanism of the functions performed by individual organs, or by any series of them, is brought before the student at great length. Associated with it, in very natural union, is the study of the diseases of the economy, under the title of Pathology.

In the study of a subject so extensive and varied, the adoption of method and arrangement is of the highest consequence. The student of disease then, arranges his knowledge under certain heads, to secure full, complete, and exact consideration of every part. He makes himself acquainted with the very various *symptoms* or *phenomena* which attend diseased states of the textures or offices of the organs and of the fluids. The study of these characters and signs constitutes the division of the student's labours, to which the name of Symptomatology and Phenomenology have been given—for which clumsy words, the more harmonious term of Semiotics is now generally substituted. Subservient to it is Nosology, or the classification of diseases. Having carefully studied the symptoms of diseases, the student turns his attention to the circumstances which *cause* them; this important division of Medical knowledge is called Etiology.

The physician regards all the branches of professional education now specified as subservient to Therapeutics, or

the measures employed for the prevention and treatment of diseases. This branch of science comprises several divisions. Hygieology, or the rules and practices to be observed in the prevention of disorders, and the treatment of the sick by diet and regimen. *Materia Medica*, or the study of medicinal agents, which borrows the aid of that branch of chemical science, called Pharmacy, or the art of preparing medicines. Surgery, which has been defined to signify the cure of diseases on the exterior, or by manual applications; but which, from the amount of Physiological and Pathological knowledge contributed by those devoted to its study, as well as the high attainments requisite for its successful practice, may well be regarded as another name for the science of Medicine. Midwifery has been viewed as a branch of Surgery, but the extent and importance of its usefulness entitle it to a special and separate consideration, and constitute it a distinct branch of professional study. The deeply interesting and vastly important branch of legal or state medicine, commonly called Medical Jurisprudence, is just the application of the different branches—of all the light they shed—to the administration of justice and the legislation of a country.

It would be easy for me did your time permit to enlarge on the relative and absolute importance of each branch I have thus imperfectly specified, but what could I add to the finished lecture delivered in this place, on this occasion last year, and to which I refer you with pride, to supply any deficiencies I have made in this part of my duty.* Besides, each of my colleagues will afford you, in his own introductory lecture, ample information on the

* A Lecture introductory to the Study of Medical Science, delivered at the opening of the Medical Classes of the Andersonian University,

importance of each branch of study—on the relation it bears to other departments of knowledge—and the order in which each should be taken up in the series of your studies.

It might be imagined that the proudest triumphs of the physician's skill consist in the cure of diseases, and the restoration to health and vigour—but there are others, which, though not so specious, are no less prolific sources of satisfaction to the man of heart and good feeling. When we reflect on the many diseases, which, from their nature and severity are incurable—and on the fact that an illness beyond the reach of art must arrive to all, we cannot fail to duly appreciate the high value of a science that can render its assistance with effect, when all hopes of recovery have expired. Even then the tender hand of Physic often ministers relief to ills it cannot cure—assuages pains beyond the power of art to remove—and smooths the rough road which all are doomed to pass, with various degrees of trial and suffering. You would do well, then, to study carefully all the means by which the sufferings of the dying, or of an incurable kind, are to be lessened—and to view this part of your duties as highly worthy of your attention, as well from the effectual services it renders the victims of incurable disease, as from the high satisfaction which the proper discharge of those pleasing, though sad offices, must ever procure to the benevolent mind.

Lest, Gentlemen, the number of the studies I have enumerated, as forming the elements of, and preparation for, a Medical education, should alarm or deter you from making an advance, I may state, for your encouragement,

session 1835-36. By Robert Hunter, M. D., Professor of Anatomy, &c., &c. With an Appendix, containing an outline of the constitution of that University.

that without disparagement to any one of them, they are of different degrees of importance.

Some may be considered as preparatory—such are Latin, Greek, Mathematics, &c.; not one of these, however, with the exception, perhaps of Latin, is indispensable. Still far be it from me to put such acquirements below their proper value in a medical education. Indeed, did I not find in the history of medical science, men who, though without these preparations, were, by the powers of extraordinary genius, the successful *naturæ ministri et interpretes*; many who were invaluable practical men—I say, if I did not know these facts, I should certainly enumerate those branches amongst the indispensable qualifications of the practitioner of Medicine; and certainly, I may say, they should never be neglected. High cultivation and erudition have contributed, no less than its usefulness, to elevate the profession, from the remotest times of modern history; for early do we find the high standard of a Physician's education embodied in an adage or proverb—*ubi desinit philosophus ibi incipit medicus*. Many administer faithfully, judiciously, and successfully, to the sufferings of humanity, without any knowledge of the languages in question. Some have reached the pinnacle of professional fame, and achieved much in advancing science, without classical acquirements; they had natural powers which overcame every defect of education. But it is not the lot of every one to be gifted with the genius of a Hunter, whose own natural powers bore him into new and untried regions on stronger wing than even the highest cultivation can bestow on ordinary minds. And it may be reasonably asked, would not the great intellect alluded to, not only have had its own sphere of enjoyment enlarged, but its energies

expanded, by the steady discipline exacted in the attainment of classical learning ?

Some studies, though accessory, are regarded as altogether indispensable, such as Chemistry, Natural History, and Natural Philosophy. These highly important accessory branches, more especially Chemistry, are of constant application in the study of life and organization ; and without them we should remain ignorant of the nature of many Physiological and Pathological phenomena.

No collateral branch of education, in relation to the knowledge of the human mechanism, is more important than Physics, or Natural Philosophy. The Medical man is pre-eminently the engineer—the engineer of a machine in which mechanism in the greatest variety and in the highest perfection, is found.

Where is there to illustrate mechanics, a system of levers, and hinges, and moving parts, like the limbs of an animal body ? Where such an hydraulic apparatus as in the heart and blood vessels ?—such a pneumatic apparatus as in the breathing of the chest ?—such an accoustic instrument as the ear ?—such an optical instrument as the eye ?—in a word, such mechanical variety and perfection as in the whole visible anatomy ? All these structures the Medical man, of course, should understand, as a watchmaker knows the parts of the machine about which he is employed. The latter, unless he can discover where a pin is loose, or a wheel injured, or a particle of dust adhering, or oil wanting, &c., would ill succeed in repairing an injury ; and so also of the ignorant Medical man, in respect to the human body. Yet we shall have occasion to show you unquestionable and striking proofs and effects of a want of this knowledge, in the doctrines of Carson and Barry concerning the circulation of the

blood. They have had much labour in vain, which they might have spared, had they but known or been conversant with the veriest elementary facts or principles in Mechanical Science. It is not in regard to the mechanism of the human body only that the Physician requires to have a knowledge of Natural Science. How often does he require to know the conditions of the atmosphere—to be able to warm and ventilate buildings to the best advantage—take specific gravities—and there are other innumerable points, in which a knowledge of Natural Philosophy is absolutely indispensable. If, moreover, we wish to hold that rank in the scale of human society, which, from its utility as well as its superior attainments the profession has hitherto justly acquired, a knowledge of natural science is, I hold, indispensable—it is a part of a liberal education, and one which is daily spreading in extent, and increasing in importance. “In our cities, nay in the dwellings of every one of us, a man is surrounded by miracles of mechanic art; and with his proud reason is he to use these as careless how they are produced, as a horse is of the corn which falls into his manger?” A general diffusion of knowledge is now elevating the human character in all ranks of society, and making men also reflect how different their condition is from that of their remote forefathers. These generally forming small states or societies, had few relations of amity with surrounding tribes, and their thoughts and interests were confined very much within their own little territories, and rude habits. In succeeding ages they found themselves belonging to larger communities, as when the English Heptarchy was united; but still more remote kingdoms and quarters of the world were of no interest to them, and were often totally unknown. But every one now sees himself a member of one vast civilized

society, which covers the whole face of the earth, and no part of it is indifferent to him.

The knowledge of Nature in all its branches, is an indispensable requisite, in the cultivation of the mind. It is highly useful, were it only as an exercise for invigorating the understanding—it is a salutary discipline of the powers of the mind—and engenders habits of application and attention, whilst it calls into play the reasoning powers; besides, all arts and Sciences have a bearing on each other; and the History and Philosophy of animal life is surely as necessary an accomplishment to a physician, as any other branch of science or literature; and I should be tempted to think from this sense of the word Physician being peculiar to the English Language, that this notion especially prevailed in our country. The study of nature is surely the most salutary of all intellectual exercises in the practical arts, particularly as it comprises the knowledge of the mutual agencies about which these arts are conversant.

Mathematical acquirements are here comparatively little applicable, for the relations of quantity about which the exact sciences are conversant, do not apply to the laws of organic beings, and is a process of thought quite distinct from that termed inductive, employed in the investigation of nature. It is in preparing for the study of other useful branches of science, that the main practical utility of mathematical studies consists; and many minds have habits of self control, of steady and protracted attention, generated by such exercises.

The study of nature has had another tendency. It, I apprehend, has banished a superstition that long influenced the human mind, in regard to Medicine. Even Bacon did not disbelieve in amulets, sorcery, and magic; and Boyle seriously recommends the thigh bone of an

executed criminal, prepared in a particular manner, as a remedy in certain disorders. The study of nature has tended to abolish frivolous practices, rivetted in ordinary minds by early impressions, and imposing authorities, or hallowed by immemorial usage and tradition.

One hundred and fifty years have not elapsed, since authors who otherwise were respectable, believed in what is called the Doctrine of Signatures; that is, they believed turmeric to be good for the Jaundice, because it had a yellow colour. A fox being an animal that had a long wind, as the huntsman knows from the desperate runs he makes before he catches him, his lungs were dried, and powdered, and given in asthma. The testicles of a wild Boar were powdered, and given to cure barrenness; and kidney beans were highly praised in diseases of the bladder. The root of the Orchis from some fancied resemblance, is given to promote procreation; and I fear we have proofs in the belief of some in animal magnetism, and the metallic-tractors, that practitioners in our own time have a tendency to fall into like weaknesses, were they not, as they now are habituated to the contemplation of the genuine agencies of nature.*

The sciences more strictly Medical, and therefore indispensable, are General Anatomy, Physiology, and Pathology; particularly the Anatomy of the tissues and viscera in their healthy state, which has hitherto been too much neglected, and indeed only begun to be properly studied and duly estimated since Pathology has been more carefully studied; Materia Medica, Surgery, and Midwifery are likewise indispensable.

Let these be, then, your elementary studies during your attendance on the schools. Let some well selected

* Blane.

elementary treatise be the subject of your study, whilst you are entering upon the vast fields of Medical Science and Literature. It will be best to leave more general study to an after period. We shall point out to the best of our ability, the sources of information, whence you may draw a knowledge of the subjects we shall treat of in our respective courses. In short, we shall by every means in our power, encourage, direct, and animate you in the pursuit of those attainments necessary to profit by after experience and observation at the bedside of the patient. It is there, Gentlemen, that the observer must study disease—there he will have it displayed to him in its true character, divested of those false shades by which it is so frequently disguised in books—there, only, freed from the vagueness and illusions of systems, the student can acquire fixed and definite notions of disease.

Any eulogium of the vast advantages to be derived from careful notice of the symptoms of disease, during life, and minute attention to the relative changes effected on the organization, as seen on inspection of the dead body, is in these times uncalled for and preposterous. For it stands universally confessed, that by observation and judicious comparison of living phenomena, with *post mortem* appearances, a progressive impulse has been given to Pathology, and many signal improvements achieved in this branch of knowledge. But I wish to impress on the younger members of the profession, that whilst the science in general has been advanced, this method of careful study of disease in the living body, and of the effects of it on the dead, is the only sure path to *individual* and *personal* attainment; and though our labours may not be crowned with brilliant discoveries, yet I deem this the most invigorating training of one destined to

combat disease—the most effectual method of obtaining an exact, experimental, and useful acquaintance with those discoveries and truths, which fit the Pathologist in the highest degree for the practice of Medicine. Indeed I do not hesitate to say, that the first exercise of the novitiate in Physic, should be the observation of disease; *and a careful record of its symptoms.* It may then, of course, be best conducted under the eye of a master; but the student cannot, I maintain, apply himself too early to the observation of disease. What he sees and learns in this exercise give a deep interest to the studies called elementary; I have always seen (and I have taken pains to observe) that the young men who had been accustomed to this practice—who knew the external phenomena of morbid action, and of organic disease, take the deepest interest in Anatomy and Physiology—to such, the advantages of anatomical knowledge are most apparent—they give to it their most devoted attention, because it throws light on this or the other disease or morbid condition, with which their observation rendered them familiar; to them the prelections of the anatomical and physiological teacher are invested with an interest, that warms them into ardour and enthusiasm. The progress of such persons is infinitely more rapid and complete than those who do not enjoy the like advantages.

A very opposite method is followed in our schools: a tyro engages in the study of Anatomy—he attends the lectures from a sense of duty, or authority compels; but he does not discover the benefits to be derived from it; he may be told, but he does not experimentally know its important applications to disease, and the practice of the art—and having but little interest in what he does not appreciate, he loses a great part of the benefit

of attendance, there being little to rivet on his mind the many facts displayed in a course of Anatomy. Indeed it is commonly two or three sessions before he attends lectures in which the phenomena of disease are displayed. All this time he has been attending in the most lifeless and uninterested manner, the courses of Anatomy, required by the *curriculum* of education, prescribed in the institution from which he wishes to obtain his authority to practice. At length with very imperfect knowledge of Anatomy, he comes to the study of diseases, and the theories that have been advanced to explain them. He now sees his deficiencies in Anatomy, and finds out the deep interest that would have rivetted him to his anatomical studies, and fastened for ever on his mind the relative position and structure of many parts of the economy, had he but known the practical application of this acquirement. I appeal to competent persons, and ask if this has not been the experience of many—that on coming to the Physiological, the Pathological, and more especially the Surgical Class, they have first found their deficiencies and duly estimated a profound knowledge of Anatomy. Some can remedy the defect at this period; but, on the other hand, to many this discovery of their deficiencies comes too late—their curriculum is finished—the purse strings of Parents and Guardians are closed, and they *must* make a finish. I again repeat that all this might have been prevented if the pupil were taught from the very first of his labours, to study the external characters of disease—to *note* down regularly and carefully its symptoms and progress—and to witness and record inspections after death. Besides, by such exercises, he not only acquires knowledge of the highest importance, but he is learning also to express his thoughts in words. I regard the most

minute observation when trusted to the memory, without any careful written record of its impressions, as comparatively useless and ineffectual for the end in view: to obtain from it all the good, I can surely promise the pupil from it, *his observations must be minutely and carefully kept in written characters.*

The very act of minutely describing a case, implies more careful observation—enforces diligent study—and begets habits of attention, most gratifying to the sufferer; the recording of it, if faithfully done, secures a deliberate reconsideration of every point; as all must be again passed through the mind, and the case completely sifted. A man who observes disease to carry away its signs and characters, to transfer them to the pages of a well kept journal, not only observes with double attention, but seems and feels deeply interested in his patient; and thus honestly and insensibly acquires a reputation, for zeal in the healing art—obtains that confidence reposed by the public in all who discharge the duties of our profession attentively and steadily—and thus in studying faithfully and generously the good of others—advances his own, without the suspicion of selfish or unworthy motives.

I beg, then, to urge on the younger branches of the profession to commence early the practice, in question;—a practice which has advanced the Science, and cannot fail to improve and promote *every individual* who sets himself to it in good earnest. It is probable many unknown to me pursue this method, and reap its certain advantages; but I know many who do not practise this as they should; trusting their observation, such as it is, to no better treasury than their memory, or only making slight and capricious notes—never an accurate observation of every

function, and a full detail of every morbid phenomenon ; which neglect I have often seen regretted when too late :— that was at the exposure by dissection, of some important morbid change of structure, the existence of which they never once suspected; though such could have been foreseen by the superior care and sagacity of others, or by their own more attentive and matured observation. And as an encouragement to the Student, I would hold out the fact, that though he may not always accomplish brilliant discoveries, yet his labours may not only benefit himself, but greatly advance the Science. The ingenuity, address, and application of another may have discovered, or suppose it has discovered, what the observation of an ordinary observer shall either confirm, or confute, which is sometimes no inconsiderable service: and, undoubtedly, the diligent observer may rely on this, that though his earliest essays may not possibly be in themselves of much value, yet they are inestimable as exercises leading to individual improvement, in observation and description.

I have just one remark to make, and that is in conclusion. I have often heard it said that we ought not to encumber the record of cases with tedious detail—that we should be brief and spirited; but whilst I reprobate the introduction of extraneous matter, or too many general discussions, into cases, I believe it possible to be too meagre in our observation and detail of phenomena; and though I admit brevity to be the soul of wit, I cannot allow it to be equally essential in cases of scientific relation. For it seems to be a great error to omit any fact, the existence of which is well ascertained, merely because we do not perceive its utility or importance. If facts be correctly stated, they can hardly be recorded too minutely; and a future age may derive instruction from

that, which to the original observer seemed of little use.*

And to conclude this apology, I would add, that, "When the comfort, the health, and the lives of mankind are concerned, too much care cannot be bestowed on writing or perusing the history of disease."

I have often thought, that the societies which the more enlightened and distinguished of the students form for purposes of mutual improvement, might preside over this important method of instruction. That having associated with themselves for this purpose, a few advanced in the science, they might most advantageously devote, some at least of their sittings, to a review and criticism of the record of disease made by the members. This has been most successfully done in the Medical School of Dublin. I throw this out as a hint to some of the Members of the Medical Society that hold their stated meetings in these walls—a society I strongly recommend to the attention of the Student. Such unions encourage individual industry; for man being pre-eminently a social animal, the greatest effects, whether for good or for evil, are always wrought out by numbers, acted on by one common impulse. It is this social sympathy which begets ardour in our pursuits, and gives rise to that enthusiastic devotion, without which, no one has ever yet become great. By coming together at stated periods, with all the decorum and solemnity so important an occasion requires, the members of the society mutually impress each other with respect for the studies in which you are engaged; and by means of the industry and the general approbation, excite, encourage, and so improve.

* Vide Dr. Cleghorn's letter to Dr. Watt.—Watt's cases of Diabetes.

If, Gentlemen, let me in conclusion say, by turning your attention in our respective courses, to these important points, we can awaken an early turn for observation, and point the way to follow in the search of medical truth—if we can warm you with an enthusiastic ardour in the study of the science, it will recompense us richly for the pains, we shall gladly devote to your improvement and edification.

Let me remind you, Gentlemen, that in having this important science committed to our cultivation, we must be imbued with devotion to its study and progress; it was not by an apathetic investigation of the science, that the illustrious Hunter reared a monument to his fame, and benefitted mankind. I would entreat you, Gentlemen, in your studies in the great volume nature displays, to bear in mind this illustrious countryman—to lay hold on some of the sentiments and enthusiasm he inculcated, and set a brilliant example of; and hear as it were his spirit encouraging you to assiduity, zeal, and diligence in the grateful, yet exulting language of the Poet,

“I, bone, quo virtus tua te vocat, i, pede fausto,
Grandia laturus meritorum praemia.”

OF
MONOPOLIES IN LEARNING;
WITH REMARKS
ON THE PRESENT STATE
OF
MEDICAL EDUCATION,
AND
ON THE CONSTITUTION
OF THE
SCOTCH UNIVERSITIES.

By ANDREW BUCHANAN,
GRADUATE AND REGENT OF THE FACULTY OF MEDICINE IN THE
UNIVERSITY OF GLASGOW.

*Pudet hæc opprobria nobis,
Et dici potuisse et non potuisse refelli.*

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OF
MONOPOLIES IN LEARNING.

EVERY member of a mercantile community is aware of the evils arising from monopolies, that is, exclusive privileges of dealing in articles of commerce, whether granted to individuals or to corporate bodies. All agree in denouncing as injurious to the common weal, the great Eastern monopoly in Tea, and the great Western monopoly in Sugar. Is it not then, strange, that we should so seldom hear of the evils of a monopoly affecting a commodity far more valuable than either Tea or Sugar, and existing not in remote colonies, but in the very centre, and throughout the length and breadth of these realms?

There is no species of property which a man is more assuredly entitled to call his own than his powers of mind, and the knowledge which, by a life of study, he may have accumulated. Why, then, is he not allowed to turn this property to every fair advantage? Why is he not entitled to impart his learning to others, and receive for it a just remuneration? Why should the laws of this country permit any body of men, or, what is still worse, any one man to monopolize any branch of learning, and say to those who cultivate it, "Your labour is vain; you may sow, but you can never reap: this field of science (or of letters, as it may be) has been given by law exclusively to us; cultivate it, therefore, as you will, we alone can carry home the harvest?"

The monopoly of learning, or exclusive privilege of dealing in that commodity, is a most unjust encroachment upon the natural rights of every man who culti-

vates his understanding. Among the natural rights of man which no positive law can justly interfere with, must surely be enumerated the right of employing the ingenuity and other powers of mind which God has given him to the best advantage. Upon this right, sanctioned as unalienable by the Law of Nature, the monopoly of learning is a direct encroachment. It is not less an encroachment upon another right which it is one of the main objects of Civil Laws to maintain inviolate,—the right of property, for it takes away the marketable value of our mental stores, and thus renders them useless to the possessor.

But how does this monopoly affect the interests of Learning itself? I answer the question by another. I ask what becomes of the man who is interdicted from prosecuting a study to which he has been devoted—I mean virtually interdicted—by being told that the fruits of his study have no marketable value. If he be a rich man, science or literature may lose nothing; he may hold on his course of study incited by the love of truth or by the love of honourable fame. But how seldom is a student rich? As seldom as a rich man is studious. And if the student be not rich, how then does the interdiction operate? Dire necessity, the necessity of seeking subsistence, compels him to have recourse to some lucrative employment which no monopolists have yet absorbed, to labour perhaps no longer with his mind but with his body, or to bestow upon some irksome, because uncongenial task, the time which it would have been to him the highest, as it would have been the purest human happiness, to have devoted to his favourite study.

Monopolies in Learning are, therefore, attended with this injurious effect upon learning itself, that they render the cultivators of it necessarily few, driving away from the pursuit of it many who, by their genius, might have shed lustre upon letters, or by their patient research and native force of mind, might have extended the boundaries of science; or who, at least, in a humbler, but not a less useful sphere, might have been instrumental in diffusing learning, by imparting

to others their mental stores and their habits of mental discipline.

But does Learning sustain no other evil by being made the subject of a monopoly? It does, and a most serious one. The extent of this additional evil depends upon the condition of the monopoly. Some monopolies are granted to Corporate Bodies, every member of which possesses the right of teaching, that is, of laying out his powers of mind and his learning to the best advantage. Much more frequently, however, the monopoly is granted to a single person. In the former case, if the members of the corporation be numerous, the love of gold, or the purer love of science or of fame, may excite an honourable competition, and the additional injury done to learning by the monopoly may be little appreciable. But in the latter case, where there is but one individual who has the right of teaching, how vast is the additional injury!

Let us first suppose the individual who has the sole privilege of imparting knowledge, to have the knowledge to impart, and to possess ordinary talents, or talents superior to the ordinary standard. Yet what incitement has this man to labour! He need fear no competitor treading on his heels. Why put himself to unnecessary pain in making discoveries himself, or in making himself familiar with the discoveries of others? His emoluments are secure, and they are the same, or nearly the same, whether he discharge his duty well, or discharge it ill. Whoever knows human nature, knows what must be the consequences of such a system; and whoever has known the privileged orders among the learned, must have seen its paralyzing influence too often exemplified.

The case just supposed is the least unfavourable to the system we are considering. Let us now suppose that the monopoly has not been bestowed on account of superior talents and learning, but, as often happens, has been obtained by political intrigue, by family connexion, by private friendship, by servility, or from the desire on the part of a patron of being rid at the cheapest rate of the importunity of a dependant. The man chosen

from such motives cannot be expected to be, in every instance, the best fitted for the duties he has to perform. He may be a grovelling being, who cares nothing for the interests of learning, and only values his important office for the emoluments it brings. To say nothing of moral habits, he may be a man of weak intellect. He may be incapable of maintaining authority over a juvenile auditory. He may be destitute of the power of communicating to others the knowledge he possesses; or last of all, he may not possess the knowledge he is appointed to communicate. In this last circumstance monopolies in learning differ from monopolies of every other kind. All other monopolists must possess a certain stock of the commodity in which they are privileged to trade, for without that their chartered rights could be of no value. The monopolist of learning on the other hand, if he only have his charter, need not be solicitous as to his stock in trade; for his peculiar privilege is to give for a price fixed by law or by custom, whatever sort of commodities, and in whatever quantity, he may think fit.

The additional evils attendant on the monopoly of an individual, in the circumstances last supposed, are too obvious to require comment. Even in the case in which a lack of zeal, on the part of the privileged teacher, is the only deficiency that can be laid to his charge, it is impossible to estimate the extent and duration of the resulting evils. Those who are taught by a man of this kind, cannot catch from his lips an enthusiasm that has no place in his heart, and will most probably, therefore, regard the subject of their studies with indifference or dislike; and since the sentiments of one generation are influenced by those of the generation before it, if the flame be once extinguished the day may be far distant, when a worthier successor shall succeed in rekindling it.

I have thus endeavoured to show that all monopolies in literature and science are most unjust and most injurious to learning. They are unjust, because they trench on the natural rights, which every man born in

a free country ought to possess—the right of employing the powers of his mind, like those of his body, to the best advantage; and the right of enjoying, and turning to a fair account, the property which consists in knowledge. They are injurious to learning by rendering the number of those who cultivate it necessarily very small, debarring all besides from any participation in the profits which it yields; and by exerting a most unpropitious influence over the few privileged cultivators of it, secluding them from all salutary competition, and fostering in them bad habits, and ungenerous sentiments, that may through them be transmitted to unborn generations.

I have only farther to say of Monopolies in Learning, that I do not know any one advantage of any kind whatsoever, with which they are attended, to counterbalance the many and great disadvantages above enumerated; and having said this, I have fully expressed my opinion of these Monopolies.

I now descend from a general to a particular question. I select the Monopolies in Medical Science, because I am most familiar with them, and because they are well fitted to illustrate my general propositions. But I do not wish to shift the discussion* from the general to the particular question. The medical profession is not the only one where the rights of profiting by mental industry and disposing of mental property are unjustly restricted, or nullified by monopolies. All the professions we name *learned* are in this respect placed in the same circumstances. I hope, therefore, to see the members of those professions cordially co-operate in an attempt to shake off a yoke alike oppressive to all of them, by the legitimate means of public discussion and representation to Par-

MEDICAL
EDUCATION

* This paper was read first before the Glasgow Literary and Commercial Society, and afterwards at the Andersonian Soirée, of 9th December last. The author begs to acknowledge himself indebted for many valuable suggestions, to the Gentlemen who took a part in the interesting discussion which ensued on both occasions.

liament, and I feel 'convinced they will be aided in that attempt by all who feel interested in the advancement and diffusion of knowledge.

In the medical profession, as is well-known, there are three principal *grades*, the individuals belonging to which receive respectively the names of Physicians, Surgeons, and Apothecaries. I propose, very briefly, to describe the course of Education which must be gone through to confer a legal title to these professional distinctions.

Education
of Physi-
cians.

I shall first speak of the education of Physicians, the most respectable, and, in Scotland at least, the most numerous of the members of the medical profession. I shall only account it necessary to describe the system of education pursued at the Universities of Edinburgh and Glasgow ; because the legal title of the great majority of Physicians practising throughout Great Britain and her colonies, consists in a medical degree conferred by these Universities. At Edinburgh alone, from a hundred to a hundred and fifty students, every year, receive, in the University phrase, the highest honours in medicine ; while the number of medical graduates from the English Universities, and from those of Aberdeen and St. Andrew's, is comparatively trifling.

The education of Physicians at Edinburgh and Glasgow is the subject of a monopoly of the most exclusive kind. The science of medicine is divided by the Universities into a certain number of branches. The University of Edinburgh forms fourteen branches ; Anatomy, Surgery, Practice of Medicine, Institutes of Medicine, Midwifery, Chemistry, Materia Medica, Botany, Medical Jurisprudence, Clinical Medicine, Clinical Surgery, Practical Anatomy, General Pathology and Natural History. The Glasgow University recognizes only eight branches, leaving out the six last enumerated. Each of these branches of Medicine is monopolized by an individual. This individual receives a grant from government, or the other patrons of the University, entitling him to exercise during his lifetime the exclusive privilege of teaching that particular branch of medicine to which the grant relates. All

who desire to become Physicians, must be trained by this individual, and by him alone. It is of no consequence that he may have been originally unfit for the functions vested in him; or that he since may have become lazy, or dissipated, or superannuated; or may have so completely lost authority over his students, that they only assemble to hoot at him, grin in his face, or indulge in more open acts of insubordination—the necessity of attending upon his prelections is as imperative as ever. Certificates of attendance upon this man's Course of Lectures, and upon his alone, as long as he lives, are required by law; and to what the law requires, whoever wishes to become a Physician must necessarily conform.

It is difficult to conceive a system of education more utterly irrational than this, and fraught with more numerous and more serious evils—more calculated to engender presumption, carelessness and sloth, in the sole possessor of the monopoly, and to check the spirit of medical improvement in every one else.

But I may be told that, in contradiction to my statements, the Universities of Edinburgh and Glasgow have long been famous as Schools of Medicine; that many eminent Professors have adorned, and do at present adorn both; and that, to both, numerous students flock annually to receive their medical education.

I answer, with respect to the eminent Professors that have adorned the Edinburgh and Glasgow Universities, that these few out of the many were eminent in spite of the system under which they taught, and not in consequence of it. As to the number of students who flock to Edinburgh and Glasgow to receive their degrees in medicine, the answer is still more obvious. The young men who repair to Edinburgh and Glasgow, intend to earn their livelihood as Physicians, and they must take the steps required by law to become Physicians. Now, there is no mode of being legally constituted a Physician but by obtaining the degree of Doctor in Medicine, either from an English or from a Scotch University: and, to do the Scotch Universities justice, the system of education which they

prescribe, irrational though it be, is nevertheless much better, and cheaper, than the system of Oxford and Cambridge. The Universities of Edinburgh and Glasgow are preferred, not because they are good, but because there are none better to be had. The number of students at these Universities is, therefore, no argument for their excellence. One might just as well say, if there were but one ferry-boat between Dover and Calais, or between Port-Patrick and Donaghadee, that the excellence of the boat was demonstrated by the number of the passengers.*

Education
of Surgeons
and Apo-
thecaries.

The education conferring a legal claim to the title of Surgeon, is nearly the same as that required of the Physician, but generally more complete. A more limited education is marked out for the Apothecary, if he confine himself to the mere retailing of drugs, without aspiring to the treatment of diseases.†

The education of Surgeons and Apothecaries, like that of Physicians, is strictly monopolized. The monopoly, however, is of a far more liberal, and therefore, though not less obnoxious in principle, of a less hurt-

* Before quitting the subject of the education, now required by law, of Physicians, I may remark, that I have described above the system of regulations established at no very distant period in all the Universities of Scotland, and still strictly enforced in the University of Edinburgh. Some important modifications, however, have been recently introduced by the Universities of Glasgow and St. Andrew's. The University of Glasgow recognizes the certificates of all private teachers in London and Dublin; this is in so far liberal; but is it justice to extend to strangers in London and Dublin a privilege withheld from teachers in Glasgow and Edinburgh, whose qualifications the members of the University can much more readily ascertain? The University of St. Andrew's has very recently published a set of regulations, by which they accept of certificates from all teachers who are members of the Royal Colleges of Surgeons of London, Edinburgh, or Dublin, or of the Faculty of Physicians and Surgeons of Glasgow.

† In England no test of qualification is required of a mere Apothecary, or retailer of drugs. An Englishman has, therefore, not the least security when he sends for a dose of salts, that he is not to receive a dose of oxalic acid; or, that instead of calomel, he may not, in a perfectly legal manner, be made to swallow corrosive sublimate, or the white oxide of arsenic.

ful character. Instead of being vested, like the monopoly for educating Physicians, in individuals, who possess the sole privilege of teaching as long as they live, the monopoly of education in Surgery and Pharmacy is vested in certain corporate bodies, every member of which has the right to teach any of the branches of medicine constituting the prescribed curriculum of education. The only exception to this statement is, that of the University of Glasgow, which a few years ago assumed to itself the power of educating, and licensing Surgeons, according to the same system of individual monopoly by which it educates Physicians. In every other instance the education of Surgeons and Apothecaries is carried on by corporate bodies, every member of which has the right of teaching. In the Royal College of Surgeons of London there are some thousand members; in the Worshipful Company of Apothecaries there are nearly as many; in the Royal College of Surgeons of Edinburgh, there are an hundred and three, and in the Faculty of Physicians and Surgeons of Glasgow, there are ninety-nine. Now, the difference is incalculable between a monopoly vested in the person of one individual, and a monopoly vested in an hundred or a thousand individuals. Among these hundred, or thousand members of the corporate body there is the freest competition, so that instead of only one teacher for each branch of medicine, there are at least as many as may be required by the number of applicants for instruction. Moreover, these teachers cannot, like the sole monopolists, fall asleep altogether, or only dole out such a modicum of instruction as may suit their inclination. They are, on the contrary, compelled to maintain themselves on the very highest level of the science which they teach, and to use their utmost endeavours to advance their pupils to the same elevation. If the spirit of emulation does not incite them to do this, motives of self-interest will; for they soon find out, that inattention and ignorance bring with them their own punishment, by a transference of the emoluments of tuition to more industrious and able competitors. The immeasurable superiority of this

system over the system of individual monopoly adopted at the Universities, must be at once apparent to all who know human nature. We may add, that almost every eminent man, who has filled a professorial chair in an University, has first earned his reputation under the wholesome discipline which this system enjoins. There can, therefore, be no doubt that the simultaneous operation of a more liberal system of tuition has greatly mitigated the evils resulting from the University monopolies.

Another circumstance which takes away almost entirely the exclusiveness of a monopoly from this department of medical education is, that every man has it in his power to become a member of the monopolizing body on certain conditions. These conditions are, producing the certificates of education required, undergoing an examination, and paying a certain sum as entry-money. Open, however, as this system is, and immeasurably superior to the individual monopolies of the University, still, it is a monopoly, and is, therefore, in principle unjust. A poor man may be unable to pay the entry-money, and a man perfectly qualified in point of knowledge to undergo any examination, may not have acquired his knowledge in the exact manner prescribed by the corporation; access to which is, therefore, denied him. Moreover, it is to every man a galling consideration, that he is compelled to purchase with money what is his birth-right; for such, in every free country, must be accounted the right of employing, for every fair purpose, the powers of his understanding, and disposing of his stock of mental wealth to the best advantage.

Such, then, is a faithful picture of Medical Education. There is no part of it that monopolists have not absorbed. The greatest and most important part of it is subject to the monopoly of individuals, the most obnoxious of all monopolies, because the most oppressive in its operation, and the most injurious to the cause of learning. The remaining part of it is subject to a less rigorous, and, therefore, less hurtful monopoly, but which is still an encroachment upon

rights which should be guaranteed to every subject of a free government.

That our present system of medical education re-^{MEDICAL}
quires amendment all are agreed, and Government is^{REFORM.}
now preparing to amend it. The objects which should be kept in view are, to render the system *just and efficient*, and to see that those objects are fully attained is the great concern of the public. Whatever be the plan of his Majesty's Government, if it attain these objects, it cannot be otherwise than good. The details of the plan are comparatively of little consequence; for, as we may reach the same haven by different tracks, so various plans may be proposed which shall, by different means, accomplish the same desirable ends. Let us first inquire how far the system, now existing, admits of being reformed, and we shall then be able to judge of the merits of the scheme, so generally popular throughout England, of superseding the existing system by another fundamentally different.

If, then, the Government of this country, after duly^{Reform of}
considering the present state of our Universities, shall^{the Univer-}
think fit to retain them, as an integrant part of our^{sities.}
national system of education, it is clear, that the monopoly of individuals in teaching must be wholly abolished; for, till that be done, the Universities must continue to be, as they at present are, drags upon the intelligence of the country. Perhaps no better regulation could be made than that by which the right of teaching should be restored to all Graduates of the Universities, whether in Arts, in Medicine, in Law, or in Theology; I say that the right of teaching should be restored to the graduates, because it is well known to all who have studied the history of Universities, that the essential privilege and duty of all graduates, in whatever faculty, is to teach; and that the brevium, or diploma which they receive on finishing their studies is intended to constitute them teachers, under the names of Doctores and Magistri. These names (Teachers and Masters) are of themselves sufficiently expressive of the nature of the functions of a graduate. In the original charter of the University of Glasgow,

it is ordained that those who have finished their studies, and are found duly qualified, shall obtain, "*Docendi licentiam, ut alios erudire valeant.*" The graduates were indeed the only teachers recognised by the original constitution of the Universities. They not only possessed the right of teaching, but for a certain period they were under the obligation to teach when called upon, so that the University might not suffer from a want of teachers.

The steps are easily traced by which the transition was effected from the original to the present state of our Universities. The graduates employed in teaching received a certain regulated fee from those whom they taught. To relieve the students from this burden, and to secure the permanence of distinguished teachers in the University, it was at length enacted that some of the more eminent graduates should receive salaries on the condition of their teaching gratuitously. The establishment of salaried graduates, or professors, as they afterwards came to be called, was soon followed by important consequences. As the obligation upon graduates to deliver lectures was only enforced when a sufficient number of voluntary teachers did *not* come forward, the granting of salaries may be said to have dissolved the obligation, by ensuring the presence of the professors. A still more important consequence was, that when the graduates now attempted to deliver lectures, they were for the most part no longer able to procure auditors, because the students preferred the gratuitous instructions of the salaried professors. The practice of lecturing was thus seldom exercised by the graduates, and in process of time, altogether discontinued. It was soon, therefore, nearly forgotten; and, at length, the right to exercise it was boldly denied by the professors, who having now no dread of competition, while they retained their salaries, charged fees as at first.

University
of Glasgow

I hope the importance of the subject, will be a sufficient apology for deviating a little from the direct line of our argument, for the purpose of showing that the history of the University of Glasgow, is in strict

accordance with the general historical outline which I have just traced.

The University of Glasgow was established by a Bull of Pope Nicholas V., in the year 1450. Of this Bull, or original charter of the University, the following is an abstract, and the last part, distinguished by inverted commas, a literal translation.

Considering the utility of learning, the application of James II., King of Scotland, to have an University established at Glasgow, and the fitness of the City of Glasgow for that purpose, We erect and establish in the City of Glasgow, a general seminary (generale studium, or university) for Theology, Law, Arts, and every other lawful study (*omni aliâ licitâ facultate*). We ordain that the Doctors, Masters, Readers, and Students, enjoy the same privileges, liberties, honours, exemptions, and immunities as the Masters, Doctors, and Students of the University of Bologna: and that the Bishop of Glasgow, for the time being, be Chancellor of the University, and have the same authority over the Doctors, Masters, and Students, as the Rectors of the University of Bologna. We ordain, with respect to those Students, who have merited the license of Teaching (*Docendi licentiam, ut alios erudire valeant*) in the faculty in which they have studied, and apply to be created Masters or Doctors, that they shall be presented to the Chancellor, who is to take all the steps requisite for the purpose, and if they are found worthy, to bestow upon them, the honours sought and the license of teaching. "Those who having been examined and approved of at the University of Glasgow, shall have obtained the license of Teaching, and the honours before-mentioned, from that time forward, without any other examination and approbation, shall have the full and free power of Governing and Teaching, both in the City of Glasgow, and in all other Universities in which they may desire to govern and to teach, notwithstanding all statutes and customs to the contrary, although confirmed by oath, by the Papal sanction, or by any other kind of confirmation whatsoever. Let no man, therefore,

rashly dare to infringe what We have Erected, Constituted, and Ordained ; and whosoever shall presume to attempt it, be it known to him, that he will incur the indignation of Almighty God, and of the blessed Apostles, Peter, and Paul."

With respect to this Charter, it need only be observed, that the only functionaries of the University recognised by it, are the Chancellor and the Graduates, and, that the functions of the latter are expressly specified, as being to teach in the University, and to govern it, that is, to have a voice in the management of its affairs. The right of governing, however, did not belong to all Graduates indiscriminately, but only to those engaged in teaching. Hence the distinction of Graduates into Regent, and Non-Regent, those only actually engaged in teaching, being entitled to the privileges, and appellation of Regents. We may also remark that the members of the University at the present day, recognise, in the fullest manner, the validity of this ancient Charter ; as is obvious from the fact, that it is upon the indefinite phrase, "*in quâvis aliâ licitâ Facultate*," that they found their pretensions to the recently assumed prerogative of granting Surgical Diplomas.

No material change in the constitution of the University appears to have taken place till the period of the Reformation. At that time, the members of the University were dispersed on account of their attachment to the Church of Rome. In the year 1577, James VI., gathering together the scattered remnants of the University, bestowed on it a new Charter, commonly known by the name of the *Erectio Nova*. According to this new Charter, considerable funds derived from the Rectory and Vicarage of Govan are granted to the University, and twelve persons are appointed to reside within the walls of the College, or University buildings. These twelve persons are the Principal, three Regents, four poor Students, the Factor, the Servant of the Principal, the Cook, and the Janitor. The duty of the *Gymnasiarcha* or Principal, is defined to be to teach Divinity, Hebrew, and

Syriac, to preach on Sundays at Govan, and to have the general superintendence of all the members of the College. He is to reside in the College, never leaving it without permission obtained from the collegiate body; and if he sleep without the walls for three successive nights without leave, he is to be deposed. The three Regents are to receive salaries for teaching; the first is to teach Rhetoric and Greek, the second Logic and Geometry, and the third Natural Philosophy. The four poor Students, or Bursars must be really poor, and deserving of encouragement; and it is specially committed to the Principal to see that the rich be not admitted instead of the poor, nor drones instead of those who might be ornaments to the country.

Different views have been taken of this *Erectio Nova*, or new Charter. An opinion, supported by high legal authority, is, that the new Charter completely abrogated the old one, destroying the Papal constitution of the University, and establishing in its place a mere School or College intended for the education of the Protestant clergy. The members of the University, on the other hand, regard the new Charter as a confirmation of the old one. They confer degrees in Medicine, Law, and Theology, although the new Charter does not authorize them to confer any such honours. In every other respect they regard the new Charter as a confirmation of the old one, except in so far as changes upon the ancient constitution of the University are specifically ordained.

Adopting the latter opinion, sanctioned by the authority of the members of the University, I would remark, that the most important change introduced by the new Charter, is that by which three Regents are appointed to be supported from the funds, and to receive salaries. The branches of study to be superintended by these Regents are specified. It is, however, obvious, that the salaried Regents were not intended to be the only teachers in the University, but that the voluntary Regents were to continue to officiate as under the ancient constitution. It is expressly said

that the Students after attending the three salaried Regents, shall proceed "*ad graviora studia.*" ("*Volumus adolescentes pileo donatos ad graviora studia contendere.*") Now as no salaried Regents are appointed to superintend these "*graviora studia,*" it must have been meant that they were to be superintended by the voluntary Regents as formerly, that is, by any Graduates who chose. The new University Charter, therefore, clearly admits the right of teaching as belonging to the Graduates generally, in the same manner as under the ancient constitution; the voluntary Regents being recognised by it as regular functionaries of the University, as well as the salaried Regents or Professors. But the door had been opened by which the whole body of Graduates was soon to be expelled. They were to be stripped of their privileges of Regency, that these might be bestowed on the salaried teachers, appointed successively by the University, and by the Crown. The members of the University appointed four additional Professors in Arts and Theology, and the Crown furnished a full complement of Professors in the other Faculties. Thus the voluntary Regents were completely superseded, and it is not generally known, even among themselves, that they have a legal title, derived from the Charters of the University, to exercise the right of teaching.

The present members of the University may urge in their own defence, that if the Charter be violated by withholding the privilege of teaching from the Graduates, the violation was the deed of their predecessors, and that they did no more than conform to a practice established by use and wont when they entered the University. They cannot, however, offer the same apology for the violation of a solemn promise which every member of the University makes to every Graduate in conferring on him his degree. This promise is made publicly, and under all the circumstances that can give solemnity to an obligation, and is thereafter ratified by a written document under the seal of the University, and bearing the signatures of the Princi-

pal, and of all the Professors. In the ceremony of conferring a degree in Medicine, the very Reverend Principal, after calling God to witness his sincerity, creates the candidate a Doctor, and confers upon him all the privileges which in any country under heaven belong to Graduates in medicine, and among these he specially mentions the privilege of teaching. The diploma, or written document, signed by all the members of the University, and delivered to every Graduate, is equally explicit in conferring upon him "*potestatem plenissimam de re medicâ legendi et docendi.*" These words, if they mean any thing, must mean that the Graduates of the University are to possess the powers of reading and teaching, backed by the authority of the University, and accompanied with all the privileges which she can confer. That this was the meaning they were intended to bear, is certain from the history of the University. Yet in defiance of this obvious interpretation, and in contempt of all good faith, the members of the University refuse to recognise instructions given by Graduates as constituting any part of the curriculum of education, and reject their certificates as scornfully as they would reject certificates from the most illiterate of mankind.

I have perhaps, laid more than due stress upon the ancient usages of the University of Glasgow, and the terms of its Charters and Diplomas. A cause supported by so many reasons of justice and expediency, ought not to be made to depend on the interpretation of the clauses of a parchment. I therefore leave the subject by remarking that in endeavouring to procure the abolition of monopolies in our Scotch Universities, while we should not forget to represent to Parliament, that those monopolies are in opposition to the original constitution of the Universities, and in violation of all good faith toward the Doctors and Masters of their own creation, we should rest the prayer of the petition mainly on the ground that all such monopolies are most oppressive in their operation, an encroachment upon the natural rights of freemen, and subversive of the best interests of learning.

English
schemes of
Medical
Reform.

All who have been educated at the Universities, naturally cherish towards them sentiments of gratitude and respect, and are not less powerfully influenced in their behalf by the associations and predilections of early life. It may therefore be confidently predicted that, throughout Scotland, the reform of the Universities would be a measure much more generally acceptable than the substitution in their place of any other system of education. In England and Ireland on the other hand, from the less popular form of the Universities, they excite less sympathy, and the public opinion has of late, been on many occasions decidedly expressed in favour of a plan of medical reform, by which the exclusive privileges of the Universities would be very much circumscribed. The following sketch of a system of medical education conveys a correct idea of the spirit by which these plans of reform are pervaded, although it differs from them in many of its details. It is founded on principles that might be applied to the most comprehensive national system of education.

Of this system associations of learned men, that might be named *Licensing Colleges* form the foundation. The business of the colleges, is first, to license teachers, and second, to license practitioners in the various branches of medicine. To discharge their duties with impartiality, the members of the colleges ought on no account to officiate as teachers. The number of licensing colleges required would probably be found to be six in all, two for each of the great divisions of the United Kingdoms: for England, one in London, and one in Liverpool; for Scotland, one in Edinburgh, and one in Glasgow; and for Ireland, one in Dublin, and one in Belfast. The number of members in each College would require to be determined by the duty they had to perform.

The most important part of the duty of the Colleges would be the licensing of teachers. The only qualification required for the office of Teacher, should be, the possession of a satisfactory share of general literary and scientific knowledge, and an intimate acquaintance with the particular subject to be taught. Many

advantages would result from raising the standard of qualification for this office as high as possible. The respectability and usefulness of the Teachers would thus be secured, and a severe course of study rendered imperative on all aspiring to the office. The only other duty of the Colleges would be, conferring licenses to practise the various branches of the healing art, on those who had gone through the prescribed curriculum of education, and whose proficiency in their studies had been ascertained by a strict and impartial examination.

The system of medical education in England and Scotland, is to be brought under the consideration of Parliament very soon, in consequence of a quarrel among the monopolists themselves, as to the extent of their respective privileges. The worshipful Company of Apothecaries of London, claims all England for its own, denying the right of Scotch Licentiates to practise medicine in any part of that country, and treating as ignorant interlopers all who attempt it. There can be no doubt that this act of intolerance is prompted by a lust of gain, and not by any zeal for the interests of medicine, since it is well known that the Scotch Licentiates are better educated, and therefore generally speaking, better qualified to practise the various branches of the art, than the Licentiates of Apothecaries' Hall. But out of evil, good may come, and I cannot but hope will come, if by a proper representation to Parliament, the attention of the public is awakened to the present condition of medical education. It is to be regretted that the Universities are not more directly parties in this dispute. They are, however, involved in so far as the University Graduates often rely upon their medical degrees, as conferring a right to act as *general practitioners*, or in other words to conjoin with the business of a Physician that of the Surgeon and of the Apothecary. The Universities will not, therefore, I trust, be altogether deprived of the benefits of public scrutiny, for whoever considers the subject attentively, must be convinced, that the evils resulting from the monopoly of such a body as the London Apothecaries, are mere

trifles, when compared with the evils inseparable from the system of monopoly by individuals, now prevailing in our Scotch Universities.

CONCLUSION. In conclusion, I return to the general question, to illustrate which the subject of medical education was introduced.

By monopolies in learning, I do not mean any exclusive privileges belonging to members of Universities and other corporations, of laying up stores of learning for private consumpt, since that privilege belongs undoubtedly to them, and to all persons whomsoever; I mean what the words "monopoly in learning" strictly import, the exclusive privilege of selling learning. Such monopolies, therefore, are purely matters of traffic, and as such are to be judged of according to the ordinary principles of Political Economy. Trying them according to this standard, I have endeavoured to demonstrate, that they impose restrictions upon mental labour, and upon the disposal of mental capital, which are both unjust and impolitic.

Mental Labour is regulated by the very same principles that regulate labour of every other kind. If the labourers are numerous, then we have the usual effects of competition, industry, dexterity, and moderate wages: if, on the contrary, the labourers are few in number, then they can enforce their own claims, and we have as usual carelessness, bad work, insolence, and exorbitant demands; and these evils attain their maximum when, as in the Scotch Universities, there is only one labourer, and can be no more. Mental labour is therefore subject to the same laws, as labour of every other kind, and it is surely alike entitled to the protection of the laws. There is surely not more oppression in prohibiting a man from exerting his thewes and sinews in an honest calling, than in prohibiting him from exerting the powers of his mind, that he may derive an honest profit from the exertion of them.

If there be oppression and impolicy in the restrictions imposed upon mental labour by the monopoly of education, there is not less impolicy and injustice in

the restrictions imposed on the disposal of mental Capital. What member of a mercantile community, possessing some valuable commodity to dispose of, would not feel that he was unjustly treated, were any individual to say to him, "that commodity, valuable as it is, can be to you of no use, for the exclusive privilege of selling it belongs by law to me"? Would he not, and in the few instances where such injustice is still tolerated, does he not exclaim against the law as most partial and oppressive? Yet this is the very language which every Scotch Professor is daily addressing to all around him; and every member of a privileged fraternity, to all without the pale of his corporation. A man may exhaust his youth and strength over the midnight oil, or he may travel to foreign countries in quest of knowledge, but to what profitable use can his acquisitions be applied? Knowledge is in this country an interdicted commodity, having no marketable value but when exposed for sale by a monopolist. This surely is an encouragement to learning worthy of an enlightened Government!

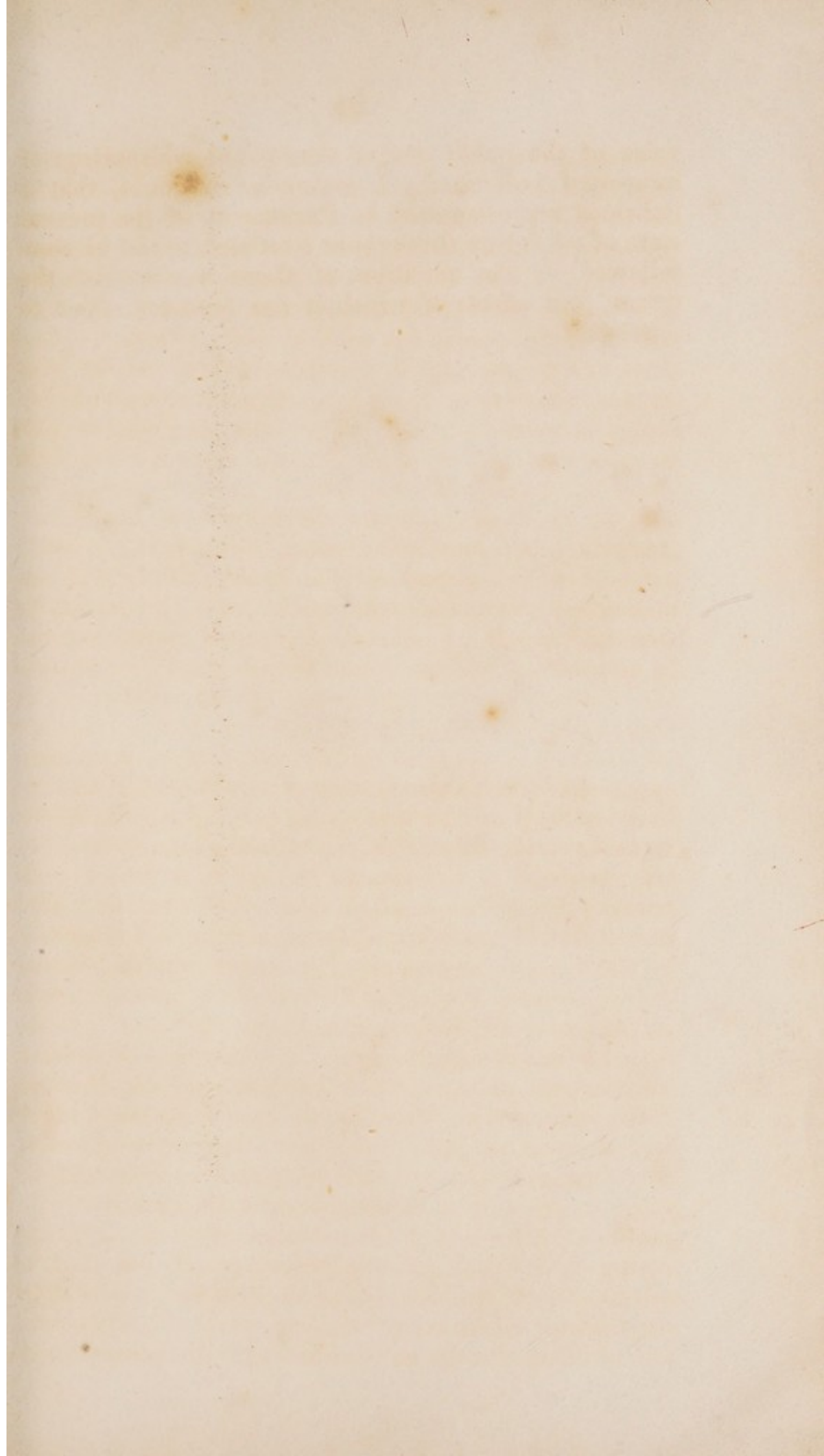
There are, however, special cases in which monopolies are just. The patent right which secures, for a certain number of years, the profits of a new invention to the author of it, is just and fair. The public, in this case, willingly submits to the temporary disadvantages inseparable from the monopoly, that it may bestow an equitable remuneration on the ingenuity of the inventor. It will not, however, I believe be pretended, that the monopoly of learning is at all of the nature of a patent right. If the privileged teachers retailed only their own discoveries, there would be some show of justice in the case. I need, however, scarcely say, that if the new truths emanating from these sources formed the only stream that flowed in the privileged channels, the thirst for knowledge would be very moderate, indeed, on the part of the auditory that should be satisfied by quaffing it. But it was not for the purpose of making so invidious a remark, that I introduced this subject. I introduced it for the purpose of mentioning a case where the oppression of the

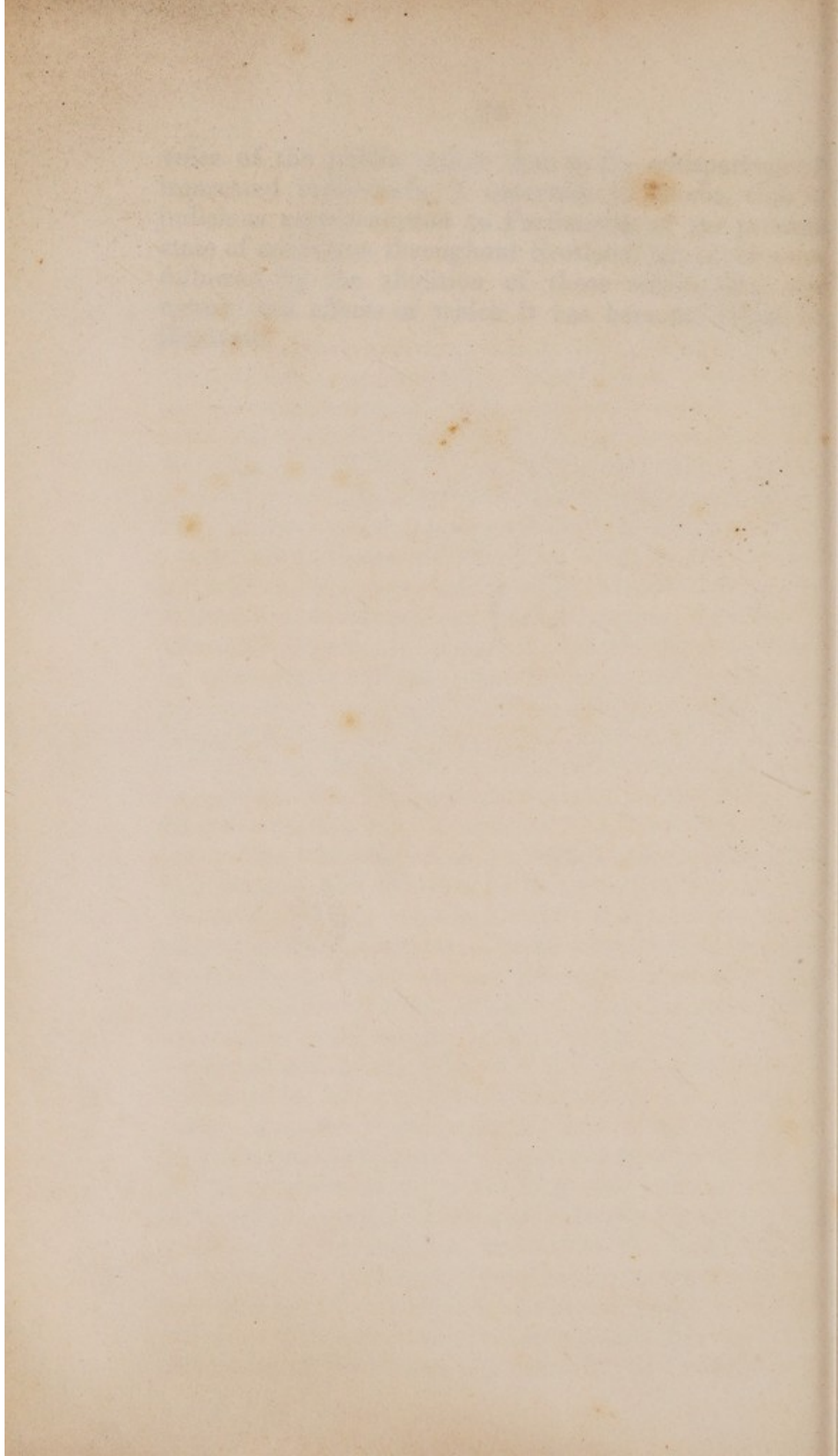
existing monopolies is felt with peculiar aggravation. This case is, in some respects, the very reverse of an useful discovery secured by a patent right. It is the case of the discoverer of an useful truth excluded by patent right from all participation in the benefits of his own discovery. To explain myself, let us suppose that Harvey lived at the present day, and in the City of Glasgow, and that he were now first to promulgate the great discovery that has given immortality to his name—I mean the discovery of the circulation of the blood. So noble a discovery would entitle him to the very first place among the cultivators of the science of Physiology; and those who desired to be instructed in that science, would flock from all quarters around so distinguished a master. But would the instructions of Harvey be received by our Universities and other licensing bodies as constituting part of a regular medical education? Most assuredly they would not be so received; and they would thus be divested of all their value in so far as it was a value in money. But in the meantime, the privileged teachers would become acquainted with Harvey's discovery, and they would thenceforth derive from it all the pecuniary advantages from which they had debarred the discoverer himself. The monopoly in this case is, therefore, as I have said, the very reverse of a patent right; for it excludes the discoverer from all participation in the benefits of his discovery, and transfers them to the monopolists, whom it thus not only permits but compels to perpetrate an act that from its very enormity, has no name in the catalogue of literary crimes. If a man meanly steal the thoughts of another, he is said to be guilty of Plagiarism; but to wrest from any one by main force his literary possessions, is an act of Robbery, of which the possibility was never contemplated, and for which, therefore, there is no distinguishing appellation.

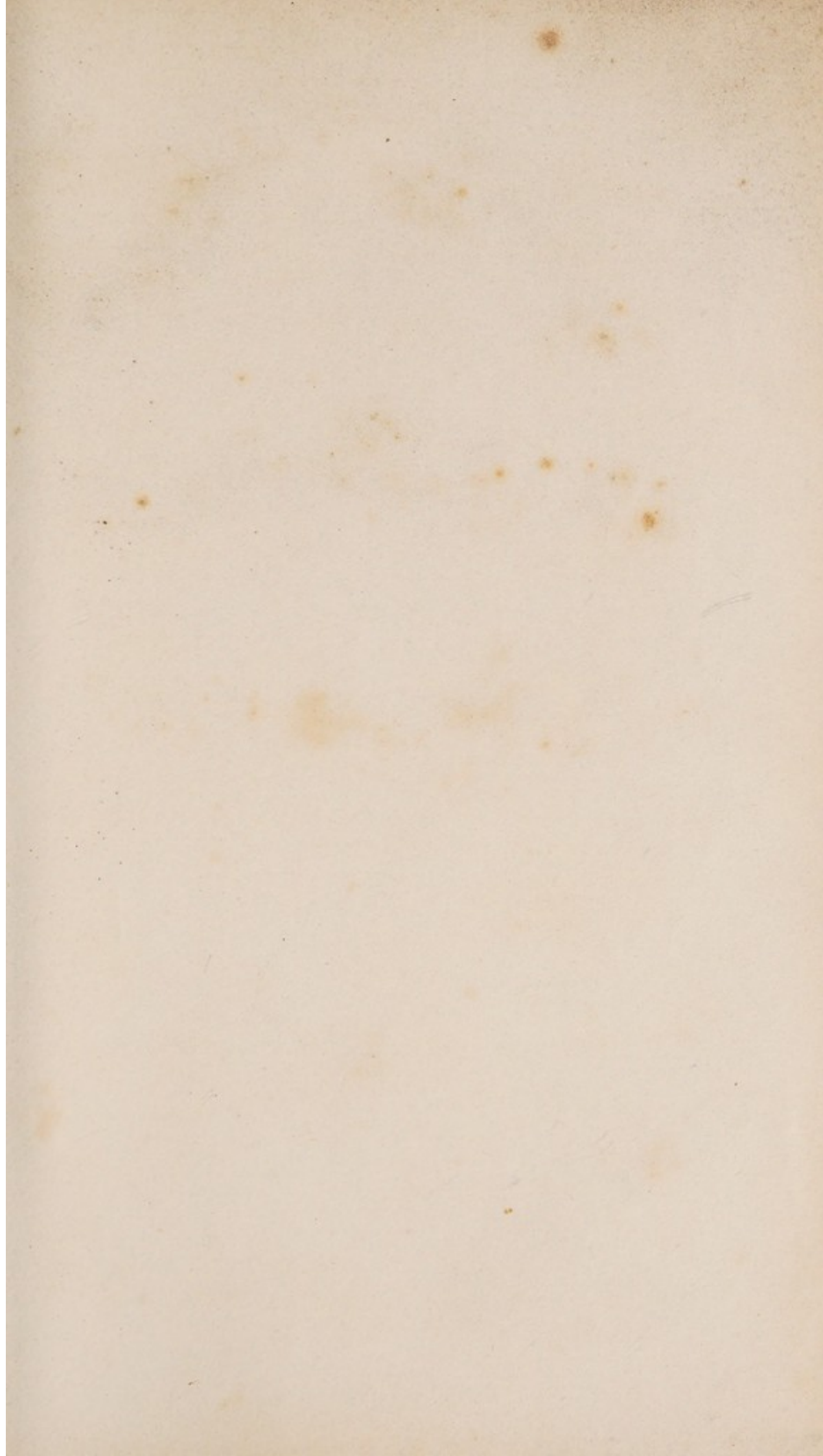
The state of our Scotch Universities has hitherto attracted little of the public attention, which has been diverted from them by the abuses which stand out so prominently in the Universities of England. In comparison with the latter, our Scotch Universities have

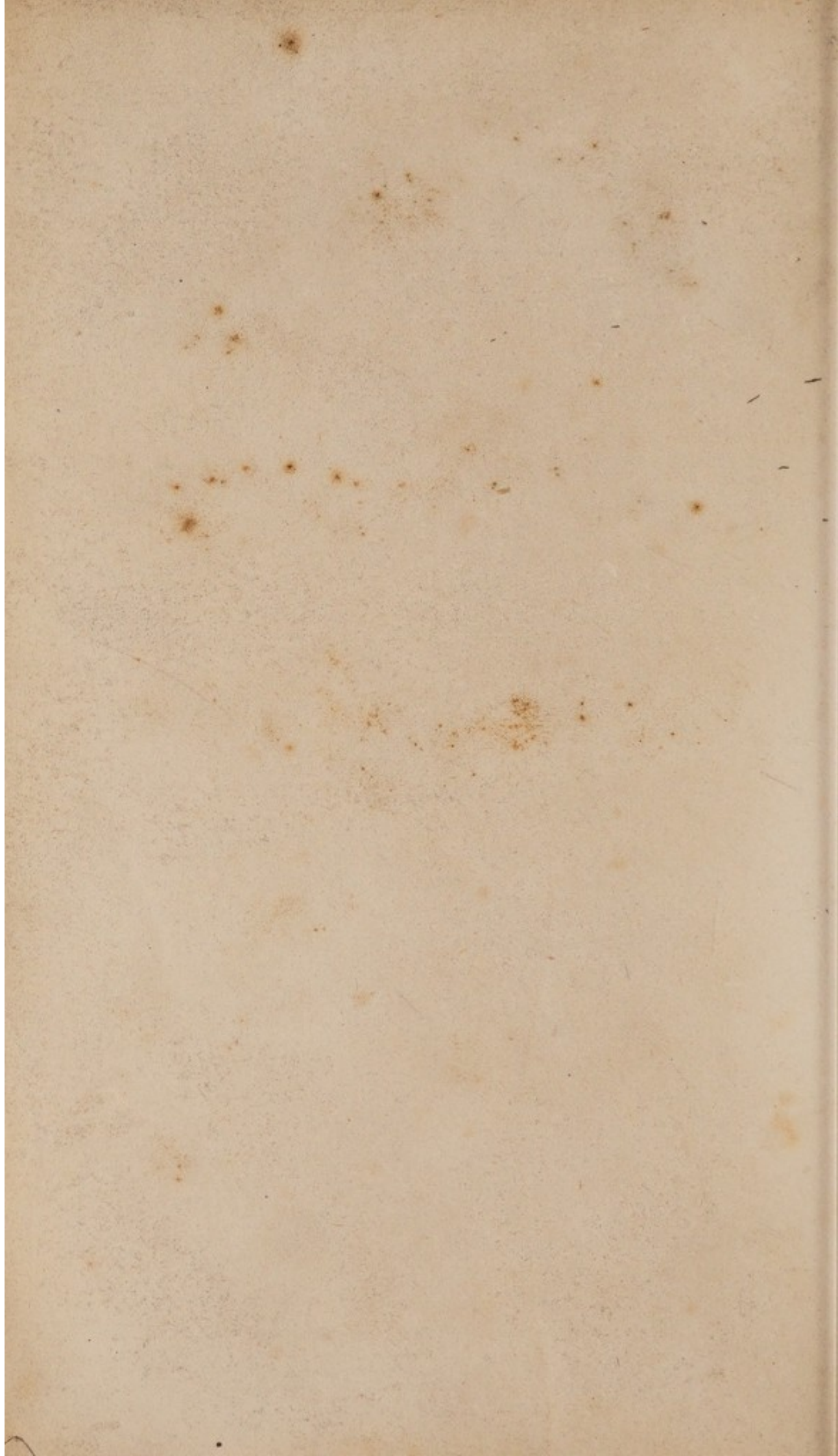
generally been regarded as paragons of purity and efficiency. Now, while I admit that their cheapness, their more popular form, and the wider system of instruction which they embrace are so many favourable points in the contrast, it cannot, I think, be denied that the constitution of the English Universities is in so far superior, that it does not recognize the monopoly of any individual in teaching, but, on the contrary, requires a plurality of teachers in every college, thus securing so many additional cultivators of learning, and stimulating their zeal by the principle of emulation. I have endeavoured to point out the imperfections in our Scotch system. In none of our Universities are those imperfections essentially inherent, but in the University of Edinburgh. The Charter of James VI., from which that University derives its constitution, is remarked, even by the Royal Commissioners, as being distinguished for the narrowness of views common at the period when it was granted. It confers the monopoly of teaching on the Professors appointed by the magistrates of Edinburgh, and inhibits all other persons from teaching within the precincts of the city. The reform of the University of Edinburgh must, therefore, be sought altogether on the general principles of expediency and justice; for surely no one will contend, that it is reasonable, that the Charter of a narrow-minded pedant of the sixteenth century should trammel the national institutions of Great Britain in the middle of the nineteenth century. All the other Scotch Universities possessed, originally, a constitution which rendered them well adapted to promote the objects for which they were instituted—the advancement and the diffusion of learning. But abuses have gradually crept into them; and they are now far less efficient than they might be, in diffusing learning; while to all advancement of it they are absolute hinderances. To endeavour to procure a reformation of these abuses, I consider to be the duty of every man who is himself educated, or takes any interest in the education of others; and, as we are now blessed with a government that has already so often listened to the

voice of the public rather than to the whisperings of interested individuals, I entertain no doubt, that a judicious representation to Parliament of the present state of education throughout Scotland, would be soon followed by the abolition of those monopolies, the nature and effects of which it has been my object to illustrate.









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