

**A reply to the report of the Senatus Academicus of the University of Edinburgh, upon Dr. Reid's Memorial to ... the patrons of the University / [D.B. Reid].**

**Contributors**

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**A REPLY**  
TO THE  
**REPORT OF THE SENATUS ACADEMICUS**  
**OF THE UNIVERSITY OF EDINBURGH,**  
UPON  
**DR REID'S MEMORIAL TO THE HONOURABLE**  
**THE PATRONS OF THE UNIVERSITY.**

Dr REID has to thank the Honourable the Lord Provost, Magistrates and Council, for the copy of the Report of the Senatus on his Memorial. It is the first notice which he has had of the proceedings of the Senatus on the matter referred to them.

In submitting the following remarks, Dr REID has to mention, that he has not seen Dr HOPE's statement which is referred to in that report. He cannot perceive why evidence referred to in the report, should not have been presented to the Honourable the Patrons along with it; it is essentially a part of the report, which, without it, must be considered incomplete. Dr REID has applied for it to Mr SINCLAIR, and also to several members of the College Committee, but has not been able to obtain a copy.

It is also necessary for Dr REID to mention, that this report of the Senatus is founded on ex-parte evidence; Dr HOPE, who has declared himself personally interested against the institution of a Chair of Practical Chemistry, having had free access to the Medical and Surgical Professors, both in the Committee and in the Senatus, and having moreover specially instructed the Senatus in a long paper which has never been shown to Dr REID, who was kept in complete ignorance of all the proceedings both of the Committee and Senatus. It is usual in all matters of reference to hear both parties, and Dr REID cannot see why he should not have been called upon to give evidence as well as Dr HOPE, more especially as Dr REID had said in his Memorial, a copy of which was sent to each of the Professors, "The details of

the arrangements by which Dr REID is enabled to effect these different objects, he shall have great pleasure in submitting to any gentlemen whom the Council may choose to appoint, should they wish any report in regard to them."—*Memorial*, p. 13. Still more was it incumbent on the Professors to hear Dr REID, when it was seen that Dr HOPE had contradicted some of his statements. The Senatus might at least have shewn Dr REID their report, before a statement was presented to the Council, sanctioned with all the authority of the Senatus Academicus, and containing statements most injurious to him. But Dr REID was never informed of its nature, nor even asked if he had any thing to say.

By adopting the report of the Medical and Surgical Professors, the Senatus have entirely passed over one of the most important parts of Dr REID's Memorial,—the value of Practical Chemistry to the following classes of students who have now attended his classes since his first public course of Practical Chemistry in the High School Yards.

1. Gentlemen connected with the arts and manufactures of this country.
5. Students of Agriculture.
3. Civil Engineers ; more particularly those engaged as Mining Engineers.
4. Students of Literature and Science.
5. Gentlemen going abroad, and who expect to turn their knowledge of Practical Chemistry to advantage, either as manufacturers, or as giving them a superior claim to many appointments, where they may have to report more especially upon the value of mineral productions, in districts which they may have officially to inspect.
6. Military Engineers, and Officers of the Army and Navy.—*Dr Reid's memorial*, p. 14.

They have also taken no notice of the value of the Practical Chemistry Class as a branch of General Education, which is specially alluded to in Dr REID's Memorial, as follows :—

“ All who take any interest in education, and consider that one of its leading objects is to cultivate a general activity of mind, a power of fixing the attention, and a talent for observation with habits of action, will acknowledge that the establishment of a class at our Universities which embraces all these objects, is a great desideratum.

That Practical Chemistry, when properly taught, supplies this desideratum, and is of the utmost value as a process of mental training, may be easily shewn,” &c.—*See Memorial*, p. 5.

In short, the Senatus, adopting the report of the Medical Faculty, have taken up the question of Practical Chemistry as if its application to Medicine were alone to be attended to; Dr REID's testimonials, containing evidence on the different points above alluded to, were laid before the Senatus Academicus.

Dr REID will now make some remarks on the very extraordi-



nary report presented by the Senatus, after taking three months to deliberate on his Memorial; and he may be allowed to premise that the Senatus have fallen into many misstatements which could never have appeared, had they compared Dr HOPE's evidence with Dr REID's, and given Dr REID an opportunity of being heard. He may also be permitted to remark, that the question now before the Honourable the Patrons, is not whether a class for Practical Chemistry would be useful or not, for such a class already exists, is numerously attended, and is considered as an indispensable branch of education; but whether the patronage of that class, if it continue to be taught in the University, belongs to the Honourable the Patrons, or to Dr HOPE; and whether it can be taught most beneficially to the student, by a teacher having an independent appointment, or by one who must pay both time and money to the Professor who does not teach it.

The Patronage of the University has been vested, for the most obvious reasons, not in the Senatus, but in the Honourable the Council; and however proper it may be to have the opinion of the Senatus upon any proposed University arrangements, the grounds on which they have formed that opinion must still come under the consideration of the Patrons.

If Professors are to be allowed to institute new classes, and teach these themselves, or by deputy, for their own emolument, every Professor is then at liberty to attach any new and rising branch of education to his own class. But if new branches of education, brought into notice and efficiency by the exertions of private individuals, who have risked every thing upon the attempt, are promoted to University classes when their utility is acknowledged by the public, then the public have security that ample justice will be done to the new class.

**THE REPORT COMMENCES WITH A STATEMENT CONVEYING A MOST INCORRECT VIEW OF DR HOPE'S CONNEXION WITH DR REID'S COURSE OF PRACTICAL CHEMISTRY.**

This statement is as follows :

“ In giving their opinion on the proposal contained in this Memorial, the Medical and Surgical Professors need hardly remind the Senatus, in the first place, that Chemistry has been for many years taught by the present Professor, not only with distinguished success, but with increasing efficiency, particularly in consequence of the establishment of the courses of Practical Chemistry, which have been taught under his directions, and by his different assistants, since the year 1823; *i. e.* since some years before the time when attendance on

instructions in Practical Chemistry was enjoined by any of the public bodies, who are entrusted with the guidance of medical education."—*Report by Senatus.*

Dr REID's class of Practical Chemistry was established by himself, not by Dr HOPE, in his former class-room in the High-School Yards. Dr REID had every assurance that his classes would continue to succeed, and had reason to believe that he had introduced such improvements in its methods, as would render it much more extensively useful, and enable the student to have access to a more full and complete course than had formerly been given, at a moderate expense. Dr REID, therefore, stipulated with Dr HOPE, in the most express terms, that, on entering the College, he should have full liberty to teach Practical Chemistry, in his own way, as an independent teacher. His class was thus transferred from the High School Yards to the College, with all the peculiar apparatus, &c. used in carrying it on. It was transferred from thence to a room in the College, the use of which was part of Dr REID's remuneration for his services to Dr HOPE. It was no part of Dr REID's duty as assistant to give practical courses for Dr HOPE; he might have given none, if he had chosen, after he was appointed experimental assistant. The following is an extract from a paper in Dr HOPE's own writing, securing to Dr REID the use of a class-room to carry on private and independent courses of Practical Chemistry, and given to Dr Reid before he entered upon his situation in the College, that there might be no misunderstanding on either side.

"Dr HOPE will be glad that Mr REID shall deliver Practical Courses of Chemistry and Chemical Pharmacy, at such hours as shall not interfere with the business of the Professor's Lectures. Mr REID shall have the full use of the lower Laboratory, and of the fixed furnaces there; he shall also have fuel furnished to him, but none of the preparations, specimens, or apparatus belonging to Dr HOPE, are to be exhibited or used during these private Courses. Mr REID will have to provide any attendance he may require for these Courses, of which he will draw the whole emoluments."

Little comment is required on this document.

1. The class was private. The words "University of Edinburgh" were not allowed to be put on the ticket, and were not on it till a year after Dr REID had entered the College.

2. It was Dr REID's class, not Dr HOPE's.

3. Nothing belonging to Dr HOPE was to be used in it.

4. The risk was all Dr REID's; if it failed, he had no compensation; if it succeeded, the gain was his own.

5. All the expenses were paid by Dr REID.

6. The use of the room, and the fixtures and fuel, were part of Dr REID's salary.

7. It was no part of Dr HOPE's class. Dr HOPE's students had no more to do with the class, than strangers who had never been in the College at all.

8. It was never taught by Dr HOPE ; the management was all Dr REID's.

9. It was never directed by Dr HOPE ; nor has there ever been a single experiment, process, or manipulation of any kind introduced into that class by Dr HOPE ; every new modification of apparatus or discipline, as well as the original institution of that class, were introduced by Dr REID alone ; and since the second agreement was made, the only thing that Dr HOPE has ever done for the class, has been giving an introductory lecture (which Dr REID formerly did), and paying some fixtures, planned by Dr REID, out of his first profits, according to a new agreement, which were to become Dr HOPE's private property, being permanently attached to the walls of the College.

IT WAS ON THE FAITH OF THE ABOVE ENGAGEMENT—

1. That Dr REID agreed to relinquish, during Dr HOPE's lifetime, what had hitherto been the only lucrative and popular part of the business of a Teacher of Chemistry. Dr HOPE's words in the agreement alluded to are these :

“ Mr REID, whether he shall be assistant to Dr HOPE at the time or not, shall not be at liberty to deliver in Edinburgh or suburbs full and regular courses of Lectures on Chemistry, such as may qualify for examination either for a doctor's degree or a surgical diploma, without the permission of Dr HOPE, during Dr HOPE's lifetime.”

2. That Dr REID broke up his establishment in the High School Yards, incurring the loss of all the fixtures he had put up there, which were on a much more extensive scale than those he has hitherto had at the College.

3. That Dr REID agreed to give Dr HOPE his assistance “ daily, from a quarter before 10 till 12 or half-past 12,” during the whole of the winter session.

Though this agreement was, the next year, entirely superseded, still the great sacrifices which Dr REID then made for the use of a room within the University of Edinburgh, to make the nature of his courses of Chemistry better known, and for any advantage which his class-room now within the College might thereby have, are not to be overlooked. The allowance of L. 50, which he received as assistant to Dr HOPE, might be sufficient for the services of a beginner in Chemistry. But it could not be supposed that a professional teacher, engaged for ten years previously as a Practical Chemist, would look upon L. 50 as a remuneration for what Dr REID sacrificed. It was the use of the room, and the right and privilege to teach Practical Chemistry exclusively in the University, that could ever be looked upon as the principal part of the compensation Dr REID received.

When the College of Surgeons rendered Practical Chemistry imperative, Dr REID was placed in a peculiarly difficult situation. To assist Dr REID, Dr HOPE proposed to put his name on the class ticket,

as detailed above. This did not secure the object intended, (See the Report of the Royal College of Surgeons, below.) When that became known, had Dr REID's establishment in the High School Yards not been broken up, and great loss incurred by the pulling down of the forge, furnaces, &c., built there by Dr REID, or, had Dr REID been able to afford time and means to fit up another establishment for the Winter season, Dr REID would have left the College rather than have given any of the fruits of his labours to Dr HOPE, who was never one hour in the Class-Room to see the Students operating, when he considered Practical Chemistry unprofitable to the teacher, but began to claim connection with it the first year he saw any thing made by it.

**REPORT of COMMITTEE of the ROYAL COLLEGE of SURGEONS, appointed to consider the Course of Practical Chemistry conducted in Edinburgh University.**

“ According to the instructions of the Royal College, the Committee applied to Professor HOPE, to know the nature and extent of the superintendence intended to be given by him in the Course of Practical Chemistry advertised to be carried on in the University under the direction of Mr REID, Experimental Assistant to the Professor.

“ Having maturely considered the letter of Dr HOPE, the Committee have to report it to be their unanimous opinion, that the College should not recognise the Course as a University Course, conducted by a Professor. They have farther to report, that they do not think that the College should recognise the Course as conducted by Mr REID, in virtue of his connexion with the University, as the status he holds there depends upon the appointment only of the Professor of Chemistry. But, under the very peculiar circumstances in which Mr REID, who has been for some time past a most industrious and successful teacher of Practical Chemistry, would be placed, in consequence of the late Regulations of the Royal College, were his Courses not held to qualify his students for examination, the Committee unanimously and earnestly recommend to the College to receive certificates of attendance upon Mr REID's Course for two years; this time being given to him, to afford him an opportunity of qualifying himself as a Lecturer under the present Regulations of the Royal College.”

The letter from Professor HOPE, and one from Mr REID, are appended to this Report.

(Signed) WILLIAM WOOD.

This Report was unanimously adopted by the College of Surgeons, and it is essential for Dr REID to remark, that when Dr HOPE's name was put upon the ticket, Dr REID stipulated that the words “ CONDUCTED BY DR REID ” be put upon the ticket at the same time, that it might be distinctly understood that Dr HOPE had nothing to

do with the direction, the management, or the discipline of the Class.

When the Report of the College of Surgeons appeared, Dr HOPE was bound, had Dr REID insisted on it, to have withdrawn his name, as it did not effect the object for which it was put on; but Dr REID did not call on Dr HOPE to do so, as his name had been publicly committed with the Class, and the various arrangements previously agreed to were entered into as if nothing unexpected had taken place.

Sixteen months ago, however, Dr REID was informed, from many different sources, that Dr HOPE had taken advantage of Dr REID's forbearance, in allowing his name to remain on the ticket, to call the Practical Chemistry Class *his Class*; and having found, after remonstrating with him on the subject, that he still continued to speak of the Class in a manner that he was not entitled to, this became one of the principal causes of Dr REID's resignation in November last; and, accordingly, he then gave the year's notice, agreed on by both parties, in the event of either party being dissatisfied.

The Honourable the Patrons will have observed, that the Senatus have adopted the language of Dr HOPE, as to his directing and supporting the Class, and being so liberal to his assistant, &c. &c. Dr REID has already disproved some of these statements; and, in the following pages, the rest will also be seen to be incorrect.

So far from directing any of the operations or discipline of the Practical Class, Dr HOPE expressed his surprise that the Students could be made to go through so much business by Dr REID's arrangements, the first time he saw these plans, about the end of the first year after Dr REID had been in the College. He has never even been in the Practical Class for a single hour, during the last three years, to see the Students operate; nor did he ever make a practice of going in to see how the business of the Class was carried on at any time, except in the Winter Course, which began in November 1829.

Having detailed these circumstances, Dr REID must leave it to the Honourable the Council to say how far the Medical and Surgical Professors are entitled to state that Dr HOPE either established or directed that course which Dr REID has given in the University, and thus to encourage an impression that Dr REID is merely Assistant in his own Class. The arrangements which Dr REID has introduced in teaching Practical Chemistry have been every thing to him; they have constituted his business, his profession, and his support for many years; and he cannot afford to see transferred to another, the fruits of



his own exertions, by a Committee who have adopted the statements of Dr HOPE, without even once examining Dr REID on the subject.

The words "superintended by Dr HOPE" were never intended to mean any thing more than that Dr HOPE was satisfied that Dr REID's Course was an effective system of practical instruction, in order that the Senatus might give him the power of announcing his course as sanctioned by the University.

With respect to any arrangements that Dr HOPE may have had with previous Assistants, these have nothing to do with Dr REID's Course. Dr REID has always understood, however, that Dr HOPE had nothing to do with their Courses; that he never even professed to take any charge of them, and that every thing connected with them, both as to professional standing and emolument, was done at their own personal risk.

Dr ANDERSON, however, the first Assistant who gave Practical Courses in the College, lives in the neighbourhood at Bonnington, and he may be requested, if it be considered necessary, to state whether he considered the Practical Class his own or Dr HOPE's, what share Dr HOPE took in the management, and whether he contributed to its support.

It may be satisfactory to point out some of the more important points of distinction, between a University course, and Dr REID's course of Practical Chemistry.

#### UNIVERSITY CLASS.

1. A public University course is taught by a Professor.
2. A University course is generally essentially necessary in some part of a system of study carried on in the University.
3. A regular University list of all University Classes is kept by the Secretary, and the names of the Students recorded.
4. Each Student before entering a University Class, must show a Matriculation ticket.

#### DR REID'S CLASS OF PRACTICAL CHEMISTRY AND PHARMACY.

1. No Professor has ever taught Practical Chemistry, nor has any Professor ever directed it, as incorrectly stated in the Report of the Senatus.
2. Practical Chemistry is not required for any Academical purposes; it is not mentioned as a branch of study enjoined in any of the statuta or regulations for University honours.
3. No list of Dr REID's class has ever been given to the University. He keeps the books himself, and neither Dr HOPE nor any other person has, or has ever had, any thing to do with them.
4. The Students have all along entered Dr REID's class as a private class. Numbers have attended who had never previously attended the University, nor matriculated.

5. A University Class is taught in a free room granted by the Honourable the Patrons.

6. In a University course, the Professor receives all the fees, and pays only what he may chuse to expend on his class.

7. A University Class is more or less under the control of the University and of the Patrons.

5. Dr REID pays Dr HOPE for the two rooms in which his course is now carried on. For the first he pays Dr HOPE by time and assistance, the L. 50 Dr REID receives being only part of his remuneration for these. For the second, the payment is included annually in the sum paid to Dr HOPE, since the new arrangements were entered into.

6. No Professor has ever received the fees of the Practical Chemistry Class. Dr REID has received all the fees from the time he entered the College to the present moment. The Practical Course is his course, and the Students pay the teacher. Dr HOPE did not receive any allowance from Dr REID's class the first year that Dr REID taught the class in the College. Dr HOPE had no more right to any money from Dr REID's course when taught in the College, than when taught formerly in the High School Yards. But when Dr HOPE said that he would give Dr REID another class-room, and make his ticket qualify without Dr REID's having the trouble and expense of taking a degree, and entering the College of Physicians, by putting his name on the ticket (which it was afterwards found he could not do), and farther that he would now take much interest in promoting the Practical Chemistry Class, which he had not done before, then Dr REID, on these special grounds alone, gave Dr HOPE an allowance out of each ticket.

7. Dr REID's Course has never been under the control, either of the Patrons, the Senatus, or Dr HOPE. Dr REID has conducted it entirely as he chose. He has given courses when he chose, and has been equally at liberty to vary or conduct them in any way he thought fit.

8. A University Class has privileges which are publicly acknowledged, and are of much importance to it.

8. Dr REID's Course has never been received as a public University course, even since Dr HOPE's name was attached to it and the words "University of Edinburgh" put upon the ticket. In proof of this, he may be allowed to refer to the Report of the Committee of the Royal College of Surgeons, upon the course as given in the University after Dr HOPE's name was connected with it, where it will be seen that the College would not receive the ticket as a University course.

Lastly, Dr REID is quite at a loss to understand on what grounds the Medical and Surgical Professors can come forward and affirm, that Dr HOPE has taught Chemistry with increasing efficiency, because his assistants have given Practical Courses. Dr HOPE's fame as a teacher does not require to be supported by his assistants, and the Practical Course has never formed any part of Dr HOPE's course of Chemistry.

The students who attended Dr HOPE were never thereby called upon or entitled to attend Dr REID. When any student wanted the increased efficiency of the Practical Course, he had to give a corresponding increased payment for it,—he had to take a ticket from a different person.

2. THE REPORT CONTAINS STATEMENTS GIVING A MOST INCORRECT VIEW OF THE NATURE OF THE COURSE GIVEN BY DR REID IN THE UNIVERSITY. THE FOLLOWING IS THE FIRST PART OF THE PASSAGE ALLUDED TO.

"In the next place, the Medical and Surgical Professors think it necessary to point out to the Senatus the distinction (which certainly has not been understood by some of the Gentlemen whose Testimonials are appended to Dr REID's Memorial) between a Course of instruction on the *applications of Chemistry to the Arts and Manufactures*, and a Course of *Practical Chemistry*, such as that now given in the University, and in different private establishments. Instructions of the former kind require attention to many minute details, and can only be given to a small number of pupils at once, who must spend much of their time in the Laboratory."

The Medical and Surgical Professors here attempt to point out a distinction between Dr REID's Course, and one on the application of Chemistry to the Arts and Manufactures, and unceremoniously affirm that some of the gentlemen who have given Dr REID Testimonials, have not understood what they gave an opinion upon,

while their own words afford the most undubitable proof, that they are neither aware of the nature of Dr REID's Course, nor of the views entertained by the most intelligent manufacturers, of the nature of that instruction in Chemistry which is most wanted in the Arts and Manufactures. It is quite unnecessary for Dr REID to extend evidence in proof of what he has affirmed, as many of the Patrons have had ocular demonstration of the nature of Dr REID's Course, having either seen the Students operating, or examined personally the arrangements by which his class is carried on, the nature of the operations conducted by the Students, and the apparatus used. Dr REID, therefore, on this point, confines himself to the following summary.

1. Dr HOPE has never seen or examined the nature of Dr REID's Practical Course as it is at present conducted, with any degree of minuteness, so as to become acquainted with the whole system of operations which it includes.

Dr HOPE was present in the Practical Course Dr REID gave in the winter of 1829-30. But Dr REID does not recollect that he even waited to the end of the hour on any one occasion, when the Students were operating, nor did he attend every day during the course. Farther, during the last three years, Dr HOPE has never been once, even for a single hour, to see the Students operating, and the experiments, &c. performed, though during that period Dr REID's Course has been completely remodelled three successive times, as Dr REID added more and more each successive session to his apparatus, and increased much the facilities of the Students in pursuing processes connected with their several avocations.

2. Not one of the other Medical Professors have ever been in Dr REID's Class-room, to see and examine the nature of Dr REID's Course, or the respective occupations of the various Students who attended it, with the exception perhaps of Dr MONRO, who was in once or twice, some years ago, if Dr REID recollects well, but merely for a few minutes, and not to examine any of the working plans by which Dr REID conducted his Class. It is not a little surprising, therefore, that they have ventured to hazard any opinion as to its nature.

3. Next to medical students, gentlemen connected with the arts and manufactures of this country have been the most numerous class of students attending the practical course; and had it not been for the support which Dr REID received from them, as well as from medical students, he could not have afforded to have given that complete course of Practical Chemistry to both classes of students which they require, particularly the special experiments, allotted according to their various avocations.

All the manufacturers and others who took an interest in Dr REID's course, from its application to the arts and manufactures, have assured Dr REID that they are satisfied that the course of instructions in Practical Chemistry, given in his class, as adapted to manufacturers, &c., are well calculated to improve the arts and manufactures. There, the manufacturer learns, in the first place, the method of operating and making experiments in all the various departments of Chemistry; and, as he becomes practically acquainted with the resources of the science, he has also an opportunity afforded him of performing experiments connected more especially with his own pursuits; and these have

been at times experiments of research, though generally experiments illustrative of different circumstances in which the students who performed them were specially interested.

When, therefore, the Medical and Surgical Professors come forward and pronounce authoritatively on what they know nothing about, Dr REID cannot refrain from expressing his surprise to the Patrons, that they should have ventured to have said any thing in direct opposition to the statements in the Testimonials of so many gentlemen personally engaged in the arts and manufactures of this country, who have inspected all Dr REID's arrangements, and many of whom themselves, or with their sons and assistants, have attended Dr REID's course.

If Dr HOPE had known a little more of what has been done in Dr REID's course during the last three years, on a more extensive scale than at any former period, he would have corrected this statement of the Medical Faculty. Dr REID professed to teach Chemistry in its applications to the useful arts and manufactures, and those who have given him Testimonials, have always understood his course to be such as he professed it was.

Dr REID has only farther to remark, that the very great attention paid to the medical department of Practical Chemistry in his course, has not made him overlook the interests of students engaged in arts and manufactures, that he has expended much time and money, during the last seven years, on this department, and will be happy to show the apparatus and arrangements connected with this branch of his course, to any committee of investigation.

The following letter from R. STEPHENSON, Esq. Civil Engineer, of the Steam-engine and Steam-coach Manufactory to the Liverpool Rail-road, will satisfy any of the Honourable the Patrons who may not have specially attended to the nature of Practical Chemistry, that there is much knowledge to be acquired in a Practical Course, which is not communicated in a Course of Lectures.

“ Dr D. B. REID.

“ SIR,

NEWCASTLE-UPON-TYNE, 13th March 1833.

“ IT affords me much pleasure to learn that there is a prospect of a class being established in the University of Edinburgh, for teaching the practical details of Chemistry. When I studied in Edinburgh, although it was delightful to attend the lectures of Dr HOPE, I found considerable difficulty in fully appreciating the more complicated processes in Chemistry, without having recourse to the actual performance of experiment, which never failed to impress the mind not only more forcibly, but more clearly, than any explanation could do.

“ I afterwards had the good fortune to study the analysis of minerals, &c. &c. under Mr RICHARD PHILLIPS, and it was not till then that I discovered I had hitherto been very superficially acquainted with the usefulness and beauty of the science of Chemistry. Many processes that had before appeared trifling and uninteresting, now became important and highly instructive. Indeed so great do I conceive the advantages I derived from the study of Practical Chemistry, that I regard it as one of the most useful and important parts of my education. In prosecuting the profession of Civil Engineering, I find it almost of daily use; but very little reflection is sufficient to shew that its utility extends to almost every profession and trade.

“ There cannot be a doubt but it is to the experienced practical chemist that we must look for improvements in the numerous complicated processes in our manufactures. The merely theoretical Chemist may understand processes, but he cannot duly weigh all the difficulties that may attend any proposed alteration or improvement. This is a province accessible only to those who have actually performed and studied experimentally. Wishing sincerely that you may be successful in your important attempt to establish a Practical Chemistry Class, I am, Sir, yours very respectfully,

“ ROB. STEPHENSON.”

THE SECOND PART OF THE PASSAGE ALLUDED TO IN PAGE 20, AS GIVING A MOST INCORRECT VIEW OF THE NATURE OF DR REID'S COURSE, IS AS FOLLOWS.

The course of Practical Chemistry conducted by Dr REID, is here alluded to :

“ In a course of the latter kind *the very same ground is gone over as in the lectures of a Professor of Chemistry*, generally in a more cursory manner, but with this difference, that instead of the Professor performing the different experiments and processes before the pupils, the pupils perform them before the teacher ; and instead of the principles which these experiments illustrate being formally explained in lecture, they are more incidentally explained in conversation.”

Dr REID may also be allowed to insert here a quotation from a subsequent part of the report, referring to the same subject :

“ *In reference to the Chair of Chemistry*, it must appear from what has been stated, that to establish a separate professorship of Practical Chemistry, would be to enjoin a course of instruction in the University, by a different Professor, on the very same subjects which are taught from the Chemical Chair already existing.”

Here, also, the Medical and Surgical Professors, who have had no opportunities of knowing the exact nature of Dr REID'S class, have hazarded another assertion, equally incorrect as before. It is not the case that the very same ground is gone over in the lectures of the Professor, and in a practical course. For example, the business of the two classes as they are conducted in the College is widely different, and not of that trifling nature which one unacquainted with these might be led to imagine by the statement in the report. The following few remarks shew one or two of the leading distinctions.

IN A COURSE OF LECTURES,

1. The student is a passive spectator, and the Professor has no intercourse with him, at least during Lecture.

2. In a Course of Lectures, the theory of each operation is minutely

IN A PRACTICAL COURSE,

1. The student is actively engaged, his mind is continually on the alert, and while he is acquiring manual dexterity, he converses with his teacher every day.

2. In the Practical Course, the students engage every day in a series of

investigated, the theory of the science is amply detailed, and a portion of time is also devoted to mere verbal statements, as in describing some very important element or compound, of which there may be no specimen presented, or some important experiment which is not adapted for experimental illustration in the Lecture Room.

3. In a Course of Lectures, the students may learn manipulation to a certain extent, by carefully attending to all the minutiae of the experiments performed by the Professor, whether they are illustrative of general principles, or of the more important facts which the science embraces; but they cannot learn practice where they are only spectators.

4. In a Course of Lectures, no special provision is made according to the professional avocations of each individual student.

In a Course of Lectures such as Dr HOPE's, very full explanations are given to elucidate every part of the subject; the precise object of

experiments. The whole time is occupied in learning to operate. They spend no time in hearing of any details unconnected with practical results, and in which they themselves cannot personally engage in the Class-room.

3. In the Practical Class, the great business of the teacher is to make the students learn practice by operating themselves. The students attend the Practical Course because they go over this ground there, and because they have no opportunity of doing so in Dr HOPE's Class. Does the Senatus Academicus actually mean to convey the impression that *the difference* which they allude to is not *a difference* of the greatest magnitude and importance, *a difference* between the student's merely looking at operations done by another, and learning to conduct operations themselves? No one ever learned to play on an instrument, or to practise any manual art with dexterity and success, by merely looking at another, neither can any one become a skilful Practical Chemist, merely by seeing others experimenting. Is the Senatus prepared to maintain, even admitting the ground gone over to be the very same, that there is not a great difference between the students looking at Dr HOPE going over the ground, and going over the ground themselves?

4. In Dr REID's Course, every student is requested to state what department of Chemistry he takes most interest in, and a particular series of experiments is allotted to him accordingly, while all students perform those experiments necessary to make them acquainted practically with the general resources of the Science.

his Course and the Practical Course is different, and the expression that the ground is gone over in a more cursory manner in the Practical Course than in Dr HOPE'S, is extremely inaccurate in every point of view. The ground gone over in the two Classes is not the same. The whole system and arrangement, the apparatus used, and the experiments performed, are very different in numerous respects. Dr REID is quite at a loss to understand in what manner the Senatus can have countenanced such statements, utterly at variance with the fact. Dr REID can disprove them, by reference either to students who have attended the two Classes, or by referring any Committee of Investigation to the working plans of the experiments performed in Dr HOPE'S Class, and in Dr REID'S, and the apparatus employed for the purpose. In alluding to the difference between the Classes, Dr REID refers both to a great range of individual experiments and processes, as well as to his system. Dr HOPE has no experiments for advanced students, nor does he consult with his students, as Dr REID does, if there be any thing they would wish more especially to examine.

It is also necessary for Dr REID to add here, that in every thing proper to his Course, the business is not conducted in that cursory manner, which the Senatus, who never saw the Course, appear to affirm, but in a most efficient manner; and Dr REID can bring forward the testimony of hundreds who know his Course, to refute a statement so rashly hazarded, and leading to such an incorrect opinion of the nature of the Practical Course, as well as of the manner in which any thing which it professes to teach, is done. The Senatus ought not to trifle with the professional duties of Dr REID to his students; it may not affect the Senatus, but it may affect Dr REID. The single circumstance, that there are more than twice as many experiments performed by twenty-five students in a Practical Class, as there are by Dr HOPE in his whole Lectures to several hundreds, is quite sufficient to shew that the Senatus are not acquainted with the business of the Class on which they venture to give an opinion.

### 3. THE REPORT FARTHER STATES :

“ It is a course of Practical Chemistry of this last description only (and not a course of instruction in the processes of arts and manufactures) which can be of importance to the Medical School; and it is presumed, that it is on the propriety of such a course being elevated to the status of a separate Professorship, instead of being given, as at present, under the superintendence of the Professor of Chemistry, that the opinion of the Medical and Surgical Professors is required.

“ On this question, these Professors have no difficulty in giving their opinion as follows.”



Dr REID has shown above, that the Medical and Surgical Professors, from their own statements, have not been aware of the nature of Dr REID's course, never having taken the trouble of making any inquiry of Dr REID on the subject. Those members of the Council who have examined the working plan of Dr REID's class, must be quite satisfied that, without seeing that plan, and Dr REID's apparatus, they could not have had any correct idea either of the nature of the operations carried on, or of the discipline of the class.

#### 4. OPINION GIVEN IN THE REPORT IN REFERENCE TO THE INTERESTS OF THE MEDICAL SCHOOL GENERALLY.

*"In reference to the interests of the Medical School generally, and to the great variety of studies imposed on Medical Graduates, it does not appear desirable that the teaching of Chemistry should be put on a different footing from that on which it has now stood for several years in the University. When the Medical Graduates of Edinburgh are compared with those of other Universities, it is certainly not in a knowledge of Chemistry that any deficiency can be observed; and if the institution of a new Chair of Chemistry were to have the effect of directing more of the time and attention of Candidates for Medical degrees (of which their circumstances require them to be economical) to this department of their studies, the danger is, that they will devote proportionally less care and attention to other branches of knowledge, which it is still more important for them to acquire."*

The question whether the Medical Students shall, or shall not, be forced to attend the Practical Chemistry Class, is one that has nothing to do with the institution of a Professorship. It is another question altogether, which has not even been alluded to in Dr REID's Memorial. But, since the subject has been introduced in the Report, Dr REID may be permitted to make one or two remarks on it.

In what way does Chemistry prove most useful to the medical man?

1. By supplying him with most of the tools with which he works. The greater number of his medicines are prepared by chemical means; and at a distance from this country, the medical man is often thrown entirely on his own resources.

2. By enabling him to ascertain when they are properly prepared, on the application of tests.

3. By enabling him to ascertain when they are adulterated, and expose those cases which occasionally happen, where, for the sake of a little unfair gain, the dealer may have trifled with the health of the patient, and the reputation of the physician. But this examination, however important, the student, without Practical Chemistry, cannot undertake.

4. By enabling him in various cases, as in calculous disorders, to throw much light upon the nature of the disease he may have to combat.

5. By enabling him, in cases of suspected poisoning, to tell, in many instances, the cause of death, and acquit the prisoner from all unjust suspicion, or prevent the guilty from being let loose again upon society.

These various advantages of the study of Chemistry have been considered of so great and so essential importance to the medical man, that the following Public Bodies have already rendered Practical Chemistry imperative :—

The Army and Navy Boards.

The Royal College of Surgeons of Edinburgh.

The Royal Commissioners have also placed it in the course of study they have prescribed for Medical Students, though their regulations have not as yet come into force.

The opinion of the Senatus is opposed, then, to the opinion of these Public Boards.

Dr REID may also be permitted to insert here the opinion of a gentleman who is well known in this town, Dr BOUGON, physician to CHARLES X. who has been a Professor in the School of Medicine at Paris, and Member of the Royal Academy of Medicine in that city ; and his opinion will be seen to coincide with that expressed in the testimonials already published.

“ Ce’st avec la conviction intime de sa vérité, que je mets ici mon opinion en faveur de la nécessité, dans l’étude classique de la Physique et de la Chimie, d’unir à l’exposition théorique des principes reconnues de ces Sciences, les avantages inappréciable des manipulations variées qui les démontrent ; et je pense que, sans l’habitude personnelle de ces exercices pratiques, on ne peut pas plus devenir physicien ou chimiste expérimentateur utile á la société, que bon médecin praticien, sans le secours des leçons et exercices clinique dans les hopitaux.”

Again, it is established by the concurrent testimony of every person who has attended a course of Lectures on Chemistry, that they do not thereby learn to practise Chemistry. If, therefore, the Medical and Surgical Professors were to follow up their own views on this subject, then they ought to propose that the Chemistry Class be altogether expunged from the curriculum ; for if a knowledge of the method of applying practically their knowledge of Chemistry to medicine be not essential, then that portion of knowledge which they acquire at lectures must be considered of still less importance.

Much anxiety is also expressed in the report as to the circumstances of the student, which require them to be economical of their time and attention. If the Medical and Surgical Professors had examined, they would have found that it happens to be one of the many recommendations of Practical Chemistry, that it cannot be said to impose any additional tax on the student, either in the shape of time and attention, or of money, as every one who intends to enter the army or navy, or take a surgical diploma here, is already compelled to attend. If we turn to the graduates of these few years past, the great majority of them attend the class of their own accord, from the neces-

sity of qualifying themselves for their profession, either before or after graduation. But this question of imperative attendance is quite a different matter from the institution of a Professorship.

#### 5. STATEMENT IN THE REPORT AS TO PRACTICAL CHEMISTRY IN OTHER UNIVERSITIES.

“ In other universities, the teaching of Practical Chemistry (either personally or by assistants) has long been regarded as an important part of the duties of Professors of Chemistry; it is on their skill and success in communicating knowledge in this way, that the reputation of some of those Professors (such as BERZELIUS and STROMEYER) has been chiefly founded.”

It is to be remembered, that, even admitting the Practical Chemistry taught in other Universities to be done in the same manner as has been adopted in Dr REID'S Class, still it has never been the duty of Professor HOPE to teach Practical Chemistry, and accordingly he has never taught it; nor did Dr REID ever teach any class for him; Dr REID teaches his own class.

Dr REID'S course of Practical Chemistry includes not only a system of instructions in the general practice of Chemistry, but is also specially directed to the Arts (including Medicine) and Manufactures. Dr REID only gives the mature opinion of experienced medical men and manufacturers, as expressed in his Testimonials, that his Class is well adapted for teaching the practical applications of Chemistry to medicine, manufactures, &c., and he will be glad to give every facility to any Committee of investigation upon this point. The Practical Chemistry taught in other Universities by other Professors at a leisure hour, or by deputy, is arranged in a totally different manner from the courses given here. Dr REID is not aware of any course in this country conducted exactly on the same plan as this, nor is he aware that either BERZELIUS or STROMEYER have any class on the same plan as that now alluded to at the College.

Dr THOMSON, the Professor of Chemistry at Glasgow, whose fame as teacher of Practical Chemistry, and also as an original writer on this subject, is well known both here and abroad, gives no course in the University such as that Dr REID now conducts. His pupils spend more time in the laboratory than medical students and many others can afford to do, and the price of the ticket is accordingly upwards of three times the amount of Dr REID'S.

#### 6. THERE ARE ABROAD PUBLIC PROFESSORSHIPS OF CHEMISTRY APPLIED TO THE ARTS AND MANUFACTURES.

The Report states, “The Professors are not aware of a single example in those Continental Schools where Practical Chemistry has been most success-

fully taught, of a separate Chair of Practical Chemistry having been established, and they think it would be wrong to prevent the Professor of Chemistry in this University from devoting his whole time, while it may be in his power, to giving Practical instructions in Chemistry."

Had the Senatus been aware of the nature of Dr REID's course, they must have modified the statement made above. In 1825, Dr REID visited the principal public and private establishments for teaching Chemistry at Paris, and, if he recollects well, VAUQUELIN was at that time Professor of Chemistry applied to the Arts, in a separate public establishment, if not in one of the Universities.

In the year 1830, CLEMENT was Professor of Chemistry applied to the Arts. Even at St Petersburg, there is a public establishment of Practical Chemistry, and also at Moscow.

Dr REID is not aware how far, in all these establishments abroad, the Professor confines himself to lecturing, or engages the students practically, as in the course Dr REID has established; but he appeals to any medical man or manufacturer, who has examined, or may be requested to examine, the nature of Dr REID's course, whether the student is not there presented with an opportunity of studying practically the application of Chemistry to the Arts (including Medicine), in a more efficient manner than can be pursued by merely hearing lectures.

Dr REID, also, is not aware how far these public professorships of Chemistry, applied to the Arts, have been instituted in Universities, or are totally independent of them.

#### 7. THE REPORT STATES IT WOULD BE AN ACT OF INJUSTICE TO INSTITUTE A PROFESSORSHIP OF PRACTICAL CHEMISTRY.

"Even if the foregoing considerations should not appear conclusive, as to the general question, *in reference to the interests of the Professor of Chemistry*, who introduced the teaching of Practical Chemistry into the University; who has supported the class as taught by Dr REID (as the Senatus will perceive from his statement) in a manner highly liberal both towards the pupils and towards Dr REID himself; and who has already suffered from that cause a great diminution of his professional income, in proportion as Chemistry has been taught under his direction in a more efficient manner.

The Professors cannot regard the institution of a separate Chair of Practical Chemistry, during his incumbency, otherwise than as an act of injustice, to which they trust that the Honourable Patrons of the University will not give their sanction."

It is impossible for any statement to be more completely inaccurate, than that Dr HOPE supported a class which he never in any way acknowledged, when it had every difficulty to contend with, with which his name was never in any way associated, till it had been established by the exertions of private individuals, recommended by the

Royal Commissioners, and rendered imperative by the Army and Navy Boards, and by the Royal College of Surgeons; and which was, moreover, according to his own words, a private Class, (see Dr HOPE's words on the subject, p. 4.) till the Session 1829-30. Dr REID alone has supported his Class, both before and since Dr HOPE became connected with it. The apparatus, &c. is exclusively Dr REID's, excepting the fixtures in the wall, for the use of which, and the new room in the College, Dr REID has paid Dr HOPE annually during the last three years.

It is equally strange and unaccountable what the Senatus can mean by saying that Dr HOPE has been liberal to Dr REID. In Dr REID's Memorial, he stated only those pecuniary arrangements which it was absolutely necessary for him to mention, in explaining the manner in which Dr HOPE's name came to be connected with Dr REID's Class. He stated, in the most explicit terms in his Memorial, that he would "confine himself solely to the leading facts connected with this part of the subject," *Memorial*, page 15; and having stated these, Dr REID continues to observe, page 23, "Thus, then, the Patrons will observe that Dr HOPE's name was connected with Dr REID's Course, from a circumstance which was in itself purely accidental; and that after all, it did not secure the object intended."

Dr REID cannot perceive why the Senatus should enter upon these private arrangements, and pronounce upon them without hearing Dr REID; but, since they have done so, he is compelled to annex a statement of the Income and Expenses of the Practical Class during the three last years\*.—*See Remarks upon Dr HOPE's Summary.*

As to the injustice to Dr HOPE, it is not surely meant that an important branch of education, now become so essential to Medical Students, and so broadly connected with our Arts and Manufactures, and so interesting as a branch of liberal study, should be put an end to because it may interfere with Dr HOPE's getting a few more pupils to attend him the second time, and this in a class that has benefited above all others by the progress of science. The Senatus have also completely overlooked the injury the public and University may sustain if the class is not placed on a proper foundation; and also, what is comparatively of small importance, they have entirely overlooked the injustice that is done to Dr REID.

\* The settlement of the present year does not take place till the end of July, according to a subsequent arrangement, less disadvantageous to Dr REID than what the preceding one was eventually found to be.

The way in which Dr REID has committed himself on its success, the risks he has run, the years of hard labour and anxious attention which he has devoted to teaching it, and improving its methods, with the heavy expense to which he has been put for apparatus, and in establishing all the arrangements of the class;—all these have entirely escaped the observation of the Senatus Academicus.

They have likewise overlooked what happened the other day, when the Honourable the Patrons prevented Dr MONRO from teaching Surgery, upon the appointment of a separate professorship for that department; and the institution of a chair for Pathology, although three Professors, Drs HOME, MONRO, and ALISON, professed to teach it, and make it a distinct part of their courses. But Practical Chemistry was never part of Dr HOPE's course. The present question, therefore, is altogether free from the difficulties which attended the late appointments of Pathology and Surgery, *which actually had been taught by other professors.*

There are many obvious reasons why a Professor should not be entrusted with the patronage and management of a Class, which he openly declares he considers opposed to his own, and likewise unnecessary to the medical student.

Whatever loss Dr HOPE's Class may sustain from the introduction of Practical Chemistry, Dr HOPE may as well claim compensation from the public who supported this class, as from any of those individuals who have lost much, and risked every thing upon its success. The progress of Science, and the wants of the public, have given rise to this new branch of education. Dr HOPE cannot arrest its progress; it is impossible either for the Honourable the Patrons or the Senatus to prevent Dr HOPE's Class from being affected by it, for, *it will be taught*, in or out of the College.

The question, therefore, under discussion here, is, not whether Dr HOPE's Class will be affected by this new class, for that is already done; the University Commissioners, the Army and Navy Boards, and the Royal Colleges of Surgeons, Edinburgh and Glasgow, and the wants of the students, have all contributed to do this,—but whether this new class, now that its value is acknowledged, is to be put on the footing of a regular University Class, or to pay a tax to the Professor of Chemistry, so long as it is taught in the University, who has never taught it.

The way in which the State has conducted itself in its various  
 relations has been the cause of much pain and suffering to  
 which it has subjected its people in all respects. It is  
 not the least of these that the State has been the cause  
 of the loss of many of its most valuable and productive  
 lands. This has been the result of the State's policy  
 of selling the public lands at a low price to the  
 speculators who have bought them up and who have  
 sold them to the farmers at a high price. This has  
 been the cause of the loss of many of the best  
 lands of the State. The State has also been the  
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