Reports of the visitors of examinations deputed by the General Medical Council in 1874 : also the report of the committee thereon.

GENERAL MEDICAL COUNCIL,

1875.

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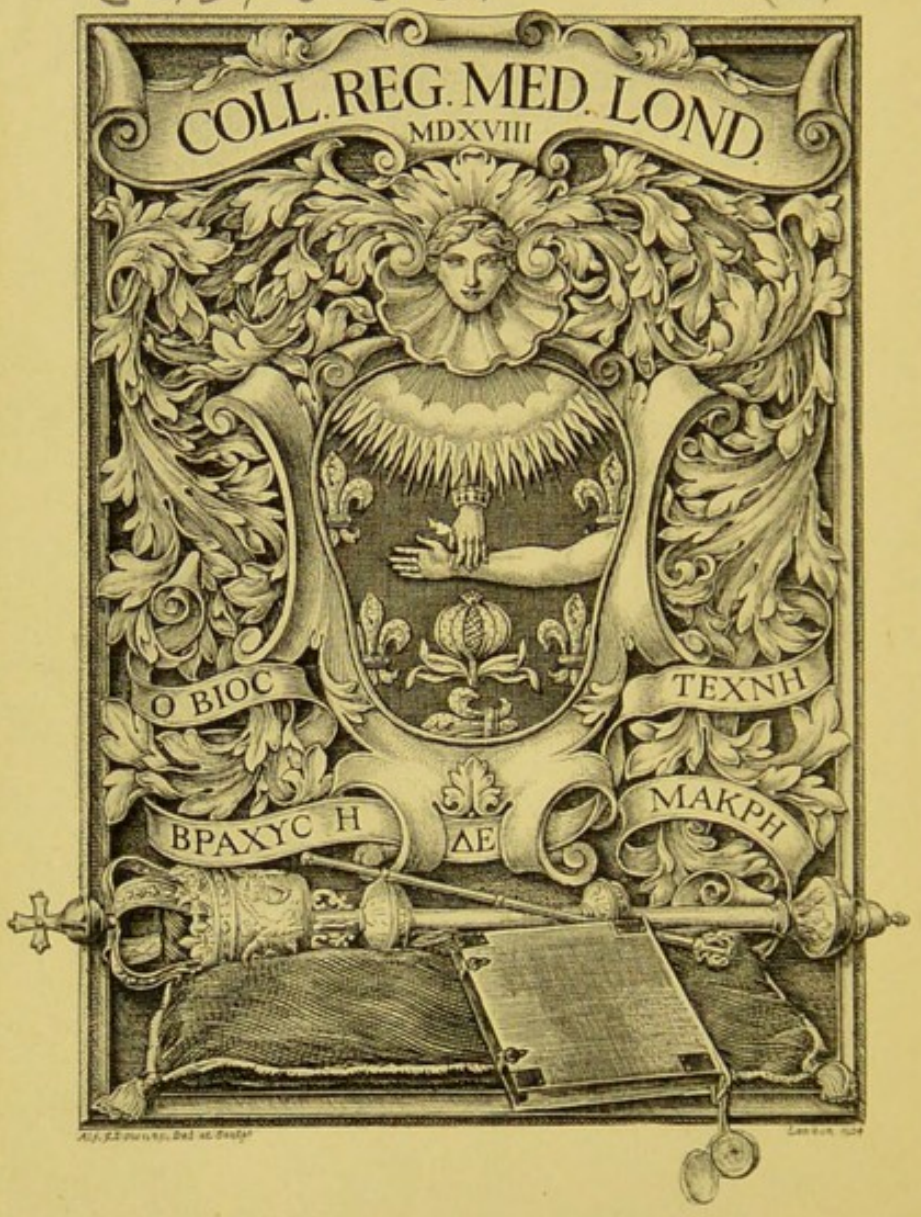

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CONTENTS.

REPORTS

OF THE

VISITORS OF EXAMINATIONS.

REPORT OF THE VISITORS ON THE PASS EXAMINATION FOR THE LICENCE OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Held on the 13*th*, 14*th*, 15*th*, *and* 16*th of April*, 1875.

Visitors :—J. G. FLEMING, M.D., Member of the General Medical Council ;
J. K. BARTON, M.D., F.R.C.S.I., Visitor appointed by the Council.

The officials of the College furnished us with the following information regarding the system of Examination pursued. The Examiners, ten in number, are nominated by the Council, but the appointment must be confirmed by the College. Two Examiners are appointed on each of the following departments, viz. :—Anatomy and Physiology ; Materia Medica and Chemistry ; Midwifery and Diseases of Women ; Medicine, including Medical Anatomy and Hygiene ; and Surgery and Surgical Anatomy.

The Pass Examination includes a Written and an Oral Examination in Medicine, Midwifery, Materia Medica and Chemistry, and a Clinical Examination in the Medical Wards of an Hospital. It also includes a Written, an Oral, and a Clinical Examination in Surgery ; from which,

however, all Candidates are exempted who have already passed a recognized Examination on that subject.

No Candidate is admitted to this Examination without signing a declaration that he has not been rejected within three months by any of the Licensing Bodies included in Schedule (A) of the Medical Act.

Throughout the various divisions of the Examinations the judgments of the Examiners are expressed by the three marks—"good," "moderate," and "bad." In practice, however, we found that an attempt at greater accuracy of discrimination is aimed at, by sub-dividing the "moderate" into "moderate-good" and "moderate-bad."

On the evening of Monday, the 12th of April, we called at the College, as the Surgical part of the Pass Examination had been announced to commence on that evening. We found, however, that no Examination was going on, as all the Candidates on that occasion were exempted from the *Written* Examination in Surgery.

On the following day, at One o'clock, we found 18 Candidates under Examination. Twelve of them were engaged in writing answers to questions on Materia Medica, and Chemistry in its applications to Pathology, Pharmacy, and Toxicology; while in an adjoining room, specially fitted for the purpose, the other six were undergoing an Examination in practical Chemistry, on the completion of which they returned to the Written Examination, and other six took their places.

The printed paper contained four Questions—two on Materia Medica and two on Chemistry. The Examiner on Materia Medica presided over the Written Examination, and at the same time conducted an Oral Examination on his subject at a separate table. To this table the Candidates were called up one by one, while the others continued occupied with the Written Examination. The *vivâ voce* Examination was conducted by means of specimens of Materia Medica which the

Candidates were asked to identify; to give their properties pharmaceutical preparations and doses; and, if vegetable productions, their Natural Orders. This Examination lasted about a quarter of an hour for each Candidate, but no stated time was allotted to it.

The Examination in Practical Chemistry, in the adjoining room, was conducted in the following manner:—The six Candidates were each placed at a table supplied with the necessary apparatus and re-agents for testing compounds of easy analysis. A specimen of some well-known salt was given to each, and he was directed to ascertain and write down its composition, and the means by which he had arrived at his conclusion. The Examiner subsequently went from table to table, questioning each Candidate not only upon the subject already before him, but also upon the Chemistry of Pharmacy, of the Urine, Albumen, and other organic compounds. Each relay of six Candidates was engaged in this way for about an hour.

The following were the printed questions on the two subjects:—

MATERIA MEDICA AND CHEMISTRY IN ITS APPLICATIONS TO PATHOLOGY, PHARMACY, AND TOXICOLOGY.

1. Aconitum Napellus. What preparations are derived from this plant? State the doses of each; and give an account of the action and uses of Aconite.

2. Copper and its Salts. What are their medicinal, pharmaceutical, and forensic uses?

3. What are the chief constituents of the more ordinary kinds of Urinary Calculi, and how may the presence of those constituents be ascertained?

4. Explain the manufacture of Iodide of Potassium, and state in symbols the chemical changes involved in the production of the salt.

Questions 1 *and* 2 *to be answered in one set of Books, and* 3 *and* 4 *in another and distinct set of Books.*

We have examined specimens of the answers to these questions, and think some of those in Materia Medica somewhat overvalued by the Examiner. The Chemistry questions seemed to us fairly answered and carefully marked.

REMARKS.—We think the printed questions too few to form an adequate test in writing of the knowledge of the Candidates on such a wide and important field as "Materia Medica, and Chemistry in its applications to Pathology, Pharmacy and Toxicology."

The arrangement under which one Examiner performs the double duty of superintending a Written and conducting an Oral Examination at one and the same time, appears to us to be essentially faulty. Either of the duties is sufficient to occupy fully the attention of one man; but the two functions carried on simultaneously are, in our opinion, incompatible. In the room in which a Written Examination is being conducted there should be absolute quiet. This is necessary as well to secure the purity of the Examination from the intercommunication of Candidates, as to prevent their attention from being distracted. We are bound to add that the practical Examination in Materia Medica was as good as the faulty arrangements permitted.

The practical Examination in Chemistry was well planned and carried out. It was certainly of a somewhat elementary character, but still sufficient to test the knowledge of the Candidate in such matters connected with Chemistry as immediately concern the practice of his profession. We are, however, of opinion that though the system now pursued of including Chemistry in the subjects of the Pass Examination may have some advantages, it would be preferable to subject the Candidates to an Examination on the Principles of Chemistry at the Primary Examination, while the more special applications of the science to Pathology, Pharmacy and Toxicology would naturally be included in the Examinations on Medicine, Materia Medica and Forensic Medicine respectively. This method would secure that the Candidates were better grounded in the subject, and that their knowledge was more extensive.

Upon the evening of the same day we attended a Written Examination upon Midwifery and Diseases peculiar to Women. Four questions were set, all of which the Candidates were expected to answer; three hours were allowed. The following were the questions, which appear to us to be sufficiently varied and testing:—

MIDWIFERY, &c.

1. Under what conditions of Labour is the operation of Craniotomy demanded? What are the instruments required? Describe shortly the mode of operating.

2. Explain the terms "Thrombosis" and "Embolism." What are the symptoms and results of those affections in a puerperal woman?

3. A woman at the full term of her first pregnancy was seized with a violent epileptiform attack, which, however, passed off in a few minutes, leaving her tolerably conscious, though confused in mind; after about two hours, a similar attack came on, lasting a few minutes, leaving her rather more confused. Her medical attendant, being summoned, found the Os Uteri slightly open, and the head presenting. What is the nature of the attacks above mentioned, what other symptoms usually precede and accompany them? State the probable termination of the case, and the treatment you would advise.

4. What are the symptoms of simple abrasion of the Os Uteri?

Through some inadvertence we did not receive copies of the written answers to these questions.

On the evening of Wednesday the 14th, the Written Examination "on Medical Anatomy and the Principles and Practice of Medicine, including the Principles of Public Health," was held. Six questions were set, one of them being on Medical Anatomy, and one on Public Health; three hours were allowed. The questions, which seemed to us to be well considered, were the following:—

MEDICINE, ANATOMY, &c.

1. How would you distinguish between Epilepsy and Hysteria, and how would you treat those affections respectively?

2. Give a clinical history of a case of pneumonia of the upper lobe of the right Lung. How would you distinguish this condition from tubercular consolidation?

3. What are the principal causes of obstinate vomiting, and how would you distinguish them?

4. Describe the structure of the Liver.

5. In tracing the origin of an outbreak of Cholera, to what circumstances would you direct your attention, and what precautions would you take to prevent its propagation?

6. Enumerate the symptoms due to Stone in the Bladder. What other diseases of the urinary organs are liable to be confounded with it?

Specimens of the different grades of answers were submitted to us, marked, "good," "moderate" and "bad," respectively, and in all cases we fully concur in the judgments awarded.

On the forenoon of Thursday the 15th of April, we attended the Clinical Examination of nine Candidates by one Examiner in the Medical Wards of St. Mary's Hospital. Each of the Candidates was placed, at the same time, at the bed-side of a patient, with directions to examine the case, and to report upon it in writing, including history, present symptoms and diagnosis. In a side room were placed microscopes and also specimens of the urine of the selected patients. At the expiry of about twenty minutes the Examiner read one of the written reports, put some oral questions on the case, and asked the Candidate to describe one or two specimens of urine under the microscope. As far as we could make out this appeared to be the general plan of the Examination. When the nature of the case was entirely mistaken, some assistance was given and the Candidate was allowed some time to improve his diagnosis; or another case was substituted. The few questions put to the Candidates

at the bed-side usually arose directly out of the case, or were suggested by the view the Candidate took of it; they related exclusively to pathology and diagnosis. We failed to hear any reference made to prognosis or treatment, though most of the cases appeared well fitted to elicit such questions. We must add that considerable hurry and confusion prevailed during this Examination, which lasted about two hours and a half.

REMARKS.—This Clinical Examination was on the whole unsatisfactory. The cases selected were, indeed, sufficiently varied and characteristic, and nothing could exceed the zeal of the Examiner, and his desire to make the Examination complete. But notwithstanding this, we are compelled to state that in our opinion this Examination was an inadequate test of the practical attainments and knowledge of the Candidates. In the first place the work was too much for one man. To conduct the Examination of such a number of Candidates within a limited time, in a methodical and thorough manner, two Examiners at least are absolutely necessary. The result of one man attempting to do the whole work of examining so many Candidates at once, was a certain amount of disorder and confusion, and an unequal incidence of the Examination, some being hurried over to enable the Examiner to get at the others, who meanwhile were waiting. We submit also that as a matter of justice to all parties, the responsible duty of practically testing a Candidate at the bed-side should not be entrusted to one individual, however impartial and unbiassed his judgment may be. In the second place it occurred to us that the Examiner aimed too much in the direction of testing the Candidate's fitness to take a case, and too little in the way of testing his practical acquaintance with disease. No doubt different views may be taken of the best mode of conducting a Clinical Examination, but it is hardly open to question that the object of such an Examination is to ascertain at the bed-side whether the Candidate has gained such an acquaintance with disease as to enable him to discover the nature of a case with reasonable rapidity, and apply to it the resources of Medicine. Of such a practical knowledge, mere facility or neatness in case-taking is an inadequate test. As the result of the oral questioning of the Examiner

was not recorded at the time, we did not see that he had any data on which to form his judgment except the written Reports by the Candidates; and these, as criteria of practical knowledge, we considered insufficient.

On the same evening at 7 p.m., an Oral Examination was held at the College. It included Medicine, Midwifery and Surgery. There were two Examiners on each of these subjects, but each of them had a separate table, with the exception of those on Surgery, who sat together, there being only one Candidate (a registered practioner of standing) to be examined on that subject. The Candidates were examined for a quarter of an hour by each Examiner, that is half-an-hour on each subject. The questions on Medicine were sufficiently varied and fairly testing. On the Midwifery table were placed instruments, bones and models, by means of which the Examination on that subject was chiefly conducted. This Examination seemed to us to be of a sufficiently extensive and practical character. The Surgical Examination was elementary but practical. At the expiry of the hour the Examiners assembled in an adjoining room to decide upon the result, in the case of the Candidates whose entire Examinations had just been completed. This was done as follows:—The Registrar asked each Examiner in turn for his award for each Candidate. This was given in one of the marks we have already mentioned. The marks for the Written, the Clinical, and the Oral Examination being thus recorded, the Candidates were passed or rejected on the following rule:—One "bad" rejects; "goods" and "moderates" pass. If the marks are all "moderate," they pass or reject according as they incline more to the "good" or the "bad" end of the scale. In deciding doubtful cases the Examiners, in our opinion, were certainly not too lenient.

REMARKS.—Under a system of marking, by which one "bad" rejects, it is surely only fair that this mark should express the united judgment of *two* Examiners. No single Examiner, however painstaking and

impartial he may be, should on his own account, as well as on that of the Candidate, be placed in the position of putting a veto on the passing of any one. The economy of time involved in the present system of the Examiners, throughout the entire Examinations, sitting singly, instead of in pairs, is but a small set-off against the evils which may result from it.

On Friday the 17th April, we attended another Clinical Examination at St. George's Hospital. Four Candidates were under Examination. The plan did not differ materially from that at St. Mary's Hospital; but in this case the Examination of the patient by the Candidate was sometimes made with the Examiner standing by, and the latter was thus quickly in a position to see whether the Candidate had been practically trained. The whole Examination was practical, and fairly tested the Candidates' knowledge of disease. The smaller number of Candidates prevented the want of a second Examiner from being so apparent as at the other Clinical Examination.

In concluding our Report, we have to express the opinion that, with the exceptions we have indicated, the general plan and arrangements of this Examination were very good, and that in most respects it fairly satisfied the conditions of an efficient Examination. We will recapitulate the suggestions already made for the improvement of the Examination in some points.

1st. That it would be preferable to make the fundamental Examination in Chemistry a part of the Primary Examination, while the special applications of the science to the various departments of practical medicine would be dealt with in their respective departments.

2nd. That another time, or another place, should be taken for the Oral Examination in Materia Medica, than the time and place of the Written Examination on the subject.

3rd. That the *vivâ voce* Examination in every subject should be conducted by two Examiners acting jointly.

4th. That the Clinical Examination should be conducted by two Examiners acting conjointly, that the tests should in all cases be of a practical character, and that the number of Candidates under Examination at one time should be more limited than is provided for by the present arrangements.

We may add that it appears to us a defect worth mentioning, that with the exception of the question in Public Health in the Written Examination in Medicine, and the questions that may occur on Toxicology in the Examination on Chemistry, there is no arrangement for examining on the important department of Medical Jurisprudence.

It is only right to say that the Examiners and officials of the College received us throughout with great kindness, and in the frankest manner furnished us with any information we desired.

J. G. FLEMING, M.D.
J. K. BARTON, M.D., F.R.C.S.I.

REPORT OF THE VISITATION OF THE PASS EXAMINATION FOR THE MEMBERSHIP OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Held April, 1875.

Visitors:—Professor HUMPHRY, M.D., Member of the General Medical Council,
Professor MACLAGAN, M.D., Visitor appointed by the Council.

The Candidates for the Third or Pass Examination at this College are, for the most part, Graduates in Medicine at a University, and are accordingly not required to present themselves for the First and Second Examinations. On the present occasion there were five Candidates, of whom two were Graduates of the University of Cambridge, and one of Aberdeen; one was a Graduate of Brussels, and also a Licentiate of the College of Physicians, and a Member of the Royal College of Surgeons of England; and the fifth was a Doctor of Medicine of St. Andrew's, and a Member of the College of Surgeons of England. The last gentleman, having been for many years in practice, was, in accordance with the regulations of the College, excused from the written and clinical parts of this Examination, and was examined only orally.

The Examination was Written, Clinical, and Oral. The Written Part took place on the 22nd and 23rd, from two to six o'clock each day. The questions on the first day were on MEDICAL ANATOMY and the PRINCIPLES OF MEDICINE; and, on the second day, they were on the PRACTICE OF MEDICINE, including the PRINCIPLES OF PUBLIC HEALTH, and on PSYCHOLOGICAL MEDICINE. A copy of the questions is added to this

report. We read over the answers, and found them to be satisfactory. A portion of Latin from Heberden, and one of French, from Trousseau, are given with the first paper ; and a portion of Greek from Hippocrates, and one of German, from Rokitansky, are given with the second paper. The Candidate is required to translate the Latin, and may select one or more of the other languages. Two, out of the four Candidates, took German and French ; one took Greek, in addition to French and German ; and one took French. It being found that the French is more often taken than Greek or German, the usual practice at the College (which, however, was, by mistake, departed from in this instance) is to set the Latin and French in different papers; the Latin and German being in one paper, and the French and Greek in the other. The questions are set by the Censors, and the answers of each Candidate are looked over by two or more of the Censors.

The Clinical Part of the Examination took place in the Wards of St. George's Hospital on the afternoon of the 24th. We learned that each Candidate was directed to examine two or three patients in presence of one and usually of two, of the Censors, and to apply tests for various morbid conditions of the urine ; and he was also directed to examine and write a report upon another case, giving his diagnosis, prognosis, and treatment. We read these reports of cases, and found them clear, full, and apparently good.

The Oral Parts of the Examination took place at the College in the afternoons of the 27th and 28th. We were present throughout these. They were conducted by the President and four Censors, sitting at the same table, and all taking part in the entire Examination of each Candidate, the several Candidates being introduced in succession. On the First Day, each Candidate was asked by the President to read and translate a short portion of Celsus. He was then questioned on the subjects of the First Day's paper (viz., Medical Anatomy, and the Principles of Medicine, the latter including Morbid Anatomy). The several Examiners questioned him, in turn, for about five minutes ; the whole Examination occupying

from twenty minutes to half-an-hour. The questions were chiefly of a simple kind; and they were satisfactorily answered. No specimens were shown; the Examination being strictly Oral.

Previously to the admission of each Candidate, the President and Censors conferred together respecting the work he had done in the Written and in the Clinical parts of the Examination; and the character of the Oral Examination was influenced a good deal by the opinion they had thus formed. At the conclusion of the Oral Examination of each Candidate a ballot was taken whether he should be rejected, or admitted to the Second Part of the Oral Examination on the subsequent day. All the Candidates acquitted themselves well, and were accordingly allowed to present themselves on the 28th.

The Examination on this day was conducted as before. The questions were of a purely practical nature, relating to the symptoms and treatment of diseases and the action of remedies. One Candidate was asked to write a prescription. Each Candidate was questioned respecting a particular disease by each Examiner, so that he was interrogated upon at least five different diseases; and the test of his practical knowledge was thus made as thorough as it could well be by an Oral Examination. It was, however, as on the previous day, simply an Oral Examination, no specimens being shown or other means taken to prove the actual familiarity of the Candidates with healthy structure or with the changes induced by morbid process. The ballot, taken as before, showed that all the Candidates had satisfied the Board of Examiners, and would accordingly be proposed as members of the College.

At the four corresponding Examinations held during the past year, there were twenty-four Candidates, of whom three were rejected.

The several parts of this Examination appeared to us to be very well and judiciously conducted, and to furnish, as far as Written, Clinical, (judging from the reports of cases which we read) and simply Oral Examination could do, a good test of the practical knowledge of the Candidates. We think, however, that an Examination cannot be regarded

as thorough and complete, even as a practical Examination in Medicine, without the introduction of specimens of diseased structure, and of microscopical specimens, healthy and morbid, which the Candidate is required to identify, and upon which he is questioned. We feel the absence of this feature to be a defect in the Examination; and it is one which could be easily remedied.

Moreover, bearing in mind that this is not a mere Pass Examination whereby a Qualification to Practise the Profession is obtained, but that it admits to one of the higher grades of the Profession, we venture to submit that its range might, with great advantage, be extended, so as to embrace, at any rate in the case of the younger men who present themselves, more of Physiology, with Histology, and the nature of Morbid Processes; in short, that somewhat more of a scientific character might be imparted to it. The College could easily effect this; and it would have the result, so much to be desired, of inducing the aspirants to the Membership of the College of Physicians, to carry on the scientific study of their Profession collaterally with the endeavour to improve their practical knowledge of Disease and its treatment.

G. M. HUMPHRY, M.D.
DOUGLAS MACLAGAN, M.D.

MEDICAL ANATOMY, AND ON THE PRINCIPLES OF MEDICINE.

1. What muscles are brought into action during the mastication of food, and how are they supplied by nerves?

2. Describe the Medulla Oblongata. Give its position, fissures, and internal structure. Mention the nerves connected with it.

3. State the various conditions leading to the plugging of Veins.

4. What varieties of Expectoration are met with? State the significance of each.

5. Describe the pathological states leading to Anasarca, and explain the mode in which this condition is produced.

Translate into English.

Colicæ Pictonum duæ videntur species esse; quarum alteram recte vocaveris acutam, alteram longam. In priore dolor ventriculi et viscerum subito invadit, et vehementer urget, cum alvo astrictissima, et interdum cum stupore, vel amentia; tum sæpe desinit in resolutionem manuum, vel in mortem. Angor, jactatio, et vigilia, fatigant ægrotos haud multo minus, quam ipse dolor. In lecto nunquam conquiescunt, et assidue inambulant ubi a lecto abstinere possunt. Ad hæc sæpe accedunt dolores universorum musculorum, maxime prope scapulas, languor summus, singultus, fastidium, vomitus, et umbilicus intus ad viscera retractus. Delirium leve, et loquacitas in quibusdam manent aliquantisper postquam impetus morbi transierit.

Heberden's Commentaries, chap. lxxiii., p. 328.

Translate into English.

Beaucoup de malades affectés de goître exophthalmique viendront vous consulter pour des palpitations de cœur, mais vous serez tout d'abord frappés de l'étrangeté de leur regard, de la saillie des yeux. La double saillie oculaire devra vous mettre immédiatement sur la voie du diagnostic. Vous apprendrez alors que l'exophthalmie est déjà de date ancienne; que peu à peu elle a fait des progrès, progrès tels, que, dans quelques cas, les malades craignent la chute de leurs yeux, il leur semble que ces organes vont sortir de leurs orbites; ils éprouvent de la peine à fermer complétement les paupières, et pendant le sommeil le globe oculaire reste souvent en partie découvert. Une jeune malade de Clermont (Oise), dont l'observation a été rédigée par M. le docteur Pain, offrait une propulsion telle des globes oculaires qu'il y eut luxation de l'un d'eux et qu'il fallut le replacer avec les doigts dans la cavité orbitaire.

Trousseau. Clinque médicale, vol. ii., p. 527.

ON THE PRACTICE OF MEDICINE, THE PRINCIPLES OF PUBLIC HEALTH, AND PSYCHOLOGICAL MEDICINE.

1. Define Anæmia and Leucocythemia, and give the treatment of each of these conditions.

2. Describe a typical case of Enteric Fever. What symptoms would justify a favourable prognosis in the third week of the disease?

3. Describe a case of Acute Mania, and state the treatment.

4 What are the symptoms and post-mortem appearances usually found in Arsenical Poisoning?

5. State the treatment of Pericarditis, both local and general.

TRANSLATE INTO LATIN OR ENGLISH.

Ὑπὸ διαῤῥοίης ἐχομένῳ μακγῆς ἀπὸ ταὐτομάτου ἔμετος ἐπιγινόμενος λύει τὴν διὰῤῥοιαν.

HIPPOCRATIS *Opera*, vol. iii., p. 751.

TRANSLATE INTO ENGLISH.

Wir finden rücksichtlich des Wesens in der Brightschen Krankheit einen Entzündungsprocess, der nach vorausgegangener Hyperämie im Stadium der Stase ein Produkt setzt, das nicht nur sich durch seine eigenthümliche Natur auszeichnet, sondern auch in den exquisiten Fällen der Brightschen Krankheit durch seine übermässige Anhäufung das Ansehen der Niere und ihrer Textur auf eine besondere Weise abändert. Er verläuft, wie gesagt, meist chronisch, mit stossweisen Exacerbationen, bisweilen acut, und gerade in diesen wichtigen Fällen, wo, in Folge des tumultuarischen Exudationsvorganges, das Produkt mit vielem Blutserum vermengt, noch nicht zu der die exquisite Brightsche Krankheit charakterisirenden milchigen oder rahmähnlichen Substanz geronnen und meist von Blutroth gefärbt ist, müsste man den Zustand für eine sehr acute einfache Nieren-Entzündung halten, wenu nicht die charakteristischen Allgemein-Erscheinungen und die Beschaffenheit des Harns eine Brightsche Krankheit ausser Zweifel setzten.

ROKITANSKY. Handbuch der Pathologischen Anatomie, vol. iii., p. 419.

REPORT OF THE VISITORS OF EXAMINATIONS ON THE PRIMARY PROFESSIONAL EXAMINATION FOR THE MEMBERSHIP OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Held on April the 12*th*, 1875.

Visitors:—J. G. FLEMING, M.D., Member of the General Medical Council.
J. K. BARTON, M.D., F.R.C.S.I., Visitor appointed by the Council.

We were present as Visitors at the Primary Examination of the Royal College of Surgeons of England, on the 12th April, 1875, and have to submit to the General Medical Council the following Report:—

I.—THE COURT OF EXAMINERS.

The Court of Examiners consists of ten Members. These are not appointed to examine on special subjects: the same Examiners who, at the Primary Examination, examine in Anatomy and Physiology, also act, at the Pass Examination, as the Examiners in the department of Surgery. The Court is divided into four sections of two Members each. The President and the Senior Examiner are not attached to any of the sections, and take part in the Examination, not statedly, but as occasion may require.

II.—THE WRITTEN EXAMINATION.

We were informed that the written questions are set by a section of the Court which does not take part in examining the written answers to these questions. Six questions are set, the first two being Physiological, and the other four Anatomical. In judging the written answers each

paper is read separately by the two members of the section to whom it is referred, who compare notes before awarding the mark indicative of their opinion of its value. The marks used in the written as well as in the *vivâ voce* Examination are "good," "moderate," and "bad." As will afterwards appear, the system permits these marks to be modified in particular cases. We may add that the papers do not bear the names of the Candidates, but a number is assigned to each, which he marks on his paper, and by which he is distinguished throughout his examination both written and oral.

The Written Examination on this occasion had taken place several days before our visit. At our request, however, we were furnished with copies of the questions, as well as with sets of answers—marked respectively "good," "moderate," and "bad." The following were the questions:—

1. Describe the coagulation of the Blood; and state what is the constitution, physically and chemically, of the component parts into which it is resolved when coagulated.

2. Describe the distribution of the Pneumogastric Nerve in the Thorax; and state what are its functions in regard to the thoracic Viscera.

3. Describe the articulations of the Atlas with the Occipital bone and the Axis; and the ligaments connecting these bones.

4. Give the attachments and nervous supply of each of the Muscles which flex and extend the Thumb.

5. Describe the course, relations, and anastomoses of the branches of the Facial Artery which arise below the inferior maxilla.

6. In making a longitudinal section of the Encephalon in the median line, enumerate the parts divided, in their order, from above downwards.

For the answering of these questions, three hours had been allowed. Candidates were required to answer not less than four of them, including one of the first two.

The questions in Anatomy seem to us to be sufficiently varied to form a

fairly adequate test in writing of the Candidate's knowledge of the subject. The assigning of only two questions to Physiology, (on this occasion, it will be observed, only one question is entirely physiological) of which only one required to be answered, in our opinion suggests a somewhat inadequate idea of the relative importance of this subject, even were the Written Examination on it supplemented by a sufficient Oral Examination.

The specimens of the written answers supplied to us bore evidence of having been carefully read by the Examiners, and the judgments given on their worth, in every case, appeared to us to be well considered and just.

III.—The Oral Examination.

The Theatre in which the *vivâ voce* Examination took place was fitted with four tables, marked respectively as sections A, B, C, D. At each of these was placed two Members of the Court. The President acted as Chairman, and the Senior Examiner on this occasion was attached to one of the sections. Sections A and B were provided with dissections of various regions, the Neck, the Axilla, Scarpa's space, the Popliteal space, and the Sole of the Foot. The dissections had been prepared in the earlier part of the day by Prosectors—advanced students from different Metropolitan Schools, acting under the superintendence of the Assistant Curator. On the other two tables, C & D, were numerous wet preparations of dissected parts and organs. Microscopes were placed on side tables. In other parts of the Theatre were many preparations from the Museum. Four Candidates were admitted at a time, each of whom was examined successively by two of the sections, A and C, or B and D, for exactly ten minutes. Every Candidate was thus under examination for twenty minutes, and during the three hours which the Examination occupied on this occasion, 36 Candidates were examined.

The Candidates, as a rule, were examined on (1) recent dissections; (2) bones and ligaments; (3) wet preparations; (4) the Microscope. The Members of each section examined in turn, the one not examining

being employed in recording the subjects in which the Candidate was being examined by his colleague. At the expiration of the ten minutes the Examiners consulted as to the mark to be given—"good" "moderate" or "bad;" while the Candidate passed on to the other table, carrying with him the paper containing the list of subjects on which he had been taken. This paper he handed to his new Examiners, who were thus made acquainted with the subjects on which he had already been tested.

The questions put were chiefly demonstrative, having direct reference to the objects on the table. In some instances they were very minute, and usually they were well adapted to test the Candidate's knowledge of Anatomy. The *vivâ voce* Examination throughout was essentially Anatomical. Occasionally a Physiological question arising out of the Examination in Anatomy was asked. But such questions were, as a rule, merely incidental; they were not put in every case. As a matter of fact many Candidates passed both sections without being subjected to any Examination on this subject, except, perhaps, in being asked to identify a simple tissue under the Microscope.

IV.—The Decision.

At the end of three hours, the Examination of the 36 Candidates having been completed, the whole Court at once assembled to decide the result in each case. It will be understood that the data for such a decision consisted in the three marks which every Candidate had earned, one for the Written and two for the *vivâ voce* Examination. The following is the rule by which the decision is arrived at:—Two "goods" and one "moderate" pass. Two "moderates" and one "good" as a rule do not pass. One "bad" rejects. In doubtful cases, as for instance when one of two "moderates" verges towards "good," or a "bad" nearly comes up to a "moderate," we were informed that the written answers are read before the whole Court, and the opinion of all taken on the judgment. Such a case, however, did not occur on this occasion. It will be observed that to the final award two marks are contributed by the Oral, and one by the Written Examination.

V.—General Remarks.

As an Examination in Anatomy intended for a large number of Candidates, and arranged with a view to the utmost economy of time, this Examination is, in our opinion, satisfactory. The arrangements in the *vivâ voce* Examination are simple and easily worked. The mode adopted to secure perfect fairness, by means of two Examiners always acting together, and by the anonymity of the Candidates being preserved, is much to be commended. The system of marking, though from its only providing three marks it may strike some as rather rough, will probably lead to as correct an estimate of the knowledge of the Candidate as one that aimed at greater delicacy of discrimination. The rule which we understood to be generally acted on of passing no Candidate unless he had at least two "goods," and one "moderate," implies a standard which cannot be said to be too low. To call upon each Candidate actually to dissect would no doubt be desirable as an additional and decisive test of anatomical knowledge. But we are aware that the large number of applicants would render this plan difficult of adoption. Under the present mode we do not think that any Candidate is likely to pass without possessing an adequate, in most cases an intimate knowledge of Anatomy.

In regard to Physiology the case is different. In the Written Examination two questions are set on this subject, of which one must be answered. At the Oral Examination, a few questions on Physiology were put to some Candidates, while many others were not examined on it at all. The Examiners did not appear to consider it an essential part of their duty to test the knowledge of every Candidate on this subject. This we consider to be an unsatisfactory state of matters. In view of the great importance of this branch of Medical Education, and the admitted fact that a sound knowledge of it is now a necessary part of the training of every intelligent surgeon, we think that a much more prominent place should be assigned to Physiology, by making it a stated and necessary part of the Oral Examination of every Candidate. Separate recognition of it might also be taken in the marking.

It occurred to us that the rule of peremptorily terminating the Oral

Examination at the end of every ten minutes seemed to work rather hardly in some cases, and precisely in those in which most difficulty is experienced. To find out a really "good," or a conspicuously 'bad," Candidate the time is sufficient; but a numerous class lie between. In the case of slow or nervous Candidates, a little more time, we are persuaded, would make the decision less a matter of doubt. It would be an improvement, therefore, could some plan be devised by which the Examiners, in any case in which they thought it necessary, could obtain additional time for a doubtful Candidate.

We think it right to call the attention of the Council to the fact that, although Chemistry and Materia Medica form subjects of Professional Education for the Membership of the College, and subjects on which the Medical Council has recommended that every person entitled to Registration should have been examined, the College has not made any provision for testing the Candidate's knowledge on these subjects, either at the Primary or the Pass Examination.

In regard to the two subjects at present included in the Primary Examination, we do not say that too much attention is paid to Anatomy, out that too little is paid to Physiology. Were the Candidates tested as carefully on the latter subject as on the former, this Examination would .eave little to be desired.

In conclusion we have to record our sense of the courtesy with which we were received by the President and the other Examiners, and of the readiness and clearness with which the officials supplied us with every information we required.

J. G. FLEMING, M.D.
J. K. BARTON, M.D., F.R.C.S.I.

REPORT OF THE VISITORS ON THE SECOND OR PASS EXAMINATION OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Held on April the 21st and 22nd, 1875.

Visitors:—E. A. PARKES, M.D., F.R.S., Member of the General Medical Council.

JOHN STRUTHERS, M.D., F.R.C.S.E., Visitor appointed by the Council.

The Second or Pass Examination of the Royal College of Surgeons of England was visited on the 21st and 22nd April,* 1875.

This Examination is undergone after four years of study, of which three winter and two summer sessions must have been spent in a Medical School.

It consists of two parts: an Examination in Surgery and one in Medicine. There is also an optional Examination in Midwifery, but Midwifery forms no necessary part of the Examination for the Surgical Diploma.

1.—EXAMINATION IN SURGERY.

This may be said to consist of five parts as shown in the following table:—

Subject.	Time Occupied.	No. of Examiners.
Written	3 hours	2
Practical Examination of Patients .	10 minutes	2
Practical Application of Splints and other Surgical appliances and marking out lines of operations, &c. .	10 minutes	2
Vivâ voce	10 minutes	2
Vivâ voce	10 minutes	2

* Dr. STRUTHERS attended only on the 22nd, being engaged in the visitation of the Examination of the University of Durham on the 21st April.

The total time occupied in the examination of each Candidate is thus 3 hours of Written and 40 minutes of Oral Examination. The Examination is so arranged that every Candidate is, during some period of the Examination, brought before every Examiner, *i.e.*, he is actually examined by four Examiners, and four others hear his answers and take part in deciding on them; while other two Examiners read and decide on the written answers. Much importance appears to be attached to this by the College as subjecting the Candidate to many fresh and impartial tests. In the practical and *vivâ voce* part of the Examination no teacher puts the questions to any Candidate coming from the school with which he is connected, and, in addition, we noticed that the two Examiners who sat at the same table were in no case teachers at the same school. The questions put to the Candidate are noted so that there can be no repetition of questions.

Each Examiner marks in a paper his opinion of the Candidate, according to the following scale: "good," "moderate," "bad." As each Candidate comes before five sets of Examiners, there will be on his paper at the end of the Examination, five marks. The final judgment is based on these marks as follows: 5 good, and 4 good and 1 moderate, and 3 good and 2 moderate pass; 2 good and 3 moderates reject; 1 bad rejects as a rule [unless there are special circumstances leading the Examiners to repeat part of the Examination]. The Written Examination thus counts a fifth part in the result of the whole Examination.

The Examiners in Surgery are chosen by the Council from the Fellows, and always consist of the leading Hospital Surgeons in London.

2.—Examination in Medicine.

This consists of a Written and Oral Examination for all those Candidates who have not obtained a Licence in Medicine from some other Licensing Body. The object of the Examination was stated to be to insure that the

Candidate possessed sufficient knowledge of Medicine to allow him to practise Surgery. The time is 1½ hours for the Written, and 10 minutes for the Oral Examination.

The Examiners in Medicine are chosen from the Fellows of the College of Physicians, and are always some of the most eminent of the London Physicians.

Rejection in Medicine does not involve rejection in Surgery, or *vice versâ*. The Candidate has simply at a future time to undergo an Examination in the subject he has failed in.

Having now given the general method of procedure, we shall put before the Council our observation of its working, and first as to the Examination in Surgery.

We annex the questions at the Written Examination: six questions are given, of which four (or more at discretion) must be answered. One of the questions which must be answered is on Surgical Anatomy.

We annex also the replies of four of the Candidates to show the standard which the College demands in this part of the Examination. All of these were marked moderate. The two first are by Candidates who ultimately passed; the two last by Candidates who were ultimately rejected.

Nos. 1 and 2 passed, each with 3 good and 2 moderate.

Nos. 3 and 4 were rejected, each with 3 moderates and 2 good.

The Examination of patients was conducted as follows: a number of patients sent by the Examiners with well marked Surgical diseases were present in one of the rooms; the Candidate was shown one of them, and was required to give his diagnosis and treatment, and was asked questions.

At another table the Candidate was examined for ten minutes on the

living body, in Surgical Anatomy and on the application of splints and bandages. The Candidates were asked, for instance, to show how they would compress the various arteries; to show the lines of incision for various operations, as cutting down on the arteries, excision of the breast, upper jaw, &c., (the Candidate marking the lines on the skin with coloured chalks); to mark the position of various parts, as the inguinal rings, the distended bladder, the heart, &c.; to recognize the parts of the larynx, prominences of the skeleton, &c. Questions were at the same time put as to the anatomical relations of the parts concerned in the operations referred to. A large number of splints and bandages and Surgical instruments were laid out around the theatre, and the Candidate was asked their uses, and was also called on to apply a splint and a bandage.

The Oral Examination took place on the same evening immediately after the Practical Examination. The Candidate was examined at two tables, ten minutes at each. The subject at both was Pathology and Practice of Surgery; the object of having two tables being that the Candidate might be examined by different Examiners. Two Examiners sat at each table—one asking the questions, the other marking down the subjects to which the questions related (the two Examiners taking these duties alternately)—and as this paper was, throughout the Examination, passed from table to table, the Examiners saw what the Candidate had already been examined on. Numerous pathological specimens, wet and dried, from the museum of the College, stood on the tables. The Candidates were asked to recognize these, and the Oral Examination went into various subjects in Surgical Pathology, diagnosis, and treatment.

The Examination in Medicine was, as already stated, both written and oral. We read four of the written answers and heard the Oral Examination of five Candidates. As already said, it is merely a supplement to the Surgical Diploma, and intended to insure a certain amount of medical knowledge.

The total number of Candidates who were examined was 62, of whom one was examined only in Medicine, as he had previously passed

the Surgical part of the Examination. Of 61 examined in Surgery 14 were rejected. Of these 61 Candidates 21 had a Qualification in Medicine from another Licensing Body, and, therefore, were not examined in Medicine. Of the remaining 40, 5 were rejected in Medicine. So that the total rejections were 19 out of 61 Candidates.

No Candidate was rejected in Surgery on the Written Examination alone on this occasion. The custom is that when the written paper is so bad as, in the opinion of the Examiner, to call for rejection on this ground alone, the paper is read in the presence of the whole Court. In other cases the Report on the written paper forms one of the five parts on which the final judgment is based.

In reference to the Reports of 1866-7 of the visitation of the College of Surgeons Examinations, we observe that the following alterations have been made:—

1. The introduction of a Medical Examination.

2. The Examination of Surgical Patients.

3. The extension of the time given to Oral and Practical Examinations.

In concluding our Report, we may observe that the Examination, considered as the surgical part of a General Practitioner's Examination, appeared to us to be well arranged and ably conducted. The oral questions were such as might be expected from Examiners who are, or have recently been, teachers of the subject in which they examine, and such as Candidates who have just completed their Student period might reasonably be expected to answer; and the mode in which the Examiners performed the duty was such as to enable the Candidate to do himself justice.

The general aim of the Examination was to test real knowledge, and the effect of the prospect of such an Examination must be largely to give a practical direction to the work of the Schools.

It will be observed that the Candidates were not required to perform operations on the dead body. It would be difficult to accomplish this when a large number of Candidates present themselves at the same time; but were it occasionally required, the Student's knowledge that he might be called on to operate would exert a useful influence. With regard to the Examination in Surgical Anatomy, while the introduction of the living body is a good feature, it occurs to us that it might be well to employ also the recent dead body with the surgical regions dissected, and with regard to the practical part of the Examination generally, it appeared to us that the time devoted to it might with advantage be extended. We would also suggest, for the consideration of the College, whether it might not be possible to extend the Examination a little more in the direction of Pathological Histology—a subject which is becoming every year of greater importance.

That these, and other improvements, will be introduced from time to time in this Examination, we have reason to expect, from the evident desire of the Examiners to render the Examination as practical as possible; and, while making the above suggestions, we have again to express our great satisfaction with what we saw of this Examination, in regard both to its aim and to the method in which the Examiners performed their duty.

In conclusion, we beg to express our thanks to the President and Officers of the College for the courtesy with which we were received, and for the readiness with which every information was given to us in respect of the system pursued.

E. A. PARKES, M.D.

JOHN STRUTHERS, M.D., F.R.C.S.E.

APPENDIX.

Questions in Surgery and in Medicine.

Answers of 4 Candidates. Nos. 1 and 2 passed; Nos. 2 and 3 failed, but not on the Written Examination.

SURGICAL ANATOMY AND THE PRINCIPLES AND PRACTICE OF SURGERY.

April 16*th*, 1875. *From* 1.30 *to* 4.30 *o'clock, p.m.*

[Candidates *must* answer at least four (including one of the first two) out of the six questions. Answers to *less* than six questions will not be received before 4 o'clock.]

1. Give an account of the relations and coverings of the descending Colon; and then describe the several steps in the operation of Colotomy.

2. Describe the operation of tying the posterior Tibial artery in the middle of the leg, mentioning the parts necessarily divided.

3. In a case of compound fracture of the leg, where you are doubting whether to amputate or not, what circumstances would guide your decision?

4. How would you treat a punctured wound of the Plantar arch, with recurrent hæmorrhage?

5. What are the varieties of stricture of the Rectum? and what are the pathological conditions to which each kind may be referred?

6. What are the pathological changes which occur in the origin, progress, and termination of acute Abcess?

PRINCIPLES AND PRACTICE OF MEDICINE.

April 17*th*, 1875. *From* 1.30 *to* 3 *o'clock, p.m.*

1. Mention the chief causes which may give rise to sickness and vomiting; state how you would distinguish them, and the treatment you would adopt in each.

2. Describe the features of cases of Cardiac and Renal Dropsy; state how you would detect them, and the treatment to be adopted for their relief.

3. Mention the forms in which Digitalis, Belladonna, and Hyoscyamus are used. State the purposes for which they are more especially suited, and the doses in which they should be given. State the effects produced by over-doses of Digitalis and Belladonna.

Write a prescription for a diuretic mixture.

Answer of Candidate No 1.

(Marked moderate.)

[Q. 1.]—The descending colon commences at the termination of the transverse portion in the left hypondriac region, and passes downwards to the left iliac region, to terminate in the rectum. It is covered on its anterior surface and side by the peritoneum, not on its posterior surface; behind it rests on the spleen, may touch the kidney, and also rests on the quadrator lumborum muscle. *Operation*—The patient is laid on the opposite side to the one to be operated on; placed under chloroform; the bowels having been acted on by an aperient draught given the previous night, or an enema on the morning of the operation. An incision is made parallel with and two inches above the crest of the ilium, extending from about an inch behind the anterior superior spine, and terminating after it has been extended backwards about 4 inches. You first divide the skin and superficial fascia, then a few fibres of the latissimus dorsi muscle; then the external oblique, and the lumbar fascia covering it, then the fascia between the external and internal oblique; then the internal oblique and the fascia seperating it from the Transversalis muscle; then through the Transversalis muscle and the fascia covering in on its inner surface; then you scrape through some loose areolar tissue and fat, and try to find the colon on its posterior surface where it is not covered with peritoneum; having found it, pass a needle, threaded with sutures, through the bowel, and draw it well into the incision made, and fasten it to the skin, and nothing else before opening the gut, and this will prevent any extravasation of the contents of the gut after it is opened, The gut must be fastened to the edges of the skin by 4 sutures, 2 in the upper and two in the lower edge of the incision, a light poultice must then be applied, and the patient kept quiet in bed.

[Q. 2.]—The leg being laid on its outer side, and the leg flexed slightly

to relieve tension of the muscles of the calf, an incision three inches long is made, half an inch behind the inner border of the tibia; you divide the skin and fasciæ by the first incision, and may cut through some rather large veins going to join the internal saphenous, if not careful, then you come to the inner border of the gastricnomeus muscle, which must be pulled out of the way, and then you find the Soleus muscle; its tibial origin must be divided on a director, and then you will find the artery rather deep down, lying on the tibialis posticus, with the posterior tibial nerve to its outer side, and the vena conites beside it; you then pass your curved needle, threaded, round the artery from without inwards, and tie it.

[Q. 3.]—1. Age in the first place; if the patient is old and has led a dissipated life there would be very little chance of saving the limb. If young and robust it would be best to wait and see how things went on.

2. If the bones are very much smashed the patient will have a long illness before him, which may exhaust him, and you have all the dangers of pyæmia, which may carry the patient off. Then it is best to amputate.

3. If the main artery to the limb has been ruptured you run a great danger of gangrene, though the collateral circulation is good and soon established in the leg. You must wait and see how things go on, and if gangrene sets in, remove the limb.

4. If the fracture extends into a neighbouring joint, say the knee, amputation is the best resource, if not you will have synovitis and arthritis, which will go on to complete disorganization of the joint, which will most likely prove fatal.

[Q. 4.]—In the first place, I should apply a pad to the wound and a tight bandage round the foot and ankle, and keep the foot elevated on a pillow. If that did not succeed in stopping the hæmorrhage, your best plan, I think, would be to cut down on the inner side of the foot, behind the internal maleolus, and secure the external plantar, just after the bifercation of the posterior tibial artery into the external and internal planters. You would have a pretty sure guess which was the artery that was injured, especially if the wound was on the outer side of the foot as the external plantar is much the larger of the two, and first runs across the foot from its origin to the base of the little toe, and then runs inwards to the base of the great toe, where it joins the communicating

branch of the dorsalis pedis artery. If tying the external plantar artery did not succeed, combined with pressure of the dorsalis pedis artery, I should ligature the posterior tibial artery.

[Q. 5.]—Stricture of the Rectum is of two kinds, simple and malignant. The simple, or fibrous stricture, may be the result of ulceration from dysentery, syphilis, &c., the ulcers healing and causing stricture by the contraction of their cicatrices. You may also have fibroid tumours growing into the rectum and blocking it up. Malignant diseases of different kinds—Epithelioma, Encephaloid, and Schirrhus Cancer, have all been found in the rectum, causing stricture.

[Q. 6.]—For acute abscess, it is necessary that you have inflammation first. In inflammation you have first contraction of the small arteries, followed by dilatation, and, ultimately, stasis of the blood; there seems to be an increase in the number of the white blood corpuscles, which adhere to the sides of the vessel, and ultimately penetrate its coats, and lie loose on the outside; cells are also secreted by the surrounding tissues, which are in a state of inflammation, and these two conditions constitute the origin of pus. As long as inflammation keeps on you will have a continuation of the changes described; only you have a plastic exudation into the tissues around which forms a capsule to the pus, the pus cells have the peculiarity of breaking up and increasing in that way. The pus will continue to increase in quantity and will force itself towards the surface at the weakest point. The skin, muscle, &c., in its course, will become softened and broken up by the pressure they undergo, ultimately, the skin becomes tense, red, and pointed, and there the abscess will burst if not opened. After the pus has all been let out, the cavities will begin to granulate from the bottom and sides, and so fill up.

Answers of Candidate No. 2.

(Marked moderate.)

[Q. 1.]—The descending portion of the colon commences at the left flexure in the left hypochondrium, and it runs a course directly downwards to the upper part of the left iliac fossa, where it joins the sigmoid flexure.

Behind it are (*above*) the intercostal muscles and the ribs, and below the lumbar fascia, the quadratus lumborum, and the the latissimus dorsi muscles.

On the inner side is the vertebral column and psoas muscle. On outer side, intercostal muscles, ribs and the abdominal muscles, external oblique transversalis and internal oblique. The spleen is on the outer side and rather in front. In front is the Stomach, above, and the coils of small intestine and mesentery lower down.

The anterior and lateral surfaces are covered by peritoneum, but the posterior part is attached to the ribs and contiguous structures by connective tissue.

COLOTOMY.

The colon may be opened in the right or left lumbar regions. The best operation is the one in the left lumbar region, commonly called Amussat's, as it leaves a greater extent of intestine. Of course, when the stricture or other obstruction is distinctly above this point the operation is useless. It is performed as follows :—

The patient being under the influence of chloroform is to be placed on the operating table and turned over on his right side and supported in this position by assistants. If the colon is distended the operation will be much more easily performed.

The outer border of the quadratus lumborum muscle must next be felt for—the last rib and the crest of the ilium. Midway between the lower border of the last rib and the crest of the ilium you make a transverse incision from three to four inches long, having about its middle point the outer edge of the quadratus lumborum. In this incision you cut through skin, superficial fascia, and fibres of latissimus dorsi. In the next incision you cut through the lumbar fascia, which lies towards back part of incision, and one after the other at the anterior part of the incision, the external oblique, transversalis, internal oblique muscles. These steps of the operation require great care on account of the danger of wounding the peritoneum ; care should also be taken not to injure the sheath of the quadratus lumborum, as it is an unnecessary injury to the muscle. You then come upon the subperitoneal connective tissue which often contains a quantity of fat. The peritoneum must then be carefully separated from the *quadratus lumborum*, and the lower part of the kidney felt for. This is the guide to the colon which lies in front of it and rather to its outer side.

The peritoneum must then be carefully pushed aside and the colon opened. Great care must be taken to prevent fœcal matter getting into cellular tissue of wound. The colon may be recognized by its longitudinal, muscular fibres, and by its sacculated appearance. The edges of the colon must be sewed to the edges of the external wound by means of silver wire, and the wound dressed with a piece of wet lint, retained in its place by a bandage, and the patient removed to bed.

[Q. 3.]—If the bones were very much comminuted and fractured longitudinally, or where there was much contusion of the soft parts, or injury to a main blood vessel or nerve, I should amputate. If the shock was very great, leading you to imagine some severe visceral mischief, amputation need not be performed, at least, not primarily; for if the injury is not severe he must have time to recover, at least, partially; and if it is very severe, amputation would only be an additional drain on his powers and he would probably die.

If the bones were not much comminuted, if the fracture was transverse or not excessively oblique, and if the soft parts were not much injured and nerves and blood-vessels uninjured and pulsation still to be felt on the distal side of the injury, an endeavour should be made to save the limb.

[Q. 4.]—I should employ pressure over the course of the *radial and ulnar arteries.* A good plan is put a piece of cedar wood pencil over the course of the arteries and firmly bind them in position with a bandage. If this failed, I should tie the brachial in the lower part of the arm, just above the internal condyle of humerus, and failing this, *amputation below the insertion of the deltoid must be performed.* It is useless to tie radial and ulnar, as same good is obtained by pressure, and the brachial artery must not be compressed, as pressure also obstructs the veins and causes odema of the arm.

[Q. 5.]—Strictures of the rectum may be—(1) Fibrous; (2) Malignant; (3) Due to contraction of cicatrices.

They may be also annular or longitudinal.

1. The fibrous are due to a deposit of fibrous tissue in the submucous tissue of the recturn, which as it contracts narrows the calibre of the canal.

2. The malignant are generally schirrous cancer, and are due to infiltration of all the coats of the intestine with cancerous material.

3. Ulceration in the rectum. The new material deposited in the repair of ulcers contracts and gradually narrows the canal. This form very rarely occludes the canal. The deposit may be merely superficial or through all the coats, according to the depth of the ulcer.

[Q. 6.]—Abscess begins as a local circumscribed inflammation. The inflammation progresses as other inflammations do, until the stage of Proliferation of Elements is arrived at. At this stage the degree of inflammation must be sufficiently intense to continue. In ordinary simple inflammation the climax is reached when you get cell-proliferation and the inflammation of itself, dies out. But in inflammation resulting in

abscess, the cell-proliferation and the absorption of the matrix must proceed with great rapidity.

In the healthy tissues around the abscess, effusion of fibrin takes place which prevents the extension of the suppurative action, and is called the limiting fibrin. Within this limiting wall of fibrin lie the migratory blood-cells, the corpuscles of the tissue, and the cells, the result of the proliferation of both. The abscess grows in two ways. Firstly, by continued proliferation of its contained cells, and secondly, by absorption of its limiting wall of fibrin due to the pressure of the contents; also by proliferation of the cells of the absorbed part of the limiting fibrin. The pressure from within causes the abscess to increase in that direction in which there is least resistance, consequently it generally makes towards the skin or one of the serous or mucous cavities. An abscess may burst and discharge its contents, and the resulting cavity contract, granulate from the bottom and fill up; or the liquid parts may be absorbed and the solids become organised or become the seats of fatty or calcareous degeneration. The manner in which an abscess bursts is as follows:—

The blood vessels of the skin ramify in the superficial cellular tissue. When the abscess reaches that tissue it obstructs the circulation through these capillaries, and a local gangrene of the skin results. The cavity of the abscess then contracts and granulations spring up from the bottom and fill it. The forces which lead to contraction of the abscess, are: Contraction of the limiting wall of fibrin, and the pressure of the surrounding structures.

Answer of Candidate No. 3.

(Marked moderate.)

[Q. 1.]—The descending colon which is the continuation of the transverse colon lies in the left side of the abdomen. It passes downwards from the level of the cartilage of the 11th rib to pelvis, where it joins the sigmoid flexure. It has posteriorly and to the left, the left kidney, quadratus lumborum muscle, and fascia transversalis, anteriorily, and to the right side the peritoneum and mesentery and abdominal wall. There is also a quantity of lax areolar tissue on its posterior and lateral aspect. In performing the operation of colotomy an incision is made from the lower border of the 12th rib downwards, and slightly forwards along the anterior margin of the quadratus lumborum muscles, dividing the integument and one or two layers of superficial fascia for about five inches; the aponeurosis

of the external oblique muscle is divided on a director, then the internal oblique and transversalis and transversalis fascia—each on a director. The colon is then to be looked for, and is usually found among the areolar tissue above mentioned. It is to be caught up and fixed with a hook, and an incision made into it, and the mucous membrane stitched to the margin of the external wound. A pad of lint and bandage may then be applied, and when the wound begins to heal an ivory or silver plug inserted, to keep the opening patent. The vessels which may be wounded in this operation are the lumbar arteries branches of the abdominal aorta. I should have mentioned that the postero-lateral aspect of the colon should be operated on to avoid the peritoneum.

[Q. 2.]—An incision is made along the inner margin of the tibia, about 3 inches in length, dividing skin and superficial fascia. Then the inner margin of the gastrocnemius is drawn backwards, and the origin of the soleus muscles from the tibia divided to the above extent. The posterior tibial artery will then be found (beneath the fascia which covers the deep layer of muscles) lying on the flexor communis digitorum muscle, having the nerve posteriorly and externally, and accompanied by two venæ comitis —one on each side. The ligature is passed from without inwards, care being taken to avoid including the nerve or veins.

[Q. 3.]—The amount of injury to soft parts I would first take into account. If muscles were extensively lacerated, or the main vessels of the limb divided, amputation would generally be the better course. If collapse is present to a great extent I would be inclined to wait until reaction had set in. Then if the patient is old, and the injury to the soft parts any way extensive, I would consider amputation the best course. I have generally seen a fatal issue result from compound fractures of the leg in old people where a temporizing course had been adopted. I would not amputate where visceral disease existed, such as Phthisis, Bright's disease, Cancer. If the patient is healthy, and the amount of injury to the soft parts not extensive, the conservative course would be the better to follow.

[Q. 4.]—I would clear the wound of coagula, and wash it with a stream of cold water. Plugging the wound with lint steeped in Tr. of Benzoin or Tr. Ferri: Perchloride, and a compress and bandage applied, may be tried. Also pressure may be applied to the femoral artery, and the wound left open until a coagulum has had time to form in the wounded vessel, and a pad and bandage subsequently applied. If these means fail, ligature of the posterior tibial artery as it passes behind the internal malleolus, posterior and external to the tendon of the flexor communis. This artery principally contributes to the plantar arch. Should this fail, the anterior tibial may be

tied in front of the ankle-joint. Enlarging the wound and ligaturing the vessel at the seat of injury is not so practicable as the means I have named, on account of its depth.

[Q. 5.]—Stricture of the rectum may be simple or malignant. The first usually result from the cicatrization and subsequent contraction of an ulcer. The mucous membrane and circular muscular fibres are the parts found involved at the seat of stricture. The gut above is found dilated more or less according to the duration of the disease, otherwise the surrounding tissues are healthy. Malignant disease of the rectum causes stricture by infiltrating the tissues of the part, and also by outgrowths on the surface of the mucous membrane. The rectum becomes fixed, and the parts around implicated when the disease has existed for any length of time. I should also mention that stricture of the rectum may result from tumours of surrounding parts—for example fibrous tumours of the uterus in women. In such cases the tissues will be found healthy,—the parts above the stricture being more or less dilated.

[Q. 6.]—An acute abscess may be caused by an external injury, or an unhealthy condition of the blood. In either case obstruction or retardation to the capillary circulation in the part, first takes place ; this is followed by complete interruption, and the vessels in the immediate neighbourhood become enlarged and tortuous, and the heat of the part is increased. An exudation then takes place through the walls of the vessels, consisting of serum and white blood corpuscles ; swelling of the tissues accompany this change. The formation of pus is the next step. This composed of disintegrated cell tissue, especially the white cells. Suppuration always extends towards the most unresisting point, and as it advances towards the surface the tissues become gradually thinned, and eventually give way. When the pus is evacuated, the cavity contracts and gradually fills up by granulations.

Answers of Candidate No. 4.

(Marked Moderate.)

I. The descending colon extends from the splenic flexure to the sigmoid flexure, where it curves over the brim of the true pelvis and becomes the rectum. It lies on the left side of the spinal column, and has behind it the left kidney and the psoas muscle. On the outer side is the muscular wall of the abdomen, without the peritoneum, which only partially covers the

descending colon, being from it reflected on to the internal surface of the abdominal wall. On the inner side are the small intestines. In front a visceral and parietal layer of peritoneum, the small intestines separating them at the lower part, the abdominal muscles and the integument.

The operation of colotomy is performed upon that part of the colon which is behind and uncovered by the peritoneum. An incision is made about 4 inches long, commencing at a point about 3 inches above the crest of the ilium and an inch and a half in front of the spine; the incision is carried downwards and forwards. The skin and fascia being divided, the abdominal muscles are cut through, the peritoneum pushed and held inwards with a broad spatula, and the back part of the colon pulled up from the bottom of the wound; an incision is then made in the uncovered part of the colon, and the edges of this incision sewn to the edges of the opening in the abdominal wall. The wound being dressed with light water dressing, the patient is put to bed in a comfortable position and treated in the ordinary manner after operations.

II. The operation for tying the posterior tibial artery in the middle of the leg is difficult, on account of the deep position of the artery under the gastrocnemius and soleus muscles, and the bleeding that will occur unless the blood current be interrupted in the thigh by digital pressure or by Esmarch's method. It is performed in the following manner:—The patient is placed in the prone position, with the leg lying rather on its outer side. An incision is then made in the middle third of the leg, about 3 or 4 inches long on the tibial side of the gastrocnemius muscle and its tendon; the skin and fasciæ being divided, the Gastrocnemius muscle being exposed, must be drawn to the outer side, (the foot should be flexed to relax it), the tibial attachment of the soleus is then to be cut through, and the artery will be found lying on the tibialis posticus and the flexor of the toes; the posterior tibial nerve which is on its inner side in the upper part, crosses the artery and in the lower part is on the outside, this must be avoided, and the sheath of the artery being opened horizontally, the aneurism needle is passed under the artery, taking care that neither of the venæ conites or anything else but the artery is included in the ligature.

III (1.) First as to the patient's age and general state of health. If he be an old and feeble man, with possibly disease of one or more organs of his body, or if he be habitually intemperate, or obviously of a weak habit with lack of much vital energy, I think amputation would be more likely to succeed than the long process of suppuration and perhaps sloughing in the wound, such patients being more liable to inflammatory diseases of a low type like erysipelas, &c.

(2.) As to the size of the wound and the amount of the laceration. If the wound be extensive with much bone protruding, and especially if that bone be stripped of its periosteum ; if the tissues be much crushed and mangled, so that the supervention of extensive sloughing is highly probable, then amputate.

(3.) As to wounds of important structures. If the large arteries and nerves be much injured, amputate.

(4.) If the injury lay open the ankle or knee-joint, amputate.

(5.) If the surrounding circumstances should not permit of the careful and intelligent nursing of the patient through the tedious process of repair of the injury, I think he would do better with a simple amputation, but this would hardly be justifiable if a fair result was to be expected by saving the limb.

IV. (1.) Endeavour to control the hæmorrhage by graduated compress (having enlarged the external wound).

(2.) If that is no good, try and find the artery and apply a ligature each side of the puncture.

(3.) Better than either of the above it would, I think, be to tie either— (*a*) The posterior tibial at the inner malleolus, and the anterior tibial in front of the ankle joint; or, (*b*) to tie the femoral artery in *Hunter's canal, in the middle third of the thigh.*

V. (*a*) Simple Stricture.
(*b*) Syphilitic ditto.
(*c*) Malignant ditto.
(*d*) Tuberculous ditto.

In (*a*). The stricture may be due to either a narrowing of the canal by the cicatrization of an ulcer ; or by a thickening and fibroid infiltration of the submucous tissue, in the form of a ring round the canal, this kind occurs frequently with fistula in ano.

In (*b*). There is a deposit of fibroid material in the submucous tissue, but to a much greater extent than in the above variety, and it is one of the manifestations of the presence of the poison of syphilis in the patient, who will probably exhibit other evidence of the same.

In (*c*). The stricture is due to the presence and growth of a new structure the element of which is the cancer-cell, the cancer is of the schirrus variety.

In (*d*). The structure is due to the deposit of tuberculous cheesy materia —rare.

VI. (1) The first step is an increased flow of blood to the part, a dilitation of capillaries and small vessels, and hence an increased quantity of blood present in the part. To this is due the redness and much of the heat.

(2.) Next there is an exudation of the liquor sanguinis and white blood corpuscles (with a few red corpuscles), the tissue is thus infiltrated, and much of the fibrin coagulating, the part is rendered swollen and hard. The blood in the vessels in the centre of the inflammation has stagnated (inflammatory stasis).

(3.) The exuded white corpuscles, dividing again and again increase enormously in number, the surrounding tissue at the same time softening down, and thus pus is produced. The connective tissue also supplying cells. The tension produced by this formation and the infiltration cause the pain. The continued increase of pus and the tension, absorb the tissues under the skin which gets

REPORT OF THE VISITORS ON THE FIRST EXAMINATION FOR THE DEGREE OF M.B. AT OXFORD.

Michaelmas Term, 1874.

Visitors:—James Risdon Bennett, M.D., Member of the General Medical Council.

Henry Power, F.R.C.S. Eng., Visitor appointed by the Council.

This Examination lasted five days, commencing on Monday December 14th, and terminating on Friday, December 18th. It was conducted in the rooms and laboratories of the Oxford University Museum.

The Examiners were:—

George Rolleston, M.D.
J. A. Dale, M.A.
William Odling, M.B.
Henry W. Acland, M.D., *Reg. Prof. Med.*

Twelve Candidates presented themselves for Examination.

The subjects required of the Candidates in this Examination are Physics, Chemistry, Anatomy, and Physiology, and these were taken up in the following order.

		A.M.
Monday,	December	14th, 10 to 1, Paper on Physics.
„	„	2 to 5, Paper on Chemistry.
Tuesday	„	15th, 10 to 1, Practical Chemistry.
Wednesday	„	16th, 10, Anatomy and Physiology.
Thursday	„	17th, 10, Anatomy and Physiology
Friday	„	18th, 10, Examination *vivâ voce*.

It was not thought necessary that the Visitors should attend until Thursday morning, the 17th inst., when the practical part of the Examination on Anatomy and Physiology commenced.

In regard to the Practical Examination in Chemistry we were informed that six white powders were given to each of the Candidates with instructions to identify them, and to write out in detail the proceedings by which the several conclusions were arrived at.

The substances given were Magnesia, Tartar Emetic, Oxalate of Lime, Calomel, Grape Sugar and Urate of Ammonia.

On Wednesday, December 16th, the written Examination in Anatomy and Physiology commenced at 10 a.m., and was recommenced at the same hour on Thursday 17th inst. It was efficiently supervised by Mr. DALE.

We append copies of the questions set in the different subjects.

FIRST EXAMINATION.

Physics.

1.—When two concurring forces are given in magnitude and direction, by what principle are the magnitude and direction of their resultant determined?

Find the numerical magnitude of the resultant of two forces of 11 and 24 pounds, the angle between whose directions is 60°.

2.—Describe a balance suited for physical and chemical research. How may bodies be accurately weighed in a balance whose arms are not known to be of precisely the same length?

3.—Describe the mechanism by which the pendulum controls the rate of a clock. State and explain the effects of heat and cold on ordinary time-pieces, and describe the contrivances by which their disturbing tendencies are prevented in accurate clocks and watches.

4.—What are the physical causes of (1) intermittent springs, (2) the rise of water in Artesian wells?

5.—A specific gravity bottle, when filled with benzine at 52 F, weighed 637.865 grains. When filled with distilled water at the same temperature it weighed 705.644 grains; and the weight of the bottle itself was 205.633 grains. Find the specific gravity of benzine to two places of decimals.

6.—A lump of sublimed, opaque, arsenious acid was suspended by a hair from a pan of a balance; the hair being counterpoised by another hair of the same length. The weights of the arsenious acid in air and distilled water were 65.124 and 47.71 grains respectively. Find its specific gravity to two places of decimals.

7.—Describe the most effective air-pump with which you are acquainted. What are the principal facts established by means of an air-pump?

8.—Explain why wind produces in us the sensation of cold, although a dry thermometer shows the same temperature whether exposed to the wind or sheltered from it.

9.—Enumerate the circumstances favourable to the formation of dew. Describe the best instruments in use for the determination of the dew point.

10.—Explain why ice and snow melt slowly when a thaw follows a severe frost.

Two hundred grains of ice at 0°C are put into a calorimeter containing 2550 grains of water at 17°C, the equivalents in water of the vessel, the stirrer, and the thermometer, being included. After the melting of the ice the temperature of the water is 10°C. Find the latent heat absorbed by the liquefaction of the ice.

11.—Describe any one form of the optical saccharimeter, and also the measures you would take in order to determine the quantity of sugar present in some diabetic urine.

12.—Explain how an object is magnified when viewed through a convex lens. What kinds of lenses are required in cases of (1) long sight, (2) short sight, (3) astigmatism?

13.—Describe a self-acting apparatus which, with a single Voltaic pair, will administer a succession of shocks whose intensity can be regulated at will.

14.—(1) Explain how the *direction* of a Voltaic current may be ascertained by means of a prepared frog.

(2) Describe the facts in animal electricity to which Matteucci gave the name of the induced contraction, and give their true explanation by Du Bois-Reymond.

Chemistry.

1.—What happens when finely divided metallic copper is gently heated in a current of air or of oxygen? What happens when black oxide of copper is gently heated in a current of hydrogen? Taking the atomic weight of copper at 63.5, what weight of water will be produced by the complete reduction of 20 grammes of cupric oxide?

2.—Describe the standard experiments by which the composition of pure air and water, by weight, has been accurately ascertained.

3.—Explain the artificial process of nitrification, or production of potash-nitre. How may peroxide of nitrogen, nitrous anhydride, nitric oxide, nitrous oxide, nitrogen, and ammonia, be severally produced from nitric acid or a nitrate

4.—Give some illustrations of the action of nascent hydrogen. When metallic zinc dissolves in diluted sulphuric or hydrochloric acid some sulphate or chloride of hydrogen becomes sulphate or chloride of zinc and hydrogen gas is liberated; when metallic silver dissolves in hot concentrated sulphuric acid or in nitric acid some sulphate or nitrate of hydrogen becomes sulphate or nitrate of silver but hydrogen is not liberated; compare what happens in the two kinds of reactions.

5.—Taking the specific gravity of hydrogen as unity, a gas of specific gravity about 14, known to consist of carbon and hydrogen with or without oxygen, is exploded with excess of oxygen. Reducing the measurements to the same pressure and temperature, the diminution in volume after explosion is found to be twice, and the total diminution in volume after explosion and absorption by caustic potash is found to be four times the volume of the gas exploded. Show that this gas must have the formula C_2H_4.

6.—Draw a comparison between sodium and potassium salts in respect of their occurrence in nature, and in respect of the difference in properties manifested by corresponding potassium and sodium compounds. From what natural sources are the potash salts of commerce chiefly obtained?

7.—In respect of their atomic weights, 118 and 207 respectively, the metals tin and lead are associated with one another much as are the

metals antimony and bismuth,—122 and 210 being their atomic weights respectively. Discuss whether or not the metals tin and lead are associated with one another, in respect of the character of their combinations, as are the metals antimony and bismuth.

8.—In any compounds of hydrogen with oxygen and some other element, some or all of the hydrogen is said to exist in the form of hydroxyl. What is the meaning of this statement; and what is the evidence in the case of any particular compound, say alcohol, as to a certain proportion of its hydrogen existing in the form of hydroxyl? Or what is the evidence warranting the representation of alcohol as ethylic hydrate?

9.—Give an account of the principal properties, reactions, and decompositions, of acetic acid and the acetates. How are acetic ether, acetic anhydride, acetamide, aceto-nitrile, and acetone respectively produced?

10.—Give an account of the chemistry of urea, noting particularly its relationships to carbonic acid, to oxamide, and to cyanic and cyanuric acid respectively.

Practical Chemistry.

Each of the tubes numbered 1, 2, 3, 4, 5, and 6 contains a single substance, which may be a simple salt, a complex salt, a urinary constituent, or other organic substance.

You are required fo find out what each substance is, and to describe your method of proceeding in each case.

Anatomy.

1.—Write an account of the course, relations, and branches, of the right, and of the left subclavian artery.

2.—Describe the structure of a lymphatic gland, and give an account of the methods employed for demonstrating the lymphatic vessels in serous membranes and elsewhere.

3.—Give an account of the distribution and functions of the glosso-pharyngeal, and of the ninth pair of nerves.

4.—Write a description of the knee- and of the hip-joint.

5.—Write an account of the microscopic anatomy of the retina.

6.—Describe in technical language any *one* of the plants labelled 1, 2, 3, 4. State to what natural orders they *all* belong, and give your reasons.

Physiology.

1.—Give an account of the methods employed for procuring an artificial gastric juice, and describe the process to be adopted and the results attained when such a fluid is made use of in artificial digestion.

2.—What do you know of the functions of the "accelerator" and "depressor" nerves?

3.—Write a history of the substances known as "tyrosine," "glycogen," and "syntonin."

4.—Enumerate and, where it is possible, give a *rationale* of the various conditions which increase or diminish the revolutions of urea and of carbonic acid respectively.

5.—Describe the microscopic appearances presented by a developing incisor tooth.

6.—In what relation as to duration and time of development do *rigor mortis* and putrefaction stand to each other? What is the essential character of each of these phœnomena; and what are the other signs of the occurrence of death?

Anatomy and Physiology. (Practical.)

1. Naked Eye Dissections.
2. Identification of Specimens, chiefly of Entozoa.
3. Microscopy.
4. Physiological Chemistry.
5. Identification of Botanical Specimens.

The practical part of the Examination in Anatomy and Physiology took place on Thursday, the 17th of December, in one of the rooms belonging to the Biological Department, and was almost entirely conducted by Professor ROLLESTON; Dr. ACLAND, the Regius Professor of Medicine, being, however, present throughout the whole of it.

The Examination was divided into five parts, viz. :—

1. Naked Eye Dissections.
2. Comparative Anatomy.
3. Microscopy.
4. Botanical Specimens.
5. Physiological Chemistry.

The Candidates were severally called in, in the alphabetical order of their names.

1. In the Naked Eye Dissections a partially dissected arm, thigh, and pelvis were exhibited, and questions put upon the muscles, vessels, nerves, and other parts exposed. The corresponding bones, with various dried and injected specimens, were also shown. In one or two instances the Candidates were directed to expose parts not already dissected, but this was limited to the following out of a nerve or vessel, and no regular dissection of a special region was required. Preparations of the heart and of the brain were exhibited to the Candidates, and various questions asked upon them.

2. In Comparative Anatomy, the questions were limited to elementary facts. Specimens of the Tænia medio-canellata and Tænia echino-coccus, in their cystic and cestoid forms, were shown; together with the skulls of venomous and non-venomous snakes, the identification of which was required.

3. The Microscopy consisted in giving to the Candidate various specimens and tissues embedded in wax and paraffin, and desiring him to mount them,—proper instruments being supplied.

4. In the Botany, portions of Conferva, Nitella and Palmella were given to the Candidates, with directions to mount them as Microscopical Specimens. In some instances the appearances presented were required to be sketched, and occasionally questions were put, relating to the higher orders of plants.

5. The Physiological Chemistry consisted in giving to the Candidates specimens of Bile, Albumen, Urea, Uric Acid, and Sugar, with directions

to test for and identify these several substances, either when simply in solution, or when mixed with each other, or with other organic compounds.

The Examination of the Candidates in the five subjects above mentioned occupied from half-an-hour to one hour, according to the knowledge previously displayed in the Written Examination and the intelligence of the Candidate.

It is to be noted that Candidates who have passed in Honours in Chemistry, or Physics in the Natural Science Examination (*i.e.* in the First or Second Class), are excused from undergoing any further Examination in either or both of these subjects; but the Examiners are not on this account precluded from putting any questions that may be thought necessary, as bearing upon Physiological Chemistry or Physiological Physics; and in point of fact, little or no distinction appeared to be made between those who had and those who had not passed in Honours in the Natural Science Examination.

On Friday, 18th December, the practical work was continued with two Candidates who had not been examined on the previous day. New specimens were exhibited in each subject. At 11.30 a meeting of Examiners took place (to which the Visitors were admitted) prior to the *vivâ voce* Examination, for the purpose of determining the amount and kind of Examination that should be given to each, some having done sufficiently well in one or other subject to make it only necessary to give a few questions upon it.

Shortly after 12 o'clock the Examiners adjourned to the Pathological Museum to conduct the *vivâ voce* Examination, which in accordance with the Statutes of the University is public. Several gentlemen were present throughout this part of the Examination in the Gallery of the Museum.

The Candidates were called up in rotation, and each was examined at greater or less length upon the subjects in which he had shown himself to be imperfectly prepared in the written or practical part of the Examination.

At the conclusion of the public *vivâ voce* Examination, a private consultation took place between the Examiners, to which the Visitors were not admitted; but on reassembling in the Examiners' rooms the Visitors were informed that eight of the Candidates had passed, that three had withdrawn in the course of the Examination, and that one had been rejected.

In making a few comments upon this Examination we desire to say in the first place that it was conducted throughout with most conscientious pains and care. We have read over the answers to the written questions of several of the Candidates, who were considered to have given evidence of sufficient merit to allow of their being passed, and are quite satisfied that the knowledge exhibited was sufficient. Some of the answers were indeed unusually full and accurate.

The weak part of this Examination is undoubtedly the Practical Anatomy or Dissections, and where every other part is carried out so well, we cannot think this defect will be allowed to continue.

We are of opinion that in every Primary Examination on Anatomy and Physiology the Candidate should not only be made to show, by written papers and a *vivâ voce* Examination, that he remembers the names and relations of parts, but he should be called upon to perform actual dissections, and prove that he is familiar with the use of the scalpel.

In making these observations, we are well aware that the majority of those who obtain a Degree in Medicine in this University are destined to practise strictly as Physicians; but we are not the less disposed to think that, at this stage of the education of the Candidates, it is of great importance that their knowledge of Anatomy, and especially of Visceral Anatomy, should be tested by an adequate Examination upon the subject.

We are further of opinion that, if consistent with the regulations of the University, considerable advantage would result if the subjects of Physics, Botany, and Chemistry were relegated either to the Arts' Examination or to a Special Examination preliminary to the First M.B. Examination.

We cordially approve of the plan adopted at Oxford in regard to this Examination, of not allowing any Candidate to present himself who has not passed all the Examinations requisite for the B.A. Degree. We feel strongly that a sound general education is of very high value to those who are destined to practise the profession of Medicine.

In conclusion we desire to express our sense of the great courtesy we received at the hands of the Regius Professor of Medicine, and the other Examiners his colleagues, and to acknowledge the readiness with which all our inquiries in regard to the Examination were answered.

JAS. R. BENNETT, M.D.
HENRY POWER, F.R.C.S. Eng.

REPORT ON THE EXAMINATIONS FOR THE DEGREE OF M.B. UNIVERSITY OF OXFORD.

Held at Oxford on the 7th, 8th, 9th, 10th, and 11th December, 1874.

Visitors:—AQUILLA SMITH, M.D., Member of the General Medical Council.

PATRICK HERON WATSON, M.D., F.R.C.S. ED., appointed by the Council.

This Examination consists of two parts, and occupies five days in each. In the First Examination the subjects for the first day are—Physics and Chemistry, by printed questions, to answer which the Candidate is allowed six hours. On the second day the Candidate is examined for three hours in Practical Chemistry. The third and fourth days are devoted to Anatomy and Physiology, for which such time is allowed as may be necessary. On the fifth and last day the Candidate is examined *vivâ voce* in the "Medical Department," for which, as to time, there is no particular limit. The requirements preliminary to this Examination are fully stated in the Statutes and Ordinances of the University of Oxford, and in the Annual Calendar of the University.

The foregoing statement is preliminary to our Report on the Second and Final Examination for the Degree of Bachelor of Medicine, to which alone we were appointed visitors.

In the Second Examination the subjects were: First day—Materia Medica and Pathology. Second Day — Therapeutics. Forensic Medicine, and

Hygiene. Third day—Midwifery with Diseases of Women and Children, and Principles of Surgery. The written part of this Examination took place before we arrived at Oxford, and was conducted by printed questions on six separate papers. We were informed that three hours was the time allowed to answer each of these papers. The Examination was conducted by Dr. ACLAND, Regius Professor of Medicine, Dr. THOMAS KING CHAMBERS, Dr. WILLIAM OGLE, and Mr. THOMAS PRIDGIN TEALE. The Regius Professor ex-officio presided. The other Examiners are elected annually, and may be re-elected. Only one Candidate presented himself for Examination on this occasion. All the printed questions (Papers No. I.—VI., Appendix) were given to us, along with the Candidate's written answers, and full time was allowed for our careful perusal of them.

The Second Part of this Examination consisted of the Clinical Examination and written Reports on Cases, together with a paper on Practical Hygiene, and a Classical Paper (Papers No. VII—IX).

On Thursday, the 10th December, we accompanied the Examiners to the Radcliffe Infirmary, where the Clinical Examination took place. This Institution contains 161 beds. The Examination commenced in the Clinical Laboratory, the Candidate examining two specimens of Urine by means of tests and the microscope, and writing an account of the results of his investigation. Dr. CHAMBERS next asked the Candidate several questions on his written report, particularly with reference to the appearances presented under the microscope in one of the specimens. The Candidate was then taken to the wards, where, in the presence of all the Examiners and the Visitors, he was orally examined, on two Surgical cases, under the direction of Mr. TEALE, and subsequently, on three Medical cases, under the direction of Drs. CHAMBERS and OGLE. The Surgical cases were—Chronic Ostitis of the Tibia, and Incipient Hip Disease. The Medical cases were—Paralysis, Tubercular Disease of the Lungs, and Chorea. The Candidate was also required to write a report

on the case of A, B.—acute Bright's Disease, in Frewin Ward. This Clinical and the *vivâ voce* Examination occupied more than an hour.

A further Examination of the Candidate took place in the out-patient department of the Infirmary, in the practical use of the Ophthalmoscope, under the superintendence of Mr. TEALE; and subsequently the Candidate was required to examine a patient with Heart Disease, and was questioned by Dr. ACLAND with reference to the diagnosis and prognosis of the case. At 1 P.M., the Candidate was directed to proceed to "Bliss's Yard, in Broad Street," to examine and report upon its sanitary condition (Question 1 in Paper No. VIII.—Practical Hygiene). About 4 P.M. he presented a very full report, accompanied with a well-drawn ground plan of the locality. The Examination was concluded in the Sanitary Laboratory, by the Candidate examining and reporting on the article marked B (Third question in Paper No. VIII). The material for examination was water full of impurities.

On Friday, the 11th December, the *vivâ voce* Examination commenced at 10.30 A.M., and was conducted by the same Examiners.

The Candidate presented his Translation of the passage from Hippocrates, and his Commentary on the passage from Astruc; on the latter of which, Dr. ACLAND examined him as to the use of Mercury in Syphilis, the action of Calomel as a purgative, and the experiments lately made on its action as a cholagogue. He was also questioned on the safety of applying deductions from the physiological action of remedies to the treatment of disease.

Dr. ACLAND next examined the Candidate upon the Question No. 4 in the Paper on Forensic Medicine and Hygiene, especially as to the legal proofs of Insanity, and as to the propriety or impropriety of incarceration in certain cases; and in reference to No. 6 in the Paper, on the Principles of Surgery as to the range of temperature in disease.

Dr. CHAMBERS then submitted to the Candidate seven articles of the

Pharmacopœia, for the purpose of identification, and asked several questions as to their doses, uses, and effects. He also examined the Candidate on a pathological specimen of a Kidney, with enlargement of the supra-renal capsule.

Dr. OGLE next examined the Candidate upon a preparation in a glass jar, viz., an Aortic Aneurism compressing the pneumogastric and recurrent nerves, and left bronchus into which it had opened; the questions were as to the Clinical signs which were likely to have existed during the patient's life, the difficulties in diagnosis, the means to be adopted for the relief of the patient,—entering more especially into the employment of the Laryngoscope in the diagnosis of such affections, and as to the propriety of the operation of tracheotomy to afford palliative relief. Another preparation, viz., Apoplexy of the upper portion of the Spinal Cord, was presented for inspection and recognition of the morbid appearance, and questions were asked as to the pathology of the disease.

Mr. TEALE, referring to Question 5 in the Paper on the Principles of Surgery, examined on the treatment of such Aneurism by compression of the aorta, and the results of such treatment; to Question 3 in the same Paper, on the subject of Varix of the Labia, and its usual cause; to Question 1, on the significance of interstitial Keratitis, peg-shaped and serrated teeth, as pathognomic of congenital Syphilis; upon the use of Mercury, and the mode of its administration with the view of bringing the system under its specific influence.

The Examination was concluded by an inquiry into the construction and the use of the Endoscope, and the practical application of the Laryngoscope.

The decision as to the merit of the Candidate was arrived at, not by numerical marks assigned to special questions, not by per-centages, nor averages, but from the impression produced by the general tenor of the answers on all the subjects included in the Examination.

We were informed that on occasions when several Candidates are examined, the particular results of the Examination are tabulated in the following form :—

"No. 5.

"Candidate's Name_____

Paper.	Subject.	Questions.												Total.
		1	2	3	4	5	6	7	8	9	10	11	12	
I.														
II.														
III.														
IV.														
V.														
VI.														
VII.														
VIII.														

"Remarks."

The following is the form of Testamur which was presented to the Candidate. It had previously been signed by the respective Examiners, in accordance with the statutes of the University, as the last act of their conjoint labours before they separated :—

"No. 6.

"*Oxoniæ, Die* *Mensis* *Anni*

Medicinæ Studiosus, in secunda examinatione pro gradu Baccalaurei in Medicina examinatus prout Statuta requirunt, satisfecit nobis Examinatoribus.

Ita testamur { _____ *Med. Prof. Reg.* / _____ / _____ } *Examinatores.*"

This Examination appeared to us to be full, searching, and painstaking; the range of questions comprehensive; and the general scope of inquiry to be well directed, especially as regards the practical bearing of the questions in all the subjects. We regard it as well calculated to maintain the reputation of the Degree and to insure the fitness of the Candidate for the practice of his profession.

In conclusion, we desire to acknowledge our obligations to all the Examiners, and especially to Dr. ACLAND, for the courtesy with which we were received, and the readiness with which every facility was afforded for making ourselves fully acquainted with the mode of conducting the Examinations.

AQUILLA SMITH, M.D.

PATRICK HERON WATSON, M.D., F.R.C.S. ED.

December 28th, 1874.

APPENDIX.

EXAMINATION PAPERS FOR THE DEGREE OF BACHELOR OF MEDICINE.

No. I.

MATERIA MEDICA.

1. What evidence can be given of the passage of medicinal or poisonous substances into the blood?

2. Mention some drugs and colouring matters which pass off unchanged in the urine.

3. Classify according to their effects the principal diuretics employed in England.

4. What are the preparations of Mercury in the British Pharmacopœia?

5. How is Ferri Peroxidum Humidum prepared? In what quantities is it employed, and for what purpose?

6. Give some account of the constituents of Opium, describing them severally.

7. When was Quinine (Quinia) first discovered? How is it obtained? What are the species of Cinchona?

8. What are the doses for an adult of the following preparations in the British Pharmacopœia?—viz.

Acidum Arseniosum.
Elaterium.
Extractum Ergotae liquidum.
Ferri Arsenias.
Ferrum Redactum.
Pilula Saponis composita.
Pulvis Opii compositus.
Tinctura Aconiti.
Tinctura Belladonnae.
Tinctura Digitalis.
Tinctura Hyoscyami.
Tinctura Quiniæ Ammoniata.
Zinci Oxidum.
Zinci Sulphas.
Zinci Valerianas.

9. Write four prescriptions for such ordinary aperients as might be required for a child aged four years.

10. What is the general rule as to the proportions of doses to age?

No. II.

PATHOLOGY.

[The answers may be illustrated by pencil or pen sketches, and the use of the Pathological Museum is open to Candidates].

1. Define and describe the formations classed under the head of Cancer; giving especially the naked eye appearance of each as seen in various organs.

2. Classify Urinary Calculi, and state the comparative frequency with which their several constituents occur.

3. What is meant by "Facial Paralysis," and upon what conditions may it depend?

4. Give a careful description of "Renal Casts," and their significance.

5. Give an account of the anatomical conditions ordinarily classed under the term "Phthisis," Acute and Chronic.

6. Explain Lymphoma, Leukæmia, Lymphadenoma.

7. Give some account of "Fatty Degeneration."

8. What are the principal Anatomical Lesions which occur in the course of Typhoid Fever.

9. Define or describe "Dry Gangrene," "Moist Gangrene," and "Rigor Mortis."

No. III.

THERAPEUTICS.

1. Describe the treatment of a case of Acute Rheumatism, without complication, and of one with the complication of Pericarditis.

2. What are the various remedies in use for the expulsion of a Tænia solium? What are their relative values? and what proof of its expulsion would you seek?

3. How would you treat a case of Chronic Dysentery?

4. How would you attempt to meet the various symptoms which you may expect to arise in a case of contraction of the Mitral Orifice of the Heart?

5. What would be your treatment of a case of Locomotor Ataxy in its early stages?

6. What are the circumstances which lead you to advise, or to dissuade, Paracentesis Thoracis?

7. You are called to a woman, aged 20, a stranger to you, and find that a pint of blood has been ejected from the mouth. What do you do?

8. Hæmaturia appears in a case of Scarlatina. How does it effect your treatment?

No. IV.

FORENSIC MEDICINE AND HYGIENE.

1. What are the evidences of poisoning by Strychnine?

2. Supposing you were called to visit a man removed to a police-station in a state of unconsciousness, by what facts and appearances would you be guided in determining the cause of his condition?

3. What are the evidences that a child stated to be stillborn was born alive?

4. What evidence does the law require to justify confinement of a person alleged to be insane?

5. What are the usual methods by which Lead finds its way into the body? and what deleterious effects does it produce?

6. What are the ways by which it is believed that Typhoid Fever is spread? and how do you decide on the origin of any special case?

7. What conditions of Meat render it unfit for human food (stating the conditions found in the ordinary domestic animals respectively)?

8. What are the different modes of preserving and cooking Meat, and their respective advantages?

9. What is meant by Death Rate? Do sickness rate and death rate always stand the same ratio to a population?

No. V.

MIDWIFERY, WITH DISEASES OF WOMEN AND CHILDREN.

1. What are the most trustworthy signs of pregnancy?

2. What are the various causes of Uterine Hæmorrhage? Describe their treatment.

3. Under what conditions is Ovariotomy to be recommended, or the contrary? Describe the operation.

4. What are the chief diagnostic signs of Infantile Syphilis?

5. Describe a case of "Laryngismus stridulus"; How would you treat it?

6. How would you treat the several forms of congenital Hernia?

7. Describe Infantile Paralysis, and its treatment.

8. What are the causes of Otorrhœa in children?

No. VI.

PRINCIPLES OF SURGERY.

1. Name some of the constitutional diseases which may be inferred from, or suggested by, an examination of the eye.

2. What secondary disorders are to be feared in fracture of the ribs?

3. Name the various parts of the body in which Varicose Veins are found. What in each instance is the significance and cause of the symptom? What treatment radical or palliative is applicable in any of them?

4. In Chronic Ulcer of the leg in a middle-aged hardworking woman, what means would you take in order to promote rapid and sound healing of the sore?

5. In Aneurism of the External Iliac Artery what various methods of treatment are at the command of the surgeon? State in your reply your opinion of the relative value of each method.

6. State any facts you may know about the use and the indications of the Thermometer in cases of injury, or surgical operations.

7. A patient complains of "Piles." How would you ascertain the nature of the ailment? what would you expect to find? and what particular affections would be indicated by the escape of blood from the bowel?

8. How would you deal with a case in which one pleural cavity was full of fluid, and in which there was great difficulty in breathing?

No. VII.

CLINICAL EXAMINATION.

[AT THE RADCLIFFE INFIRMARY].

1. Examine the urine marked *A* and *B* in the Clinical Laboratory, and write result of examination.

(*Half an hour allowed*).

2. Vivâ voce Examination in Wards, and Out Patient Department.

3. Report on the cases of

in Ward,

and Ward,

(One hour allowed).

No. VIII.

PRACTICAL HYGIENE.

1. Examine Bliss's Yard in Broad Street, and write a Report on its Sanitary condition and wants, if any.

[Measuring Tape, Rule, and Note Book supplied].

2. Write a Report on the arrangements at the Infirmary for the reception and the treatment of Infectious Cases.

[N.B.—Candidates may answer either of the above questions. Having made the enquiries, and taken the notes they think requisite for writing a Report, (obtaining their information in any way they think fit), they are to adjourn to the Museum, and write it in the Pathological Room].

IN THE SANITARY LABORATORY.

3. Examine and Report on one at least of the Articles A. B. C.

No. IX.

CLASSICAL PAPER.

1. Translate:—

Περὶ δὲ τῶν τεκμηρίων τῶν ἐν τοῖσιν ὕπνοισιν ὅστις ὀρθῶς γινώσκει, μεγάλην ἔχοντα δύναμιν εὑρήσει πρὸς ἅπαντα. ἡ γὰρ ψυχὴ ἐγρήγορεν. ὅταν μὲν οὖν σώματι ὑπηρετοῦσα ᾖ, ἐπὶ πολλὰ μεριζομένη οὐ γίγνεται αὐτὴ ἑωυτῆς, ἀλλ'

ἀποδίδωσί τι μέρος ἑκάστῳ τοῦ σώματος ἡγοῦν τοῖσιν αἰσθητηρίοισιν, ἀκοῇ, ὄψει, ψαύσει, ὁδοιπορίῃ, πρήξει, καὶ πόσῃ τῇ τοῦ σώματος διανοίῃ. αὐτὴ δ' ἐωυτῆς ἡ διάνοια οὐ γίνεται. ὁκόταν δὲ τὸ σῶμα ἡσυχάσῃ, ἡ ψυχὴ κινευμένη καὶ ἐπεξέρπουσα τὰ μέρη τοῦ σώματος, διοικεῖ τὸν ἑαυτῆς οἶκον, καὶ τὰς τοῦ σώματος πρήξιας ἁπάσας αὕτη διαπρήσσεται. τὸ μὲν γὰρ σῶμα καθεῦδον οὐκ αισθάνεται, ἡ δὲ γρηγοροῦσα γινώσκει, καθορᾷ τε τὰ ὁρατὰ καὶ διακούει τὰ ἀκουστά, βαδίζει, ψαύει, λυπεῖται, ἐυθυμέεται, ἐν ὀλίγῳ, ὁκόσαι τοῦ σώματος ὑπηρεσιαι ἡ τῆς ψυχῆς, ταῦτα πάντα ἡ ψυχὴ ἐν τῷ ὕπνῳ διαπρήσσεται. ὅστις οὖν ἐπίσταται κρινειν ταῦτα ὀρθῶς, μέγα μέρος ἐπίσταται σοφίης.—Hippocrates.

2. Write a critical commentary on the following passage :—

Ut nonnulli adsunt, qui ab hydrargyrosi abhorrent sine causâ, sic contra non desunt, qui eidem nimium credunt. Illi sibi nihil non timent Mercurio, ceu ab infido et male tuto remedio : Hi nihil non sperant ab eodem, ceu a certissima et absolutoria medicina ; et si forte non putent fore ut inde rejuvenescant, quod Poetae olim finxere de Aesone, Jasonis patre, Medeae artibus juventae reddito, at putant certe se ab omni morbo liberos integerrimae valetudini restitutum iri, quali olim ante conceptam luem maxime valuere. Sed utrique, dum diversi abeunt, in contraria peccant : Illi nempe, quod de Mercurio nimium diffidant, cujus usus legitimus tutus est et periculi expers, ut supra probavimus Lib. II. Capp. 11. 12. et 13. Hi vero, quod eidem confidant nimium ; quantumvis enim Mercurius remedium sit et opiferum et efficax, non ideo tamen sequitur hujus usu omnia symptomata, quae a lue venerea inducta sunt, semper deletum iri, ut in sequentibus probabimus.

Jam supra Cap. V. § 1. hujus Libri vidimus tres esse luis venereae species, primam, in qua virus paucum, benignum, recens admissium humores solos corporis, plures paucioresve, inficit, illaesis solidis partibus : Alteram, tertiamque in qua virus uber, acre, inveteratione auctum et multiplicatum ad organa varia corporis penetravit, partesque solidas non paucas laesit vitio multiplici, phlogosi, inflammatione, infarctu, tumore, gummato, skirrho, erosione, exulceratione, carie, &c.—*Astruc.*

REPORT ON THE EXAMINATIONS FOR THE DEGREE OF M.B., UNIVERSITY OF CAMBRIDGE.

Held at Cambridge on the 10*th*, 11*th*, 12*th*, 14*th*, 15*th and* 16*th of December.*

Visitors :—AQUILLA SMITH, M.D., Member of the General Medical Council.

PATRICK HERON WATSON, M.D., F.R.C.S. ED., appointed by the Council.

The Regulations respecting Medical Degrees conferred at Cambridge are contained in the following publications :—

"Schedules defining the range of the Examinations in Mechanics and Hydrostatics, Heat and Electricity, Chemistry, Botany and Comparative Anatomy, for the guidance of Students proceeding to Medical Degrees (May 29, 1869)," pp. 101-2 and 103 to 107.

"Statuta Academiæ Cantabrigensis quibus subjunguntur actus quidam parliamenti qui ad Academiam spectant." Cantabrigiæ, 1874, pp. 13, 14, and 46.

"Ordinationes Academiæ Cantabrigensis," 1874, pp. 96 to 101.

Cambridge University Calendar for 1874, pp. 60 to 68.

The Examinations for the Degree of M.B. consist of three divisions, and in each division the Candidate is examined on four separate days. There is besides, what is called "an Act," which consists in the presentation and defence of a Thesis.

All the Examinations are conducted by Examiners who are elected annually, and are usually re-elected for a second year, together with the Regius Professor of Physic.

FIRST EXAMINATION FOR M.B. DEGREE.

Sixteen Candidates appeared for this Examination. The Examinations were conducted by W. P. HIERN, M.A., and RICHARD APJOHN, M.A.

The subjects for examination by printed questions on the first day were "Chemistry" and "Botany;" on the second day, "Heat and Electricity" and "Mechanics and Hydrostatics." To answer these two hours were allowed in each subject. On the third day each Candidate was engaged in the Laboratory for three hours in working out the analysis required to answer the printed questions on "Practical Chemistry." The fourth day was devoted to Oral Examination on all these subjects.

The printed questions on Botany, Mechanics, and Hydrostatics, were set by Mr. HIERN, and on Chemistry, Practical Chemistry, Heat and Electricity, by Mr. APJOHN. The questions set by each Examiner were submitted to his colleague before they were printed, and the written answers were read separately by the two Examiners.

On Saturday, 12th of December, at 10 a.m., we visited the Chemical Laboratory of the University, and found the sixteen Candidates, under the superintendence of Mr. APJOHN, engaged in the analyses required to answer the questions in the subjoined paper on Practical Chemistry. The Candidates were so distributed and supervised as to prevent any communication with each other.

We were informed that the Laboratory, which was fitted up with long tables with separate cupboards furnished with chemicals, afforded uniform accommodation for fifty pupils.

On Monday, December 14th, we attended the Oral Examination, which commenced at 9 a.m. The Examination in Botany, in Mechanics, and in

Hydrostatics was conducted by Mr. HIERN, and in Chemistry, Heat, and Electricity, by Mr. APJOHN.

The Oral Examination on the subjects comprised in the Second Examination for the Degree of M.B. commenced also at 9 a.m. on the same day, and each Examination lasted for about four hours. As we were required to visit both of these Examinations, we remained until the *vivâ voce* Examination of only three of the Candidates for the First M.B. Examination was completed. We considered that this afforded us a sufficient standard for forming an opinion upon the mode adopted in conducting this Examination.

The written answers to all the printed papers, together with the judgments of the Examiners, arranged in a tabular form, were submitted to us, but finding that it was impossible in the time at our disposal to read the whole of the papers, we selected in each subject those of the Candidates who obtained the highest and the lowest marks, and after carefully reading them, and noting the value of each answer, we compared our estimate with that assigned by the Examiners.

No. I.

Thursday, December 10*th*, 1874. 9 *to* 11 *a.m.*

CHEMISTRY.

Examiner—RICHARD APJOHN, M.A.

1. How is Sulphur Dioxide usually prepared? Explain its action on a solution of (1) iodine, (2) ferric chloride, (3) rose leaves.

2. Describe how the quantitative composition of the atmosphere has been determined. How may pure Nitrogen be obtained from air?

3. How is Hydrogen Dioxide prepared, and what takes place when Silver Oxide is dropped into its solution?

Explain how Hydrogen Dioxide has been employed for the detection of blood.

4. What is the action of Heat on (1) Mercuric Cyanide, (2) Ammonium Nitrate, (3) Manganese Dioxide, (4) Arsenic Trioxide?

5. How is Ammonia Gas obtained, and what compounds are formed when (1) Hydrogen Sulphide, (2) Carbon Dioxide, (3) Chlorine, are passed into its solution in water?

6. Mention a few of the principal Ores of Iron. How may Ferrous Salts be converted into Ferric Salts, and by what tests would you ascertain in which state the iron was present?

7. How would you prepare (1) Marsh Gas, (2) Olefiant Gas?
Explain the fact that the latter burns with a more luminous flame than the former.

8. Give the characteristic tests for Albumen, Uric Acid, Quinine, and Strychnine.

The maximum attainable for this paper was 200, and the "customary minimum" 80. A fractional value was attached to each question by the Examiner, thus—question 1=30, 2=28, 3=0, 4=28, 5=28, 6=27, 7=27, and 8=32. It appeared that question 3 was not taken into account, as the sum of the other seven questions makes 200. The highest mark obtained was 179, and the lowest was 75.

No. II.

Thursday, December 10*th*, 1874, 2 *to* 4 *p.m.*

BOTANY.

Examiner—W. P. Hiern, M.A.

1. What are Stomata? Describe their development, situation, distribution, and action.

2. Describe the structure of Buds. Discuss their situation, the condition of their scales, and the nature of their growing point.

3. Describe the organization of Stamens, the normal conditions of their constituent parts, and the principal modifications which they assume in the British Orders.

4. Define the following Carpological terms: achene, samara, drupe, follicle, pyxis, capsule, berry.

5. What are the Alimentary Substances of Plants? What simple bodies are indispensable for their nutrition? State the various sources from which plants obtain them.

6. What do you understand by a Species and by a Genus? From what organs are the characters of the latter usually drawn?

Give the leading divisions adopted in any of the established systems of botanical systematic classification.

7. Describe the accompanying specimens in botanical language.

Maximum 200, minimum 60. Value of questions: 1=30, 2=30, 3=30, 4=20, 5=25, 6=25, and 7=40. Twelve Candidates only were examined on this subject. The highest value obtained 136, lowest 56.

No. III.

Friday, December 11*th*, 1874. 9 *to* 11 *a.m.*

HEAT AND ELECTRICITY.

Examiner—RICHARD APJOHN, M.A.

1. Give a definition of Temperature, and explain accurately how a Mercurial Thermometer is filled and graduated.

2. How is it proved that Water has a point of maximum density, and what natural phenomena does this account for?

3. When a body is exposed to a constant source of heat its temperature does not increase indefinitely. Show that this is a consequence of Newton's Law of Cooling.

4. Define Specific Heat. Describe some method for finding Specific Heats.

60 lbs. of mercury at 80°C. are poured into 20 lbs. of water at 10°C.: what will be the resulting temperature of the mixture, specific heat of mercury being taken as $\frac{1}{30}$.

5. State the laws of Electrical Attractions and Repulsions, and describe briefly how they have been established.

What is the principle of the Quadrant Electrometer?

6. Mention any experiment which proves that Electricity is confined to the surface of a conductor.

7. What are the causes which enfeeble the Current in a Battery which consists essentially of two metals and one liquid?

8. Mention some experiment which shows that the direction of an Electric Current in a Battery depends on the liquid employed.

Give a rule for the direction of the Current in a battery.

Maximum 200, minimum 80. Value of questions: 1=25, 2=25, 3=25, 4=30, 5=30, 6=20, 7=20, and 8=25. Highest value obtained 190, lowest 35.

No. IV.

Friday, December 11*th*, 1874. 2 *to* 4 *p.m.*

MECHANICS AND HYDROSTATICS.

Examiner—W. P. Hiern, M.A.

1. Assuming the theorem of the Parallelogram of Forces for the direction of the Resultant, prove it for its magnitude.

Two forces acting at a point have a resultant which remains unaltered in magnitude when the direction of one of the forces is reversed. Find the angle included by the directions of the two forces.

2. Show how to find the conditions of equilibrium when a body resting on an inclined plane is acted on by a force parallel to the plane.

3. Prove that a body has one, and only one, centre of gravity.

4. Find the centre of gravity of a rod, whose density at any point varies directly as the distance from one extremity.

5. A boat floating in a stream is moored to one bank by means of a rope, and is subject to the force of the stream measured by 15 lbs., as well as to that of the wind measured by 36 lbs., in an outward perpendicular direction. Find the measure of the strain on the rope and the direction which it takes to that of the stream.

6. If a body floats in a liquid, prove that it displaces as much liquid as is equal to the weight of the body.

Show that the centres of gravity of the body and of the liquid displaced are in the same vertical line.

7. Explain the action of the Siphon, and state clearly the conditions necessary for its successful operation.

8. Explain how it may be shown by experiment that at a given temperature the elastic force of air is in direct proportion to its density.

Maximum 200, minimum 60. Value of questions: 1=25, 2=25, 3=20, 4=30, 5=25, 6=25, 7=25, and 8=25. Only seven Candidates were examined on this subject. Highest value obtained 123, lowest 34.

No. V.

Saturday, December 12th, 1874. 10 *a.m. to* 1 *p.m.*

PRACTICAL CHEMISTRY.

Examiner—RICHARD APJOHN, M.A.

1. A, B, C are salts containing each an acid and a base. Find out what they are.

2. Test D, E, F for Mercury, Arsenic, and Lead.

N.B.—In answering the above questions, each experiment tried must be mentioned, together with the conclusion drawn from it.

Maximum 300, minimum 120. Value of questions: 1, A=60, B=90, C=60; question 2, D=30, E=30, F=30. One Candidate obtained the full value of the marks, 300; eight of them ranged from 200 to 270; and the lowest was 139.

ORAL EXAMINATION.

The two Examiners sat at the same table, and in turn examined the Candidates on the subjects included in the Written Examination.

Maximum value 70, "customary minimum" 28. Fifteen of the Candidates obtained marks ranging from 35 (half the maximum) to 62; the lowest was 25.

One of the Candidates was rejected.

SECOND EXAMINATION FOR M.B. DEGREE.

The subjects for Examination by printed questions were—on the first day, "Pharmacology," to answer this paper the Candidates were allowed two hours, 9 to 11 a.m., and on "Physiology," for which the Candidates were allowed three hours, 1 to 4 p.m.; on the second day, two hours, 9 to 11 a.m., were allotted to the "Elements of Comparative Anatomy," and three hours, half-past 12 to half-past 3 p.m., to "Practical Histology;" on the third day, three hours and a half, 9 to half-past 12 p.m., were devoted to answer the printed questions on "Human Anatomy."

The Oral Examination on the Dissections, which formed a part of the Practical Examination, and upon the subjects of the printed papers, was conducted on the fourth day, for such time as the Examiners considered necessary.

There were three Examiners — Dr. BRADBURY, of Cambridge, and Mr. DAVIES COLLEY, F.R.C.S. Eng. The Assistant Examiners are elected annually, and are usually re-elected for a second year. Dr. PAGET, Regius Professor of Physic, is an Examiner *ex officio*.

There were twelve Candidates, who were all Graduates in Arts; but we were informed that this Qualification is not essential. Having passed an Examination in Classics, Mathematics and Divinity is an essential preliminary to this Examination, and examinations on other preliminary subjects must have been passed at the First Examination for the Degree of M.B. in the University of Cambridge.

One Candidate was exempted from examination in the subject of "Comparative Anatomy," having passed in this subject with credit, and obtained a certificate to this effect from the Body of Examiners for the Natural Science Tripos.

We were informed that the questions in the papers were submitted to the Examiners before they were printed, and that the written answers on each subject were read separately by two of the Examiners.

No. I.

Thursday, December 10*th*, 1874, 9 *to* 11 *a.m.*

PHARMACOLOGY.

1. Name the articles marked I. II. III.

2. State the medium dose, or range of doses, for an adult, of each of the following medicines, and the ingredients in the last six :—

Liquor Arsenicalis.	Pilula Conii Composita.
Tinctura Belladonnæ.	Pilula Saponis Composita.
Oleum Crotonis.	Pulvis Jalapæ Compositus.
Podophylli Resina.	Pulvis Rhei Compositus.
Pilula Phosphori.	Pulvis Kino Compositus.
Elaterium.	Pulvis Ipecacuanhæ Compositus.

3. Name the preparations of Mercury that are used internally, and give their respective doses.

4. What is the article marked *A*; what Pharmaceutical preparations are derived from it; what are their respective doses, and what the consequences of too large a dose?

5. Give the mode of preparation of Enema Tabaci. State the quantity of Tinctura Opii contained in Enema Opii, and the quantity of Morphiæ Hydrochloras in Suppositorium Morphiæ.

6. Mention the principal Diuretics, and their respective doses.

7. Define the terms Rectified Spirit and Proof Spirit (B.P.). State what is known of the effects of diluted Brandy (or other Alcoholic drink) when taken by a healthy adult man :—

1. As regards the action of his heart;
2. As regards the temperature of his body;
3. As to the portion (if any) of the Alcohol which is excreted unchanged.

This paper was set by Dr. PAGET. Maximum 200, minimum 80. Value of questions—1=30, 2=30, 3=22, 4=28, 5=16, 6=28, 7=46. Of the twelve Candidates, six obtained marks ranging from 111 to 146, and of the remaining six the lowest mark was 81.

No. II.

Thursday, December 10th, 1874, 1 *to* 4 *p.m.*

PHYSIOLOGY.

1. Give the chemical composition of the blood, and compare the blood of the portal, hepatic, renal, and pulmonary veins, with ordinary venous blood. State what is known of the conditions under which fibrinous coagulation takes place.

2. Give the minute structure of the salivary glands or of the pancreas. Compare and contrast the properties of the secretions of these glands. State what is known of the innervation of the salivary glands.

3. Contrast the structure and arrangement of the muscular fibres of the heart with those of ordinary voluntary muscle. Describe the structure and explain the action of the valves of the heart. Enumerate the influences which may affect the *frequency* and *force* of the heart's beats.

4. Describe the structure of the lymphatic vessels. In what organs and tissues have no lymphatics been found? What agencies are concerned in the propulsion of the chyle and lymph through the lacteals and lymphatics? State what is known or conjectured as to the functions of a Peyer's patch.

5. Give an account of the action of the diaphragm in respiration. What nervous structures are concerned in the act of respiration?

Explain the mechanism of the following acts :—

(α) Sighing. (γ) Coughing. (ϵ) Vomiting.
(β) Hiccough. (δ) Sneezing. (ζ) Sucking.

6. Describe the structure of the skin, including the hairs and cutaneous glands. State the nature of the fluid discharged from the skin, and its average quantity in twenty-four hours ; and explain the purposes served by the cutaneous perspiration.

This paper was set by Dr. BRADBURY. Mr. DAVIES COLLEY also acted as Examiner.

Maximum 300 (*i.e.*, 100 for each hour allowed for writing the answers), minimum 150 (or 50 per cent.) Value of questions 50 each. The marks of eight of the Candidates ranged from 152 to 197, and the lowest was 84.

No. III.

Friday, December 11*th*, 1874, 9 *to* 11 *a.m.*

ELEMENTS OF COMPARATIVE ANATOMY.

1. Give a general description of the structure and disposition of the digestive, circulatory and nervous systems in the Star-fish. How is respiration performed in this animal?

2. Describe the nervous, digestive, circulatory, and respiratory systems of Cuttle-fish, or of any other Cephalopod.

3. Describe the alimentary canal, including the glandular organs which pour their secretions into it, of the Pigeon, or of any other bird.

4. Compare and contrast the structure of a Batrachian, (1) with that of a Reptile ; (2) with that of a Fish.

To which do you consider it to be most nearly allied?

5. Note the chief peculiarities in the osteology of the Tortoise, or of any other Chelonian. What parts of the endo-skeleton do you consider represented in the "carapace"?

This paper was set by Dr. BRADBURY. Mr. DAVIES COLLEY also acted as Examiner.

Three hours were allowed for writing the answers. Maximum 200, minimum 60. Value of questions 40 each.

Nine of the Candidates obtained marks which ranged from 107 to 172, and the lowest was 86. One Candidate as already explained was exempt from this Examination.

No. IV.

Friday, December 11*th*, 1874, 12.30 *to* 3.30 *p.m.*

PRACTICAL HISTOLOGY.

1. Examine microscopically and report on the numbered specimens [1 to 6].

2. Put up a preparation of the hardened substance, and report on its structure.

3. Put up preparations to show the structure of white fibro-cartilage, tendon, nerve fibre, and lymphatic gland.

This paper was set by Mr. COLLEY. Dr. BRADBURY took part in the Examination.

The "numbered specimens" mentioned in the first question were placed under six separate microscopes.

The "hardened substance" in question 2, was a dog's tongue.

A fresh killed rabbit was the material supplied from which preparations illustrating the structures mentioned in question 3 were to be put up.

Three hours were allowed for writing the reports and mounting the specimens prepared from the rabbit.

Maximum 100, minimum 50, estimated from the per-centage of answers on the two subjects of Physiology and Practical Histology. The marks of five of the Candidates ranged from 51 to 72, and the lowest was 28.

No. V.

Saturday, December 12*th*, 1874, 9 *to* 12.30 *p.m.*

HUMAN ANATOMY.

1. Describe the articular surfaces and ligaments of the joints which connect the Occiput, Atlas and Axis with one another. What movements take place in these joints, and how are the movements limited?

2. Describe the arteries of the Foot, their origin, course, relations, and distribution.

3. Give the attachments, nerve-supply, and action of the muscles which move the Eye-ball.

4. Describe the Trachea: its position, structure, and length. Give the dissection by which you would expose the whole of its anterior surface, mentioning in order the parts which you would remove or draw aside.

5. Give the origin, course, and distribution of the Musculo-Spiral Nerve, and its principal divisions.

6. Describe in detail the dissection necessary to expose the anterior and inferior surfaces of the Prostate Gland.

7. State the length, position, direction, and relations of each part of the Duodenum. How would you expose the whole of its anterior surface after opening the abdomen?

This paper was set by Mr. COLLEY. Dr. BRADBURY took part in the Examination.

Three hours and a half were allowed for writing answers on these seven questions. Value of questions 50 each, maximum 350, minimum 175: in this estimate the dissection was included. The marks of ten of the Candidates ranged from 160 to 247, and the other two were 139 and 124.

ORAL EXAMINATION.

On Monday, December 14th, the Visitors having been present, as already stated, at the *vivâ voce* Examination of three of the Candidates for the first Examination, proceeded to the dissecting room, where the Candidates for the Second Examination for M.B. were engaged in making dissections of several parts of a male subject, which had been dismembered and distributed among them.

Subsequently, they were present at the Oral Examination on Comparative Anatomy, which was conducted by Dr. BRADBURY and Mr. DAVIES COLLEY, by means of wet preparations and skeletons, articulated and disarticulated. The Candidates were also examined by Mr. COLLEY on Human Osteology.

At 2 p.m. the Visitors attended in the dissecting room, when each of the Candidates was examined upon dissections made in the forenoon, not by himself, but by one of the other Candidates. The Visitors also observed that the Candidates were examined on two preparations of the human brain, in one of which the vessels were injected with red wax, while the other

displayed the superficial origin of the nerves. Another wet preparation was also employed, exhibiting the superficial anatomy of the liver.

Each Candidate was called in succession from an adjoining apartment, and as soon as his Examination was completed he was permitted to retire.

Students, not being Candidates, were present in considerable numbers during the whole course of the Examination, and seemed to take a lively interest in the proceedings.

At 3.30 p.m. the Visitors attended the Oral Examination on the subject of Pharmacology, which was conducted by Dr. PAGET, and on Physiology, by Dr. BRADBURY.

Each Candidate was separately introduced, and was questioned chiefly in reference to his answers to the printed questions, a line of examination not usually adopted in other Schools, so far as we are informed. He was also required to identify eight articles in the Materia Medica, and was examined on preparations in the Pharmacopœia.

The questions in Physiology were chiefly in reference to the answers of the Candidates to the printed papers, and seemed to afford them an opportunity of supplementing any deficiency in their written answers. On this occasion, no preparations, nor instruments used in the investigations of Practical Physiology were employed to test the Candidate's knowledge.

Several Students were also present at this Examination.

The Visitors were informed, by the Regius Professor of Physic that measures were in progress with the view of providing further assistance in the Anatomical and Physiological Examinations.

Three of the twelve Candidates were rejected.

THIRD EXAMINATION FOR M.B. DEGREE.

In this final Examination the subjects of the written part were, on the first day, "Medical Jurisprudence," from 9 to 11.30 a.m. On the second day, the Candidates were engaged for six hours on "Pathology and the Practice of Physic," in two papers—No. 1 from 9 a.m. to 12, and No. 2 from 1.30 to 4.30 p.m.

The Oral Examination on these subjects took place on the third day, and the Examination on "Clinical Medicine" was conducted on the fourth day, at the Addenbrook Hospital.

There were four Candidates for this Examination.

On this occasion the printed questions on Medical Jurisprudence were set by Dr. PAGET, and the two papers on Pathology and Practice of Physic by Dr. CLIFFORD ALLBUTT, of Leeds, and Dr. HENSLEY, of London.

No. I.

Saturday, December 12th, 1874. 9 *to* 11.30 *a.m.*

MEDICAL JURISPRUDENCE.

1. The articles marked *A* and *B* are poisonous. Name them, and describe respectively the symptoms that would be caused by them, the appropriate treatment, and the post-mortem appearances if death were to ensue.

2. Describe the symptoms of chronic poisoning by repeated small doses of arsenic taken with food.

3. How would you distinguish, in a doubtful case, between real and apparent death?

4. A skeleton is discovered. The soft parts of the body have disappeared. What points chiefly would you observe in trying to identify the skeleton with the description of a missing person?

5. In a case of suspected infanticide, what evidence, obtainable from an examination of the dead body, would justify a confident opinion that the child was born dead?

6. A man, aged 48, was found in the water in January, clothed, and dead. His coat and top-coat were bottoned up to the throat; his clothes and shirt uninjured. The police never doubted but that the body was that of a drowned person, but when it was unclothed a gun-shot wound was found in the region of the heart. Dissection showed that the shot had passed through the diaphragm and spleen, and had lodged in the muscles close to the vertebral column. The lungs were healthy, and contained no water; the trachea but a little bloody froth; the right side of the heart was distended, the left empty; the left pleural cavity contained a cupful and a half of blood; the tongue was between the teeth. In the head there was great congestion of all the veins and sinuses; in the stomach a cupful of dirty water. The rest of the body was perfectly normal, except in being unusually obese. In the early morning those living in a house near the pond had heard the dogs barking; and from a spot not far from the pond, where the snow was considerably disturbed, footsteps could be distinctly traced to the pond itself. The pistol that had been used was found in the pocket of the coat on the body. Was this a case of suicide or murder? Discuss it.

Maximum 250, minimum (including oral) 135. Value of questions—No. 1=60, 2=28, 3=40, 4=44, 5=24, and 6=54.

No. II.

Monday, December 14th, 1874. 9 *a.m. to* 12.

PATHOLOGY AND PRACTICE OF PHYSIC. (1)

1. Give an account of the course of a typical case of Measles, stating the complications that are liable to occur with it or to follow it.

With what other diseases might measles be confounded in its different stages?

2. Give a sketch of what you would consider the "gouty habit," describe

a "fit of the gout," and state generally what would be your management of a case of gout during a paroxysm and at other times.

3. Enumerate the various causes which may give rise to Hæmoptysis, state the circumstances which would enable you to form a diagnosis, and indicate the treatment you would consider appropriate in each case.

4. Describe the physical signs of Pericarditis, mentioning the constitutional diseases in which it may occur as a complication.

Under what circumstances would you resort to paracentesis?

5. How would you judge whether persistent vomiting be due to stomach disease or brain disease?

From what other causes may such vomiting arise, and what would be your method of treatment?

6. Point out the differences and resemblances between Tinea Tonsurans, and Tinea Decalvans, and give the plan of treatment you would adopt for each.

7. Describe what is meant by "hysterical affection of a joint." How would you recognize and treat it?

8. Point out the different species of puerperal convulsions and their treatment.

No. III.

Monday, December 14*th*, 1874. 1.30 *to* 4.30 *p.m.*

PATHOLOGY AND PRACTICE OF PHYSIC. (2)

1. Point out the chief clinical varieties of Pneumonia, and the corresponding differences in prognosis and treatment.

2. By what signs and symptoms is early Phthisis betrayed? What should guide you in advising change of climate to phthisical patients?

3. Point out the differences in the symptoms and treatment between dyspepsia, gastralgia, and ulcer of the stomach.

4. Describe the symptoms of the first stage of general Paralysis of the insane, pointing out any difficulties of diagnosis which may occur to you.

5. What symptoms would lead you to suspect Secret Drinking? If the symptoms of chronic Alcoholism differ in the two sexes, point out the difference.

6. What symptoms call for the immediate performance of Tracheotomy? How is the operation performed, and by what dangers is it beset?

7. State shortly the various conditions which would justify you in sacrificing the fœtus to save the mother.

8. Write shortly the chief directions you would give for the management of an infant weaned at the second month. Indicate also the disorders to which such infants are most liable, and the means of preventing or removing these.

The marks obtained for those three Papers, and other particulars, along with the judgment on the whole Examination, will be given at the close of this Report in a tabular form.

ORAL EXAMINATION.

On Tuesday, December 15th, the *vivâ voce* Examination on Medical Jurisprudence, and on Pathology and Practice of Physic, was conducted by Dr. PAGET, conjointly with Dr. CLIFFORD ALLBUTT, of Leeds, and Dr. HENSLEY, of London. This Examination commenced at 11 a.m. and terminated at 2 p.m.

The Candidates were summoned into the Museum in turn and examined in Medical Jurisprudence by Dr. PAGET, in presence of the Examiners, and each of the Candidates was also required to fill up a certificate, in the manner required by Act of Parliament, for committal to a lunatic asylum.

Each Candidate was required to inspect and to write a report on the nature and appearance of the following objects which were mounted and placed under separate microscopes :—

1. Section of lung in lobular pneumonia (a coloured specimen).
2. Hydatids, showing hooklets.
3. Head of Tænia medio-cannellata.
4. Uric acid crystals.
5. Hair, showing spores of Tinea Tonsurans.

Dr. HENSLEY then examined each Candidate on the objects under the microscopes, and on subjects collateral to them, and Dr. ALLBUTT next examined upon the following preparations contained in glass jars :—

1. Hypertrophy of left ventricle of the heart, and disease of the aortic valves.
2. Preparation of apoplectic clot in optic thalamus.
3. Contracted Kidney.
4. Pyæmic abscess of the liver.
5. Simple abscess of the liver.
6. Thrombosis of the femoral vein.
7. Tubercular disease of the peritoneum.
8. Tubercular disease of the lung.
9. Dysenteric ulceration of the colon.
10. Ulceration of the Ileum in the early stage of enteric fever.
11. Ulceration of the Ileum in the advanced stage of enteric fever.

The following questions, put to one of the Candidates, illustrate the mode in which the Oral Examination was conducted :—

MEDICAL JURISPRUDENCE.

Examiner—Dr. PAGET.

Printed question No. 1.—You did not recognize specimen marked *A* (oxalic acid). Taste it; what opinion do you now form upon the specimen? State its average fatal dose, immediate symptoms, and the time which elapses before death. What are the symptoms if the person survives for some time—the treatment, and post-mortem appearance?

Question 3.—When a bright needle is passed into the living body, what is the effect, when compared with the same proceeding on a dead body?

What is the use of atropia in determining actual death, and the use of any other test (Calabar bean) after the employment of Atropia?

Question 6.—Discussion with the Candidate on the facts stated in the question.

What are the symptoms of poisoning by Atropia or by Belladonna berries, and the treatment? Is there any antagonistic remedy, and is there more than one?

What is the process for committal to a lunatic asylum? and state the grounds for signing the certificate, which might be obtained from your own observation, or be communicated to you by others.

PREPARATIONS UNDER THE MICROSCOPE.

Examiner—Dr. HENSLEY.

What is No. 1? Do you recognize the lung cells? Is there any elastic tissue obvious or to be recognized? What are the cells occupied with? From what stage of the disease was the specimen taken?

What is No. 2? How are the hooklets arranged? Are they always arranged in this manner? Describe the history of a tape-worm, showing all its stages of development. In what state is it sexually complete?

What is No. 3? How is it to be distinguished from tænia solium? Give the treatment of tape-worm. Enumerate the remedies and the mode of administering them.

What is No. 5? In what condition is the hair? What are the bright

refracting particles? From what disease is the specimen taken? Describe the disease.

Pathology.

Examiner—Dr. Allbutt.

Look at the specimens Nos. 9, 10, 11. What changes have taken place in No. 9 in the walls of the intestine, and what portion is diseased? Contrast it with Nos. 10 and 11. What difference is observed between the ulceration in dysentery, typhoid fever, and tubercular disease of the intestine. What serious accident may happen in the progress of typhoid fever? In death by collapse in fever, what may be the condition of the walls of the heart? What pulmonary complication may occur in typhoid fever, and what head complications?

Describe specimen No. 3. What pathological change has taken place? What portion of the organ is chiefly affected in that form? What form of kidney disease is the opposite of the specimen in hand? Contrast the symptoms in case of large pale kidney with the small contracted kidney as regards the quantity of urine, tendency to dropsy, clinical termination and intercurrent affections.

EXAMINATION IN CLINICAL MEDICINE.

On Wednesday, December 16th, 1874, the four Candidates for the Degree of M.B., attended at the Addenbrook Hospital at 10 a.m., and each of them proceeded to write an account of a case as appointed by the Examiners; Dr. Paget, Regius Professor, Dr. Clifford Allbut, and Dr. Hensley.

The Visitors attended at the Hospital at 11 a.m., at which hour the *vivâ voce* Examination commenced. It was conducted in a retiring room by the three Examiners, who, in turn, questioned each Candidate on the diagnosis and treatment of the case reported; the Candidate was also required to write a prescription.

The cases reported were:—1. Paraplegia; 2. Epilepsy; 3. Diabetes; 4. Heart disease with mitral regurgitation.

As each Candidate's Examination was completed he was directed to return to one of the Wards to write a report on another case as appointed by the Examiners.

The cases reported were :—1. Incipient Phthisis; 2. Chronic Paralysis of right arm with muscular atrophy; 3. Heart with disease of Aortic valves; 4. Chronic Pleurisy with effusion. The Examination was conducted in the same manner as in the former cases.

On a table in the Examination Room there were four Specimens of Urine, with all the necessary tests and apparatus, along with a miscroscope. Each Candidate was required to examine methodically one of the Specimens marked *A*, *B*, *C*, *D*, and to write a report of his proceedings.

The Specimens presented for Examination were :—

A. Phosphatic Urine with pus.

B. Diabetic Urine.

C. Urine containing lithates and oxalates.

D. Acid Urine containing phosphates.

This final Examination was concluded at 2 p.m., and the following Table of the Judgment of the Examiners was furnished by Dr. PAGET.

	Medical Jurisprudence.			Pathology and Practice.				Clinical.
	Paper.	Oral.	Total.	Paper I.	Paper II.	Oral.	Total.	
Maximum . .	250	50	300	300	300	200	800	
Minimum . .	—	—	135	—	—	—	400	
Candidate A.	149	47	196	222	214	170	606	Good.
Candidate B.	122	30	152	181	145	160	486	Fair.
Candidate C.	206	45	251	212	195	160	567	Very fair.
Candidate D.	182	30	212	225	227	140	592	Very fair.

The details which are given in our Report, exhibit so fully the nature and mode of conducting the three grades of Examination for the Degree of M.B., it is only necessary for us to express our approbation of the care and diligence with which the Examiners performed their duties, and the fairness with which the merit of the Candidates was estimated.

The Standard of Medical Examination established in the University of Cambridge is well calculated to sustain the reputation of the Degree, and to secure that those who possess it are fitted to promote the welfare of the community.

In conclusion we feel that we should fail in our duty did we not express our obligation to Dr. PAGET, and to the gentlemen who were associated with him, for the attention and courtesy which we experienced during our visitation, and for the readiness with which every assistance was afforded us in framing our report.

AQUILLA SMITH, M.D.

PATRICK HERON WATSON, M.D., F.R.C.S. ED.

December, 1874.

REPORT ON THE FIRST PROFESSIONAL EXAMINATION OF THE UNIVERSITY OF DURHAM.

Held April 19th, 20th, 21st, and 22nd, 1875.

Visitors:—JOHN STORRAR, M.D., Member of the General Medical Council.

Professor JOHN STRUTHERS, M.D., Visitor appointed by the Council.

The Examination visited by us was the first of the two Professional Examinations for the Licence in Medicine and the Licence in Surgery.

Candidates for the M.B. Degree also pass through this as well as the Second Examination. The only difference between the Examination for the Licence and the Degree being that, whereas, for the Licence a Candidate is only required to have passed the Registration Examination for Medical Students of this University, or one of the Examinations in Arts approved by the Medical Council, before beginning his Professional Studies; a Candidate for a Degree is required either to have graduated in Arts in the University, or to have passed the Final Examination for the B.A. Degree, in which he may substitute for Divinity, the Aphorisms of Hippocrates, and Books I.—IV. of "Celsus de re Medica." A Candidate for the M.B. Degree has also to write a thesis and be examined on questions which may arise out of it. It appears that Candidates for the Licence alone are very rare.

The plan of the Examination is to divide it into three stages, as set forth in the following announcement:—

UNIVERSITY OF DURHAM.

EXAMINATIONS IN MEDICINE AND SURGERY,

AT THE COLEGE OF MEDICINE, NEWCASTLE-UPON-TYNE.

EPIPHANY TERM, 1875.

FIRST EXAMINATION FOR THE LICENCE IN MEDICINE, AND THE LICENCE IN SURGERY.

TIME.		SUBJECT.	MODE OF EXAMINATION.	EXAMINERS.	MIN. OF MARKS TO PASS. PER CENT.
Monday, April 19	10 to 1	Anatomy.....	Printed paper. Coll. of Med.	Dr. NESHAM	50
,,	2 to 5	Chemistry ...	Printed paper. Coll. of Med.	Prof. MARRECO	35
Tuesday, April 20	10 to 1	Physiology...	Printed paper. Coll. of Med.	Dr. HUME	50
Wednesday, April 21	10 to 1	Anatomy and Physiology	Practical.— Coll. of Med.	Dr. NESHAM Dr. HUME	50
,,	1 to 4	Chemistry ...	Practical.— Chem. Lab.	Prof. MARRECO	35
Thursday, April 22	10 to 1	Anatomy and Physiology	*Vivâ voce.*— Coll. of Med.	Dr. NESHAM Dr. HUME	50
,,	11 to 11.30	Chemistry...	*Vivâ voce.*— Coll. of Med.	Prof. MARRECO	35

LUKE ARMSTRONG, M.D.,
Registrar.

I.—WRITTEN EXAMINATION.

ANATOMY.

1. Describe the five Pharyngeal Muscles, their attachments and their actions. Enumerate their nervous and vascular supply.

2. Describe the course of the Occipital Artery. Give its relations—its branches and their anastomoses.

3. Describe the Lenticular Ganglion. Enumerate its branches of communication and distribution.

4. Describe the Pelvic Fascia.

5. Enumerate the Membranes of the Spinal Cord, and contrast them with the Membranes of the Brain.

PHYSIOLOGY.

1. Describe the functions of the Liver.

2. Give the physiology of the fifth pair of Nerves.

3. Describe the structure of the Testicle.

4. Name the Intrinsic Laryngeal Muscles—and state the action of each.

5. What is the average quantity of Urine secreted by a healthy adult—and what may be the range of its specific gravity?

6. What is the structure of a Mature Graafian Vesicle?

One of the Candidates was remitted on the Written Examination. His answers were marked, in Physiology 35 (50 per cent. being the pass), in Anatomy 65. It appeared to us that the mark in Physiology might have been even lower, and that in Anatomy the value was not over 50 per cent. The Written Answers of the Candidate who passed were marked in Anatomy 93, in Physiology 98. While the answers were good, it appeared to us that the marks, in at least the Physiology paper, were too high. The two questions in Microscopic Anatomy, included in the Physiology paper, were the least satisfactorily answered.

II.—Practical and Oral Examination.

In *Anatomy* the Candidate was first allowed about two hours to make a dissection, after which he was examined orally for half-an-hour, for ten minutes of that time on the dissection which he had just made, and

for twenty minutes on other parts of anatomy. The abdominal cavity was laid open by a crucial incision and the Candidate was asked to point out various parts of the viscera and peritoneum, and questions were asked on various parts of the body which admit of being recognized externally. The answers of the Candidate at the Oral Examination were very good.

It is the custom, we were informed, to require a dissection to be made as part of the Anatomical Examination, and as the Candidates are generally few, as on the present occasion, no difficulty is experienced in providing the means. As the practice of requiring a dissection to be made is not usual, we may note how it was carried out on this occasion. The Candidate was not before aware of the part which he was to dissect. When there is more than one Candidate, it is the practice to draw lots for the dissection to be made. The region assigned to him was that bounded by the sterno-mastoid muscle, the lower jaw, and the middle line of the neck. Before beginning he was asked some questions as to what parts he expected to meet with, which he answered very well. He was told not to preserve the platysma or the fasciæ, and to go deep enough to expose the carotid artery. We saw the dissection going on. We concurred fully in the opinion of the Examiner, that the dissection could not be called satisfactory. For instance, the descendens noni nerve and its loop were swept away, the superior thyroid artery was cut across near its origin, two large openings were made into the common carotid artery on its inner side, the submaxillary gland and the digastric muscle were cut into, and the muscles exposed were haggled and in part divided, the sterno-thyroid nearly cut across. The muscles were not dissected in the direction of the fibres, and the Candidate did not try to make the muscles, vessels, or nerves tense before endeavouring to clean them. We note these details to illustrate our remark that, if the making of a dissection is to be required as part of the Examination, ample time should be allowed to enable the Candidate to do it justice. Two hours was too short a time to allow for a dissection of the region assigned in this case; and it may be mentioned, in further excuse for the result, that, although the subject was a thin and

young male, fresh and well injected, the muscles were somewhat soft. We were, however, struck with the readiness and correctness with which this Candidate answered questions about the parts which he cut away, both before and after he had done so; and it occurred to us that it would have been well if this Candidate, commendable as his Examination was as a whole, had spent more time in the dissecting-room, if not, also less of his time with his books.

Physiology.—The Examination in Practical Physiology, we were informed, usually occupies about an hour, and is followed next day by an Oral Examination for about fifteen minutes. On this occasion the two parts, as in the Anatomical Examination, were taken consecutively to accommodate us. The Practical and Oral Examination occupied an hour and ten minutes. The greater part of the Practical Examination was in Microscopic Anatomy. The Candidate was asked to recognize, under the microscope, various mounted specimens, and also to find out the nature of several pieces of fresh tissue. The answers in Histology were far from being equal to those in the naked-eye Anatomy. We would observe that, while it may be a matter of convenience with which division of the Examination Microscopic Anatomy is associated, it should not displace Practical Physiology proper. The rest of the Examination in Practical Physiology, consisted in requiring the Candidate to test the urine and to recognize urinary deposits. The Candidate's want of familiarity with urinary deposits we readily excused when we considered that he was but a second-year Student. The Oral Examination in Physiology proper ranged over many parts of the science, and the answers were very fair.

I.—Written Examination.

CHEMISTRY.

1. Define, with illustrations, the terms Acid, Salt, Basyl, Chloryl.

2. Give the principal distinctions between chemical combination and mere mixture.

3. Describe the following substances :—

Carbonic Acid.
Nitric Acid.
Chlorine.
Hydrochloric Acid.
Sulphuretted Hydrogen.

4. Describe the following metals and their principal compounds :—

Mercury.
Antimony.
Iron.
Potassium.

II.—Practical and Oral Examination.

At the Practical Examination three Salts were handed to the Candidate for Qualitative Examination, viz., White Precipitate, Sulphate of Zinc, and Heavy Carbonate of Magnesia; they had been obtained outside the Laboratory, to prevent the Candidate having any previous knowledge of their nature. He was required to give a written Report of their composition and of the processes by which he had arrived at his conclusions. In this exercise he was allowed to use the notes of his Lectures in Chemistry. The result of this part of the Examination was not satisfactory, and the Oral Examination which immediately followed, and in which the Examiner led the Candidate over the same ground, and also tested him on other matters, did not improve his position. The Examiner was evidently disposed to refer him, but on the suggestion of some good points by the Examiner in Physiology, who with other officers of the College, was present, the decision was deferred till after a conference with the Examiner on Anatomy, who was not present. The issue of this conference is shown in the following letter from Professor Marreco.

"College of Physical Science,
"Newcastle-upon-Tyne.
"*April* 23*rd*, 1875.

"My Dear Sir,—

"Herewith I send the Paper on Practical Chemistry. The "Candidate has been recommended to be allowed to present

"himself for his Second Examination at the usual time, "conditionally on his satisfying the Examiners in this subject "before the end of July. The exceptional remanet has been "conceded on the ground of his Papers in Anatomy and "Physiology being considered very good, and his Paper work in "Chemistry fair.

"I am,

"Yours very truly,

(Signed) "A. FREIRE-MARRECO."

As to the system of marking, each Examiner adopts his own. The Examiners in Anatomy and Physiology put a value to their questions and assign such proportion of it to the answers as they judge proper. The Examiner in Chemistry follows what he informed us was the Edinburgh practice, of expressing value by words, and translating them into figures thus :—

Quam optime	=	100.
Optime	=	90.
Quam bene	=	80.
Bene	=	70.
Satis bene	=	60.
Vix satis bene	=	50.
Male	=	40.
Quam male	=	30.
Pessime	=	20.
Quam pessime	=	10.

The Examinations were conducted exclusively by the teachers in the School. As a rule, by custom although not by regulation, the teacher is the sole Examiner in his own department. The other teachers may be present if they choose—and there were invariably several members of the College staff present during our visit,—but they do not take any part in asking the questions, though, as has been seen in the case of Chemistry, the other Examiners may influence the decision arrived at. The names of the Examiners are submitted by the Teaching Body in Newcastle to the Senate of the University of Durham for appointment, and are appointed from year to year for each Examination. Recently it has been proposed to

appoint annually an Assessor-Examiner to act with the teachers, and three names, from among whom it is proposed to select one, have been submitted to the University of Durham with that view.

Although an Examination where the number of Candidates is so small cannot be taken as an example, or be regarded as fixed in its character, we cannot conclude our Report without expressing our satisfaction with what we saw of this Examination, with the endeavour to make it practical, and with the time given to it so as to make it searching.

We have, however, to remark that it would be a great improvement if two Examiners were appointed to conduct each subject of Examination as was recommended by the General Council at its Session last year. Had there been two Examiners in Chemistry on this occasion, one of them not a teacher in the College, the decision arrived at would probably have been less hesitating. We leave the Council to form their own opinion as to the expediency of remanets.

In conclusion we have to record our thanks to the Examiners and College Officers generally for the courtesy with which we were received, for the readiness with which opportunity was afforded us of seeing and forming an opinion upon all the parts of the Examination, and for the frankness with which every information was given to us.

[NOTE.—Dr. STRUTHERS having been appointed to visit the Examinations of the Royal College of Surgeons, England, on the 22nd April, was not present at the Practical and Oral Examination on Chemistry.]

JOHN STORRAR, M.D.
JOHN STRUTHERS, M.D.

REPORT ON THE FINAL PROFESSIONAL EXAMINATION FOR THE DEGREES OF M.B. AND M.D. OF THE UNIVERSITY OF DURHAM.

Held June 16th, 1875.

Visitor:—Professor STRUTHERS, M.D., Visitor appointed by the General Medical Council.

The Final Professional Examination for the Licence in Medicine and Surgery, according to the regulations of the University, includes the subjects of Botany, Materia Medica, Therapeutics, Medical Jurisprudence, Pathological Anatomy, Midwifery and Diseases of Women and Children, Medicine, and Surgery.

Attention may here be called to the very late period at which the Examination in Botany takes place.

On this occasion there were no Candidates for the Licence in Medicine and Surgery, but there were three Candidates for promotion to Degrees, two to the Degree of M.B., and one to the Degree of M.D.

Before the Candidate is admitted to the Degree of Bachelor of Medicine, a year must have elapsed since he passed the final Examination for the Licence, and he is required to give in a Thesis on some subject connected with Medical Science, the subject being selected by himself. Before admission to the Degree of Doctor of Medicine, a year must have elapsed since he obtained the Degree of Bachelor, and another Thesis must be given in.

An Oral Examination of the three Candidates, on the Theses, took place in the theatre of the College of Medicine, Newcastle. The Examiners were the Professors in the College, with the addition of Dr. THOMAS KING CHAMBERS, of London, who has been appointed as "Foreign Examiner" since the First Professional Examination was visited in April. There were also present four of the Professors in Arts of the University of Durham. The Oral Examination was confined to the matter and subject of the Thesis, and a case, related to the subject of the Thesis, was brought in and the Candidate was required to examine it, and give his diagnosis. Each of the Examiners had read the Theses, and made notes on the points regarding which he desired to examine the Candidates. Each Examiner was asked in turn by the Chairman, Dr. HEATH, if he wished to put questions, and most of the Examiners did so. The Examination of each Candidate extended over about three-quarters of an hour. It is not required that the Thesis shall contain the results of the Candidate's own observation, and none of these Theses were of that character; but one of them was considered, by the Examiners, to possess some merit as a compilation. All of the Candidates were promoted, but the Examiners expressed themselves as, upon the whole, disappointed with the answers of the Candidates. The answers appeared to me to be very much such as might be expected from an average Student at the end of the fourth year of his studies, not better, and certainly not such as one would expect from a Candidate who had written a Thesis on the subject to which the Examination was confined.

The difference between the Preliminary Examination in General Education required for the Licence, and that required for the Degree in Medicine, is mentioned at the beginning of the Report, by Dr. STORRAR and myself, on the First Professional Examination. In connection with the subject of Preliminary Examination in General Education, it is worthy of note, that, although one of the three Candidates for promotion to the Degree in Medicine, possesses the Degree of Master of Arts of the University of Durham, the deficiencies in English composition exhibited in his Thesis, were such as to call out severe criticism from several of the

Medical Examiners, and, on perusing the Thesis, it appeared to me that the criticisms were fully justified. Nor was the spelling perfect. It was only by a narrow majority that the Examiners at length agreed to pass the Candidate, the feeling of the majority apparently being that the responsibility of detecting and rejecting for deficiencies in General Education rests with those who conduct the Examination in Arts. The Professors in Arts were present during this discussion.

It occurs to me to remark that it would be well, were it made a rule that the Thesis of a Candidate for promotion to a higher Degree should contain the results of his own observation, either of cases which he had seen in hospital or in private practice, or in some branch of Pathological or Scientific research.

My acknowledgements are due to the Honorary Secretary of the College of Medicine, Dr. BRAMWELL, and to all the Examiners, for the courtesy with which every facility was afforded to enable me to form an opinion of the Theses and of the Examination.

JOHN STRUTHERS, M.D.

REPORT ON THE VISITATION OF THE MEDICAL EXAMINATIONS AT THE UNIVERSITY OF ABERDEEN.

April, 1875.

Visitors:—Professor HUMPHRY, M.D., Member of the General Medical Council.
A. W. BARCLAY, M.D., Visitor appointed by the Council.

There are three Examinations. The *First* is on Chemistry, Elementary Anatomy, Materia Medica, and Botany. The *Second* is on Physiology, Advanced Anatomy, Surgery, and Zoology with Comparative Anatomy. The *Third* is on Practice of Medicine, Medical Jurisprudence, and Midwifery. Students are not admitted to the first of these Examinations before the termination of their second Winter Session, nor to the second before the termination of their third Winter Session. The third Examination takes place at the conclusion of their fourth year of Study.

In all the subjects the Candidates are tested both orally and by written questions; and in Chemistry, Materia Medica, Anatomy, and Forensic Medicine, there is, in addition, a Practical Examination. In Medicine there is a Clinical Examination, and in Surgery both a Clinical and a Practical Examination. The Clinical Surgery forms part of the Third Examination.

The Examinations on the several subjects are conducted by the respective Professors, assisted by three Assessors appointed annually by the University Court from the resident Graduates. They have hitherto held office for three years in succession. The present Assessors (Dr. SMITH-SHAND Dr. BEVERIDGE, and Dr. ALEXANDER OGSTON) are Medical Officers of

the Infirmary. The written questions are, with one or two exceptions, set by the Professors; but the Assessors look over the answers and assist in estimating their value. The Assessors also take an equal part with the Professors in the Oral, Practical, and Clinical Examinations; and we were informed that two Examiners are invariably present throughout these Examinations.

We append copies of the questions set for the Written Examinations this year, from which it will be seen that they are arranged partly for "Pass" and partly for "Honours." Not more than six of the eight or ten questions set are permitted to be answered, and the time allowed for each paper, is nominally three hours; but we found that this period is often exceeded. Four days are allotted to this part of the Examination; the First Professional Examination taking place each morning at 9 a.m., the Second at 1 p.m., and the Third at 5 p.m.

A Candidate who fails to obtain 50 per cent. of marks in each subject, is rejected, but occasionally failure in one subject is allowed to be compensated for by excellence in others. At the Final Examination those who have answered the "Honour Questions" and obtained 80 per cent. of the aggregate marks at each of the three Examinations, pass "with honours," and those who have obtained 90 per cent. pass "with highest honours." Honorary certificates are granted with the Degree to those who obtain honours. An announcement is made to every Student at the conclusion of the several Examinations of the manner in which he has acquitted himself; and the prospect of ultimately obtaining honours through the aggregate of work done at all the Examinations is thought to act as a wholesome stimulus during the whole of the University career.

When we arrived, the Written Examinations on all the subjects were just concluded, and arrangements had been courteously made by the Dean of the Faculty and the various Examiners so as to enable us to be present at the Oral, Practical, and Clinical parts of all three Examinations.

Facilities were also afforded us for examining the written answers of the Candidates and judging of the marks assigned to them.

The Clinical Examinations are held at the Royal Infirmary and are extended over a period of some weeks in order that recently admitted cases may be presented to secure, as far as possible, that they have not previously been seen by the Candidates.

The Students are taken in alphabetical order, and the last four in Medicine and the last four in Surgery had been reserved till our arrival, to give us an opportunity of seeing how the Examination was conducted.

In Clinical Medicine the Professor and one Assessor examined two of the Candidates, while the other two were examined by the other two Assessors. Their attention was directed to special organs in two or three patients, and they were asked to state their opinion of the case. This part of the Examination we thought rather superficial, but it was supplemented by requiring the Candidate to test samples of urine, and to give a written report of an additional case, so that on the whole there was a fair opportunity of testing the knowledge of the Candidates.

In Clinical Surgery each Candidate was examined by the Professor and an Assessor. He was asked to investigate three or four cases, and his knowledge of the condition of the patient and the appropriate treatment was well tested. No written report was made, but we were informed that this is sometimes required.

On the 10th of April we were present at the Practical Examination on Chemistry in the Laboratory. A limited number of Candidates are admitted on each day, and the same solution is supplied to all. On this occasion it contained three salts; and the Candidates were required to name one acid, and one base, and, if possible, the second and third. The solutions are varied from day to day, and the number of persons present together is so small in proportion to the accommodation, that they can render no assistance to each other.

We were informed that on the previous two days an Examination in Practical Pharmacy had been held, when the competence of the Candidates to prepare and dispense various medicinal compounds was tested. We are not aware that this test is applied anywhere else, and as we were not present we cannot speak of its value.

The Oral Examinations in Chemistry, Botany, Elementary Anatomy, and Materia Medica, held on the same day, were each conducted by the Professor and an Assessor, who acted together and employed numerous specimens and models and gave twenty minutes to each Candidate.

On the 12th of April the First Oral Examinations were suspended, and the Second and Third were commenced, with the exception of Medical Jurisprudence, which was delayed by the absence of the Professor. This arrangement had been kindly made by the several Examiners in order to give us an opportunity of being present at each. The same general plan was followed as had been pursued on the previous day.

The following points seemed to us worthy of note. In the Practical Examination on Surgery, as distinct from the Oral, the Candidate was required to apply apparatus to the living body, to indicate the displacements due to dislocations and fractures, and to perform two operations on the dead body. In Anatomy, in addition to the ordinary dry and moist specimens the Students were asked at each Examination to name and describe Microscopical specimens, and the more advanced were also directed to prepare and put up a recent specimen for the Microscope. In Botany, in addition to fresh plants, drawings and models, Microscopical preparations were shown, and questions were asked in Vegetable Physiology and Morphology, the Examination being limited to *nine* natural families previously specified.

We are glad to be able to report well of this Examination. So far as we saw it, the test of Qualification was thorough in all its branches, and the Students for the most part were well prepared. The perusal of a considerable number of the written papers gave us the impression that the higher, or Honour marks, were given rather too freely; but we cannot

say that we found this to be the case with reference to the marks by which a Pass was determined.

Here, as in the other Scottish Universities which we have visited, the question of the Examinations being conducted by the several Teachers, forces itself on our attention. We are quite prepared to admit that some advantages result from it, such as an increase of the influence of the Teacher over the Student, and the assistance in forming a final judgment of the merits of the Candidate, derived from a knowledge of his character and habits. While thus fully granting that the co-operation of the Teachers in the Examinations is desirable, we yet have felt that in this University (and the remark applies to other similar cases) the more decided influence of an independent judgment would be of great value both to Teacher and taught, and would be a great improvement in the method of conducting the Examination. We understand that there is a project for increasing the number of the Assessors so that they may be selected on account of their special qualifications in each of the several subjects; and we think such a change would be very desirable. It seems to us that it would be also of great importance, in making any such change, that some of them, if possible, should be chosen from persons not resident in the place.

In regard to the Examinations themselves, we may observe that sufficient prominence was not given to the subject of Pathology, no morbid specimens having been used in the Oral Examination.* It also appeared to us that the subjects included in the First Examination might be passed at an earlier period of study if the Student were willing to bring up his elementary work sooner, and that the subject of Zoology might with advantage be limited in its range in the same way as is done with regard to the Examination on Botany.

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* In reference to this point, Professor MACROBIN, who, as above stated, was prevented by illness from being present at the Examination, writes to us that he always has a selection of good typical specimens of the various lesions on the table at the Oral Examination, and of questioning the Candidates respecting them; but that he had not an opportunity on this occasion of instructing the non-professorial Examiner to select the specimens from the Museum.

We are much indebted to Professor MACROBIN, the Dean of the Faculty, and the other Examiners for the assistance and information they afforded us, and especially for their so modifying the order of the Examination, at some inconvenience to themselves, as to enable us to be present during some period of the Oral, Clinical, and practical parts of all the three Examinations with the exception of the practical Pharmacy and Forensic Medicine which, as we have already explained, were not held during our stay in Aberdeen.

GEO. M. HUMPHRY, M.D.
A. W. BARCLAY, M.D.

FIRST PROFESSIONAL EXAMINATION.

CHEMISTRY.

1. State, as far as you know them, the circumstances which influence the Boiling Point of a Liquid: At what particular point does Ebullition take place? A Bubble on the surface of Boiling Water exposed to the free air, and having a square inch of area, bears a pressure of 15 lbs.: Why is it not crushed?

2. Enumerate the Gaseous Elements, and state how you would isolate each, for the purpose of studying its properties.

3. (*a*) What is the composition of Fire-damp; (*b*) how is it prepared usually in the Laboratory; (*c*) describe its properties; (*d*) what is the composition of the miners' so-called "After-damp"?

4. What is the composition of Bleaching Powder, and how is it prepared?

5. Give the source or ordinary preparation of any two of the following Sulphates, namely:—

Sodic Sulphate, Ammonic Sulphate, Magnesic Sulphate, Ferrous Sulphate.

6. State the changes produced on Sugar by fermentation, and the nature and composition of the products.

QUESTIONS FOR HONOURS.

7. Give a short history of the Metal Antimony, by describing (*a*) its ordinary occurrence, (*b*) its reduction, (*c*) its physical properties, (*d*) the behaviour of acids upon it, (*e*) its tests, and (*f*) by enumerating some of its more important compounds.

8. Define an Alcohol in the Monatomic Series; and give the formulæ of the Ether, Alcohol, Aldehyd, and Acid, of the Amyl Group—the radicle of which is $C_5 H_{11}$.

Any six of the above questions to be answered, but not more than six; the two last questions marked as "Questions for Honours," to be taken as two of the six by Candidates for Honours.

ELEMENTARY ANATOMY.

1. Describe the arrangement of the compact and cancellated textures in the following bones, as seen in sections—Femur, Os Calcis, Parietal Bone.

2. Give the anatomy and adaptation of the Ligaments of the Hip Joint.

3. Give the attachments of the following Muscles—Triceps Extensor Cubiti, Semi-tendinosus, Rectus Abdominis.

4. Mention, in their order, the parts which enter into the formation of the root of the Lung.

5. Define the various stages into which the Aorta is usually divided from its commencement to its termination.

6. Give the anatomy of the Muscles which move the Eye-ball.

QUESTIONS FOR HONOURS.

7. Give the development of the Atlas and Axis, and of the sixth and seventh Cervical Vertebræ.

8. Compare the Extensor Muscles of the Fingers with the Homologous Muscles of the Toes,—the points in which they agree, and the points in which they differ.

Any six of the above questions to be answered, but not more than six; the two last questions, marked as "Questions for Honours," to be taken as two of the six by Candidates for Honours.

MATERIA MEDICA.

1. (*a*) Give examples of Blood, Nervine, and Stomachic Tonics; and (*b*) state in a general way the purpose or intention with which drugs of each of these kinds are exhibited.

2. State as precisely as possible the natural *habitats* of the plants yielding Rheum, Cambogia, Chirata, Ipecacuanha, Cinchona, Camphora, Opium.

3. Name the Galenical preparations of (*a*) Yellow Cinchona Bark; and (*b*) of Quinine.

4. Give the range of dose of the following preparations:—Zinci Oxidum; Zinci Sulphas (*a*) as an emetic, (*b*) as a tonic; Liquor Sodæ Arseniatis; Liquor Arsenicalis; Tinctura Ferri Perchloridi; Antimonium Tartaratum (*a*) as an emetic, (*b*) as a diaphoretic or expectorant; Tinctura Aconiti; Tinctura Belladonnæ; Tinctura Lobeliæ; Tinctura Digitalis; Oleum Terebinthinæ (*a*) as an astringent, (*b*) as a purgative anthelmintic.

5. (*a*) How is Calomel prepared; (*b*) what are the Pharmacopœia tests of its purity; and (*c*) what the significance of these tests?
Or, alternatively, the like question as to Corrosive Sublimate.

6. (*a*) Give the different terms made use of in speaking of Purgatives, as regards the kind of action exerted by them, &c., and (*b*) give as complete a list as possible of the Purgatives included under each head.

7. (*a*) What are Anthelmintics? (*b*) Enumerate the drugs included under this class; and (*c*) state the kind of worms that are most effectually acted on by each drug named.

8. (*a*) Define the terms Antacid, Emmenagogue, Diuretic, Errhine, Expectorant, Ecbolic, Calmative, Diaphoretic; (*b*) and give one or more examples of each.

Questions for Honours.

9. (*a*) State the natural condition in which the vegetable alkaloids exist in the plants (juices, leaves, seeds, barks or roots) yielding them; and (*b*) the general principles of the chemical processes by which they are procured in the free state, or as combined with a mineral acid, say sulphuric acid, (as in quiniæ sulphas).

10. Give some account of the physiological actions of—nux vomica; or, alternatively, of calabar bean; or of belladonna; or of aconite. But of one of these only, and let the answer be as full, yet as precise, as possible.

Any six of the above questions to be answered, but not more than six; the last two questions, marked as "Questions for Honours," to be taken as two of the six by Candidates for Honours.

BOTANY.

1. Explain the term Vernation, and the modifications called Conduplicate and Revolute.

2. What is Phyllotaxis? Give the meaning of the expressions $\frac{1}{2}$ and $\frac{2}{5}$.

3. State the homologies of the different parts of a perfect Stamen.

4. Give the general characters of the fruit in Umbelliferæ.

5. Give the general characters of the Natural Orders Cruciferæ and Papaveraceæ.

6. Give a summary of the functions of Leaves.

Questions for Honours.

7. State what is known regarding movements of fluids in tissues of Plants, in relation to the function of Nutrition.

8. In a Dicotyledon having flowers of the quinary type, what is the position of the Ovaries in relation to the other parts

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Any six of the above questions to be answered, but not more than six; the last two questions, marked as "Questions for Honours," to be taken as two of the six by Candidates for Honours.

SECOND PROFESSIONAL EXAMINATION.

PHYSIOLOGY.

1. What are the secretions concerned in Digestion? Give the composition and special action of each.

2. How is the Pulse produced? and in what respects does it differ in the large and small Arteries? Mention the principal variations of the healthy pulse, both in character and frequency, and the circumstances which give rise to them.

3. Describe the minute Structure of the Kidney, and explain the peculiarities of the Renal circulation.

4. Describe the structure and chemical composition of the different varieties of Fibrous and Cartilaginous Tissue met with in the human body.

5. Describe the intrinsic Muscles of the Larynx, and the parts they respectively take in the production of Voice and in Respiration.

6. Give examples of the different kinds of Levers occurring in the body—showing what determines the loss or gain of power in each case, and what are the compensating advantages and disadvantages.

QUESTIONS FOR HONOURS.

7. From what sources are the nerves of the Heart derived? and what part does each set take in the play of the organ?

8. Explain the Mechanism by which the Eye is adjusted to vision at different distances—giving the grounds on which the conclusion is based.

Any six of the above questions to be answered, but not more than six; the two last questions marked as "Questions for Honours," to be taken as two of the six by Candidates for Honours.

ADVANCED ANATOMY.

1. Give the relation of the Inguinal and Crural Rings and Canals to Blood-vessels.

2. Mention the Muscles by which the foot is inverted and everted, and give the position of their Tendons at and near the ankle.

3. Mention the localities in which Bursæ Mucosæ and Synovial Sheaths are met with in the dissection of the upper limb.

4. Mention the parts which come into view in the middle line of the Neck, in their order from the chin to the sternum, when the deep fascia is dissected off.

5. Describe the course of the Laryngeal Nerves on the right and left sides

6. Give the anatomical characters, as seen with the microscope, of
   (*a*) Muscle, from a Limb, from the Heart, and from the Stomach.
   (*b*) The Ganglion of a Spinal Nerve.
   (*c*) A Villus of the Small Intestine.

QUESTIONS FOR HONOURS.

7. Give an account of the chief varieties met with in the dissection of the Axilla and of the Brachial Region.

8. Describe the microscopic anatomy of the Spinal Cord.

Any six of the above questions to be answered, but not more than six; the two last questions, marked as "Questions for Honours," to be taken as two of the six by Candidates for Honours.

SURGERY.

1. In cases of Fracture of the Cranium, state the opinion at present entertained regarding the cause of the greater splintering of the internal table when violence is directed from without, and mention the arguments by which that opinion is supported.

2. In Stricture of the Urethra with Retention of Urine, ending in bursting of the Urethra and Extravasation of Urine—if called to such a case immediately after the occurrence of the last two conditions, what would be your treatment?

3. What is the most common kind of structure of an internal Hæmorrhoid? and what are some of the best methods for its removal?

4. Of the different fractures of the Humerus between the Bicipital groove and the insertion of the Deltoid, which is the most difficult to treat, and what are the causes of the difficulty?

5. What circumstances would guide you in selecting the kind of operation you would perform for Aneurism of the Gluteal Artery?

6. Describe the Boston method of reducing Dislocation of both the Radius and Ulna backwards at the elbow-joint.

QUESTIONS FOR HONOURS.

7. Mention the coverings of an Oblique Inguinal Hernia—its relation to the Inguinal Canal, Spermatic Cord, and Internal Epigastric Artery; and describe how you would operate on such a Hernia when strangulated at the internal aperture of the Inguinal Canal, and requiring the opening of the Hernial sac.

8. Give the symptoms, pathology, and treatment of the three principal varieties of Concussion of the Spinal Cord.

Any six of the above questions to be answered, but not more than six; the last two questions, marked as "Questions for Honours," to be taken as two of the six by Candidates for Honours.

ZOOLOGY, WITH COMPARATIVE ANATOMY.

1. Describe briefly the structure of any of the common Lepidoptera in its full grown (imago) form, and mention the metamorphoses it undergoes before attaining this form.

2. Give an account of the Bryozoa (Polyzoa), and point out specially the

characters that separate them from the Polypi, and connect them with the Mollusca.

3. Describe the organs of nutrition in the Class Aves.

4. Describe the structure of the brain in the Fish (Osseous), Bird, Marsupial, and Carnivore, respectively.

5. Give an account of the peculiarities in the skeleton of the common Frog.

6. What Mammalia lead a purely aquatic life, and what peculiarities of structure fit them for it.

7. Point out the peculiarities in the reproduction of the Cephalopoda, and in the mode of their development.

8. Give a short description of the mode of locomotion in the following animals respectively;—Hawk, Haddock, Loligo, Snail, Crab, Leech, Starfish (Asterias), Medusa, Amœba.

Any six of the above questions to be answered, but not more than six.

THIRD PROFESSIONAL EXAMINATION.

PRACTICE OF MEDICINE.

1. Give the Anatomical characters of Emphysema of the Lungs; (*a*) explain how the Lesion is produced; (*b*) give the diagnosis, and in doing so, show how the physical signs are related to the pathological conditions.

2. Give the diagnosis of Dilatation of the Right Ventricle of the Heart; (*a*) explain its causation; (*b*) state to what secondary symptoms and lesions it gives rise; (*c*) the treatment you would adopt in mitigation of the symptoms —primary or secondary.

3. What circumstances chiefly determine the prognosis in Structural Diseases of the Heart.

4. Specify the various conditions which may give rise to Obstruction of the Bowels; (*a*) describe the Anatomical relations and the Pathological conditions immediate and remote in Intussusception of the Bowel; (*b*) give the symptoms which are most diagnostic of it; (*c*) the treatment.

5. Give the diagnosis of Chronic Ulcer of the Stomach; (*a*) the Anatomical characters of the Ulcer, and its Pathology; (*b*) the terminations; (*c*) the treatment, dietetic and medicinal.

6. Describe the Anatomical and Histological characters of Fatty and Waxy Liver respectively; (*a*) what diathetic conditions and causes favour the development of these lesions?

7. On what symptoms—premonitory and concurrent—would you found your diagnosis between a case of Palsy, arising from cerebral softening, and a case arising from cerebral hæmorrhage? What difference would you make in your prognosis in the two cases? What are the different forms of cerebral softening viewed pathologically?

8. What are the conditions of the Urine (*a*) as respects the quantity secreted; (*b*) specific gravity; (*c*) chemical tests; (*d*) the microscopic appearances, in the following diseases of the Kidney, viz:—Acute Desquamative Nephritis; the large White Kidney; the Waxy or Amyloid Kidney; and the Cirrhose Kidney. How would you treat the Acute Desquamative Nephritis? Explain the therapeutic action of the remedies you prescribe.

QUESTIONS FOR HONOURS.

9. State what symptoms in Typhus and in Enteric Fever, respectively, you would consider to be unfavourable and indicative of danger; and in doing so, explain their pathological bearing—so as to show why you regard them as unfavourable.

10. Describe the Hysterical Diathesis. Specify some of the localised forms in which it manifests itself, and give some of the symptoms or characters by which such cases may be diagnosed from inflammatory or other serious lesions.

Any six of the above questions to be answered, but not more than six; the two last questions marked as "Questions for Honours," to be taken as two of the six by Candidates for Honours.

MEDICAL JURISPRUDENCE.

1. In what respect does the position of the skilled differ from that of the ordinary witness when giving evidence in a Court of Law?

2. What are the points which fall to be investigated by the Medical Jurist, when called by the Law authorities to examine the dead body of a person found in a solitary place with wounds on it?

3. Give the indications pointing to the recent delivery of a female at or near the full time, whether alive or dead at the period of the examination.

4. How would you determine the real character of reddish stains on articles of clothing, supposed to be from blood?

5. Give the successive changes which occur in the body after death, enumerating them in their order of succession, assigning to each the average date of its appearance and disappearance.

6. Give the following particulars connected with the swallowing of a fatal dose of Arsenious Acid, viz.:—

(*a*) The medium poisonous dose;

(*b*) The mode of its action;

(*c*) The symptoms it originates; and

(*d*) The steps for its detection chemically in the contents of the stomach after death by Marsh's test.

Candidates for Honours are expected to answer all the questions.

MIDWIFERY.

1. What are the principal diameters of the normal Female Adult Pelvis? What dimensions would justify and admit of (*a*) Forceps; (*b*) Version; (*c*) Craniotomy and Cephalotripsy; (*d*) Cæsarian Section?

2. Describe the passage of the child through the parturient canal when the Vertex presents in the first position (occiput to left groin).

3. Describe the last stage of Labour, and your management of it.

4. What are the Indications and Contra-indications for the use of Ergot in Labour?

5. In a patient prone to severe Hæmorrhage after the birth of the child what Prophylactic measures would you adopt?

6. Give the diagnosis and treatment of Prolapse of the Funis.

7. Give an account of the symptoms, diagnosis, and treatment of Placenta Prævia.

8. Give an account of the pathology, symptoms, and treatment of Phlegmasia Dolens.

QUESTIONS FOR HONOURS.

9. Describe the Mechanism of a Mento-posterior Face Presentation in the Right Oblique Diameter of the Inlet.

10. What signs would lead you to suspect the presence of Albuminuria in Pregnancy, and what treatment would you adopt in such a case?

Any six of the above questions to be answered, but not more than six; the last two questions, marked as "Questions for Honours," to be taken as two of the six by Candidates for Honours.

VISITATIONS OF THE FIRST AND SECOND PROFESSIONAL EXAMINATIONS OF THE UNIVERSITY OF EDINBURGH.

April, 1875.

Visitors:—Professor HUMPHRY, M.D., Member of the General Medical Council.

A. W. BARCLAY, M.D., Visitor appointed by the Council.

The first of these Examinations commenced on the 1st April, when papers were set on the subjects of Chemistry and Zoology, followed by a paper on Botany on the 2nd April, and a Practical Examination on Chemistry on the 3rd April. We append copies of the questions set on the first and second days.

In the Practical Chemical Examination, as we were informed, every Student is supplied with two solutions, each containing a simple salt; care being taken, that, as only twenty are present at the same time, the Students shall be supplied with different solutions. Simple reagents are placed within reach of each, and a paper is provided on which the Candidate is required to write down, in symbols, the reagents he employs, the actions produced by them, and the names of the acid and the base of which the salt is composed. Copies of these papers were submitted to us and seemed to indicate a fair amount of knowledge of this branch of Science.

The written answers on the several subjects are looked over by the Examiners before the Oral Examination commences; and we were informed that any Candidate who failed to obtain 25 per cent. of the full marks on any subject was not admitted to *vivâ voce*, with the exception that, if he

had obtained 75 per cent. in one of his subjects, the fact of his barely reaching 25 per cent. in another did not exclude him from the chance of redeeming himself at the Oral Examination.*

The Oral part extended over several days, as 58 Students had to be examined. We were present on the 7th and 8th April. It was conducted by the Professors of Chemistry, Natural History, and Botany with each of whom was associated a Colleague appointed by the University Court, who holds office for five years, and is selected on account of his special knowledge of the subject of Examination. He may or may not be a Member of the Edinburgh University. The Examination was held in the University Court Room, where three tables are placed for the Examiners: three Students are admitted together, and examined at the several tables in rotation, twenty minutes being allowed at each table. At one of these we found the Candidate was examined for ten minutes by the Professor and ten minutes by his Colleague, while at the other two tables, the Candidates were examined alternately by one of the two Examiners. The former mode appeared to us the more satisfactory.

After the expiry of three hours the Examiners conferred together on the merits of the Candidates, taking into consideration both Oral and Written

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* The plan followed with reference to Examination marks (Written and Oral) is as follows:—

N = *Non satis bene*—Below 25 per cent.
Decided rejection.

V = *Vix satis bene*—About 35 or 40 per cent.
May be a bare pass if the Candidate's marks in other subjects are satisfactory. In the case of a Written Exercise this mark may not prevent the Candidate from having an Oral Examination.
If this mark is given on two subjects it rejects.

S = *Satis bene* = 50 per cent.
Pass mark.
There are two modifications of this mark—
S— = 45 per cent. may be allowed as a bare pass if confined to one, or, at most, two subjects.
S+ = 60 per cent. above an ordinary pass.

B = *Bene*—75 per cent.
Honours pass.

Examinations; and the names of the successful Candidates were immediately published. The practice is that a Student who has failed in more subjects than one, is remitted to his studies for 6 or 12 months; but one who has passed with credit in two of his subjects, is allowed to come up again for Examination on the subject in which he has failed.

The Oral Examinations on Botany and Natural History were conducted by the aid of microscopical preparations, together with dry and fresh specimens and models. These were so numerous, and so frequently changed, as to preclude the possibility of those Students who had been already examined communicating to others the subjects of the Examination. In Botany the Physiological part was reserved for *vivâ voce*, not having been much touched upon in the paper. In Natural History the Examination was entirely confined to Zoology and Comparative Anatomy. The Examination on Chemistry was conducted without the aid of specimens; but, as we have already said, there is a Practical Examination on this subject.

The following is a tabular statement of the result of the First Professional Examination on this occasion :—

Number of Candidates who appeared for the 1st time . .	34
„ „ „ 2nd „ . .	26
„ „ „ 3rd „ . .	5
Total Number of Candidates	65

Of these 59 appeared for all the subjects of Examination.

2 „ „ Chemistry and Practical Chemistry alone.

4 „ „ Practical Chemistry alone.

These 6 Candidates having done well in the other subjects at a former Examination.

Of the 59 who appeared for all the subjects, there were—

Remitted for all subjects without an Oral Examination .		7
„ „ „ after Oral Examination . .		7
„ „ Practical Chemistry alone		5
		19
Passed	40	
The two who appeared for Chemistry and Practical Chemistry, passed	2	
Of the four who appeared for Practical Chemistry, only two passed	2	
And two again failed		2
	44	21

The subjects of the Second Professional Examination are Anatomy, Institutes of Medicine [Physiology], Materia Medica, and Pathology with Morbid Anatomy. Questions on these four subjects were answered in writing on the 9th and 10th April, two hours being allotted to each paper. The answers had been looked over, and at a meeting of the Examiners, held on the 13th April, a certain number of the Candidates were rejected as not worthy to be admitted to the Oral Examination, which commenced the following day. We were present at this on the 19th and 20th, and it was expected to terminate on the 21st April.

We found the general plan of the Examination to be the same as that of the First Professional Examination; each Professor examining on his own subject, assisted by a Colleague, who took an equal part with the Professor in giving the Oral and Written questions, and in estimating the number of marks assigned to the answers.

The Oral and Practical Examination on Anatomy was conducted in the Anatomical Lecture Room; every Candidate was examined, both by the Professor and by his Colleague, separately, the Examination of two Candidates being conducted at the same time, except in cases where the knowledge

of the Candidate was thought to be below the standard, when both the Professor and his Colleague examined him together. A few Students, whose written answers were imperfect, were required to dissect some portion of a recent subject. The Examination was conducted by the aid of a recently dissected subject, of preparations preserved in spirits, of bones and pieces of bones, and two microscopical specimens. The Examination was altogether well calculated fairly to test the Candidate's practical knowledge of Anatomy.

The other three Examinations were held at the three tables in the Court Room, as on the former occasion. In Physiology, six microscopical specimens were shown to the several Candidates, who were all examined by both Professor and Colleague, sitting together, and each occupying ten minutes of the allotted time. In Pathology, the place of Professor SANDERS, who was absent from illness, was taken by Dr. CUNINGHAM, the Assistant of the Professor, who examined the Students, alternately with his Colleague, upon a large collection of recent morbid specimens. In Materia Medica, the Students were examined by the Professor and his Colleague alternately, on specimens of various substances used in Medicine, both with reference to their pharmaceutical preparation, and their therapeutical action.—In all cases the Professor and the Assessor were both present during the whole of the Examination and, together, determined the marks assigned.

The following is a tabular statement of the results of this Second Examination:—

Number of Candidates who appeared for the 1st time . .	58
,, ,, ,, 2nd ,, . .	11
,, ,, ,, 3rd ,, . .	2
Total Number of Candidates	71

Of these, 66 appeared for all subjects.

,,	3	,, Materia Medica.
,,	1	,, Materia Medica and Pathology.
,,	1	,, Physiology.

The last five Candidates having done well in the other subjects at a former Examination.

Of the 66 who appeared for all the subjects, the following were remitted:—

On all subjects, without Oral	11
„ „ after „	4
On Materia Medica and Pathology, without Oral	1
On Physiology and Pathology, after Oral	1
On Materia Medica, after Oral	2
On Materia Medica and Pathology, after Oral	2
On Pathology, after Oral	1
On Practical Anatomy (Dissection)	1
Total Remitted	23
Passed on all subjects	45
Candidates previously Remitted for Physiology and Materia Medica were Examined and Passed—	
On Physiology	1
On Materia Medica	3
Total Passed	49

Every facility was afforded us, at both Examinations, for seeing within the University Buildings, the written papers of the Candidates, with the marks assigned by the Examiners. We were satisfied that sufficient care and judgment had been exercised in eliminating the incompetent prior to the Oral Examination; and we thought that the proportion of marks assigned to each paper indicated a high standard of Examination.

With reference to the First of the two Examinations, we may observe that Students are recommended to commence their Medical studies in May. They may then (after two summers and one winter) appear for this Exami-

nation before the commencement of the second winter session. Though the relative value of the Written and the Oral parts of the Examination is the same in each subject, additional importance is given to Chemistry over Botany and Zoology by the practical Examination, which is estimated separately in deciding the merits of the Candidates.

Students are not admitted to the Second Professional Examination till after the completion of their third year of study; and, as there is no elementary Examination on Anatomy, their knowledge of the whole subject must be kept up till a late period of their career.

The questions which are answered in writing are now set in each subject partly by the Professor and partly by his Colleague, and are all submitted to the Medical Faculty before being printed. The answers are looked over and estimated by one or other of the Examiners, except in cases which might involve the rejection of the Candidate, when they are looked over by both.

It is only in this year that the University has adopted the plan of appointing special Examiners in the several subjects. There were previously only three non-professorial Examiners or Assessors who exercised more or less supervision over all the subjects of Examination, according to the practice still followed in the Universities of Glasgow and Aberdeen. We cannot but think that the present arrangements will be found a great improvement upon that system, and the Examination as now conducted is well calculated to maintain the prestige of the University of Edinburgh. Care must be taken that the Examiners are not selected from among the Teachers in the University School, and that they are allowed to have their proportionate influence in giving the questions both in the Oral and Written Examinations, as well as in estimating the proficiency of the Candidates.

The following is a list of the non-professorial Examiners recently appointed to take part in the several professional Examinations:—

Botany.—Dr. CLEGHORN, late Government Botanist, Madras.

Chemistry.—JAMES DEWAR, Esq., late Assistant to the Professor of Chemistry.

Natural History.—Dr. MAC INTOSH, Superintendent Perthshire Asylum.

Materia Medica.—Dr. FRASER, formerly Extra Academical Lecturer on Materia Medica, Edinburgh.

Physiology.—Dr. GAMGEE, Lecturer on Physiology, Owen's College, Manchester.

Pathology.—Dr. PAYNE, Demonstrator of Morbid Anatomy, St. Thomas's Hospital, London.

Anatomy.—JOHN CHIENE, ESQ., formerly Demonstrator of Anatomy, University of Edinburgh.

Surgery.—Dr. DUNSMURE, formerly Surgeon to, and Lecturer on Clinical Surgery, Royal Infirmary, Edinburgh.

Physic.—Dr. DYCE DUCKWORTH, St. Bartholomew's Hospital, London.

Midwifery.—Dr. MACDONALD, Lecturer on Midwifery, Extra Academical School, Edinburgh.

Medical Jurisprudence.—Dr. FERRIER, Professor of Forensic Medicine, King's College, London.

Clinical Medicine.—Dr. HALDANE, Physician to, and Lecturer on Clinical Medicine, Royal Infirmary, Edinburgh.

Clinical Surgery.—Dr. DUNSMURE, Edinburgh.

GEO. M. HUMPHRY, M.D.
A. W. BARCLAY, M.D.

CHEMISTRY.

Thursday, 1st April, 1875. 11 *to* 1 *o'clock.*

Professor CRUM BROWN and JAMES DEWAR, Esq.

1. How is Ammonia Gas prepared? Give two tests by which it may be recognized.

2. How can free Nitrogen be obtained from Ammonia Gas?

3. Give a classification of the Metals, giving the chief characteristics of each group.

4. What volume, in fluid ounces, of liquid Bromine can be obtained from one pound of Bromide of Potassium? (Sp. gr. of Bromine = 3, K = 39 Br = 80).

5. How is pure Alchohol obtained from sugar?

6. What is the action on Oxalic Acid of—
   a. Heat?
   b. Hot Sulphuric Acid?

N.B.—*Chemical Actions to be described in words, and illustrated by means of Equations.*

ZOOLOGY.

Thursday, 1st April, 1875. 2 *to* 4 *o'clock.*

Professor TURNER and Dr. M'INTOSH.

1. Give an outline of the structure of the Medicinal Leech, and mention its position in the animal kingdom.

2. Describe the mouth and alimentary canal of a Lobster.

3. What is meant by the terms "homocercal" (or "diphycercal"), and "heterocercal" applied to the caudal fins of fishes? Give an example of each.

4. Give the chief characters of the Mammalia.

BOTANY.

Friday, 2nd April, 1875. 11 *to* 1 *o'clock.*

Professor BALFOUR and Dr. CLEGHORN.

Value of Complete Answer.

1. Describe the different kinds of fruit in Cruciferæ, and give an example of each 12

2. Describe the different kinds of Vegetable Parasites, and give an example of each 12

3. Indicate—(*a*) the essential characters, (*b*) the general properties, (*c*) the officinal and economic plants of the orders Malvaceæ, Euphorbiaceæ, and Umbelliferæ 12

Value of Complete Answer.

4. Name the plants which furnish Kino, Chestnuts, Tamarinds, Quinine, Sago, and Squills, and the natural orders to which they belong 12

5. Give the botanical names, natural orders, and native countries of Maize, Tobacco, Tapioca, Cayenne, Pepper, Date, and Parsley . . 12

6. Describe Dichogamous, and Dimorphic plants, and give an example of each 10

7. Describe the reproductive organs of Equisetum 12

8. Describe a spikelet of Barley 12

9. Name the natural orders to which the plants A, B, and C belong, and give reasons for your opinions 6

100

Question 9 *must be answered by every Candidate.*
50 *marks required for a pass.*

ANATOMY.

Friday, 9*th April*, 1875. 12 *to* 2 *o'clock.*

Professor TURNER and JOHN CHIENE, Esq.

1. Describe, step by step, the dissection necessary to expose the whole length of the anterior surface of the neck of the Femur.

2. Describe the microscopic characters of the varieties of Cartilage, and state the chief situations of the body where these are met with.

3. Describe—(*a*) The position, (*b*) the attachments, (*c*) the relations, (*d*) the external configuration of the Liver.

4. Describe, step by step, the dissection necessary to expose the whole length of the External Carotid Artery. Name its branches in their order of origin.

INSTITUTES OF MEDICINE.

Friday, 9th April, 1875. 2.30 *to* 4.30 *p.m.*

Professor RUTHERFORD and Dr. GAMGEE.

1. What are the results of experiments upon the cervical Sympathetic Nerve, and how are these results explained?

2. Describe the minute structure of the lung, the changes which the air and the blood undergo during respiration, and the effects which result from breathing an atmosphere vitiated by respiration.

3. Describe the structure of the crystalline lens. Explain the manner in which the eye is "accommodated" for the vision of near and of distant objects. What are the effects of Calabar Bean and Belladonna upon "accommodation," and how are these effects explained?

4. Give an account of the circulation of the blood in the fœtus after the vascular system has been fully formed.

Aid your descriptions by drawings when necessary.

MATERIA MEDICA.

Saturday, 10th April, 1875, 12 *to* 2 *o'clock.*

Sir ROBERT CHRISTISON and Dr. T. R. FRASER.

Value

1. By what sensible properties may Turkey Opium, East Indian Opium, and Egyptian Opium be distinguished? 10

2. A light-grey powder,—not gritty,—soluble, not in water,—but partly in diluted hydrochloric acid,—which leaves a finely divided metal,—and forms a solution not precipitated by chloride of tin. Name the substance (6), and explain the last test (4) 10

3. What are the distinguishing characters and tests of Iodide and Bromide of Potassium? 8

4. By what characters, physical or chemical, may Chloral-Hydrate be known? 8

Value.

5. State the physiological actions of Sulphate of Quinia in two-grain doses (4), and in doses of sixty grains (6) 10

6. Give an account of the physiological actions of Phosphorus . 12

7. In what diseases is Phosphorus given (3), in what doses (3), and how administered (4)? 10

8. What actions and uses have been assigned to Narcotine? . . 10

9. What are the officinal salts and preparations of Lithium (6), and what advantages over those of Potassium and Sodium have been assigned to them in urinary diseases (6)? 12

10. Prescribe Pareira-root (4), Nitric Acid (3), and Herbane (3), together for Chronic Cystitis 10

PATHOLOGY AND MORBID ANATOMY.

Saturday, 10*th April*, 1875; 2.30 *to* 4.30 *p.m.*

Professor SANDERS and Dr. PAYNE.

Any three, but not more than three, of the following questions to be answered.

1. How do Cysts originate? Give a brief account of the different kinds of Cysts, illustrated by examples.

2. Specify the distinctive characters of Typhoid and of Tubercular Ulcers of the small intestine.

3. Describe the morbid anatomical appearances presented by the Brain in cases of Sanguineous Apoplexy. How is the lesion produced? What changes may the clot undergo?

4. Compare and contrast Fatty and Waxy (Amyloid) Liver, as examined with the naked eye and under the microscope.

REPORT ON THE FINAL EXAMINATION FOR M.B., IN THE UNIVERSITY OF EDINBURGH.

Held in June, 1875.

Visitors:—Professor HUMPHRY, M.D., Member of the General Medical Council.

ARTHUR WYNNE FOOT, M.D., Senior Physician to the Meath Hospital, Dublin, Visitor appointed by the Council.

On our arrival in Edinburgh, on the morning of June 7th, the written part of the Examination had been concluded, and the answers had been looked over by the Examiners. The questions are appended. They were set partly by the Professors and partly by the Co-examiners,* *e.g.*, in Practice of Medicine, Questions 1 and 3 were set by Dr. DYCE DUCKWORTH, and 2 and 4 by Professor LAYCOCK; in Surgery they were all set by Dr. DUNSMURE, and submitted to the approval of Professor SPENCE; in Midwifery they were in like manner set by Dr. MACDONALD, and submitted to Professor SIMPSON; in Medical Jurisprudence they were set by Dr. FERRIER, and in Public Health by Dr. MACLAGAN. The questions had all been submitted to the Medical Faculty. They are appended to this Report.

The answers had been placed ready for our inspection in a room in the College. We perused several in each subject, selecting some examples of those which were marked highest, some of average standard, and some of those marked as rejected.

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* See Report of Visitation of First and Second Examinations of this University, p. 121.

The questions in each subject were few in number; the time allowed for answering them amply sufficient. Each question was required to be answered; and, as a general rule, the answers were full, going considerably into detail, and were of a character to indicate good and careful teaching. The marks awarded appeared to us to correspond closely with the merits of the answers, and certainly not to err on the side of leniency. There were eighty-eight Candidates; of these eight were rejected in this part of the Examination, and were accordingly not allowed to present themselves for the Oral and Clinical parts, the same plan being followed as in the First and Second Examinations.

There was a separate paper for Prescriptions, the Candidates being required to write them in Latin, without contractions or abbreviations. In this department the Candidates showed more deficiency than in any other, especially in the knowledge of Latin.

One half of the papers in each subject had been looked over and adjudicated by the Professor, and the other half by the Co-examiner. They met subsequently and conferred together respecting the doubtful cases, as well as respecting those who were rejected, and those who obtained the highest marks. The conference respecting the highest marks had reference to the Honour Classes.

A Practical Surgical Examination was held at 3 p.m. by Professor SPENCE and Dr. DUNSMURE, in which the Professor took the chief part. Eight Students were examined in an hour, four at a time. They were required to make mechanical appliances of various kinds upon the living figure and the model, to select instruments for operations, and to mark in colour the lines of incision for tying arteries, amputations, and excisions of joints. The Candidates acquitted themselves satisfactorily.

The Oral Examinations in Practice of Medicine (by Professor LAYCOCK and Dr. DYCE DUCKWORTH), in Surgery (by Professor SPENCE and Dr. DUNSMURE), in Midwifery (by Professor SIMPSON and Dr. MACDONALD), in Medical Jurisprudence and Public Health (by Professor MACLAGAN and Dr. FERRIER) then ensued from four to six o'clock. Eight Candi-

dates were examined, four being admitted simultaneously; and they were passed in succession from table to table at intervals of a quarter of an hour, a bell being rung at the end of each quarter of an hour.

In Practice of Medicine, drawings illustrative of the more common forms of disease were shown for diagnosis, and practical questions were asked, the Examination being chiefly conducted by Professor LAYCOCK. No specimens were shown, Morbid Anatomy being one of the subjects of the Second Examination for M.B., as stated in the Report on that Examination.

In Midwifery, the pelvis and fœtal model, also instruments, were employed in the Examination, which was conducted entirely by Professor SIMPSON.

In Surgery, pathological specimens of an ordinary characteristic kind were shown, also parts of the skeleton and instruments, the Professor taking the chief part in the Examinations.

In Medical Jurisprudence and Public Health tests for the more common poisons were used. The Analysis of Water was gone into, as well as Ventilation. The two Examiners took the Candidates alternately.

A paper was passed on with each Candidate, upon which was written the decision of the Examiners respecting his answers in the several subjects in the written part of the Examination. Upon this paper the subjects of the Oral Examination were written by the one of the two Examiners who was not occupied in asking the questions. At the conclusion of the fifteen minutes the two Examiners conferred briefly respecting the merits of the Candidate in the Oral Examination, and wrote the decision, N.S.B. (*Non satis bene*), V.S.B. (*Vix satis bene*), S.B. (*Satis bene*), B. (*Bene*), or B.B. The same plan, we may observe, is followed in the First and Second Examinations.

At the conclusion of the Examination the result is determined by the comparison of all these marks, together with those given for the Clinical Examinations. The same method is followed in the First and Second

Examinations, and the papers are preserved and serve for reference in determining the places in the Honour Classes, or settling any question that may subsequently arise.

The Examination in Clinical Medicine of eight Candidates was held at the Infirmary on June 8th, from one to three, an arrangement for this having been specially made to enable us to be present. It was conducted by the Clinical Professors, Dr. LAYCOCK, Dr. MACLAGAN, and Dr. SIMPSON—the other Clinical Professor, Dr. SANDERS, was absent from ill-health. Dr. HALDANE, one of the Physicians to the Infirmary had been appointed Co-examiner, but was absent in Dublin, and Dr. DUCKWORTH took his place. Each Candidate was required to examine a patient and to write out the case in full, to give diagnosis and prognosis and to suggest treatment. He was also examined as to his method of investigating the case, two or more of the Examiners being present in each instance. He was further required to identify four specimens under the microscope; three of urinary deposits, and one of sarcinous vomit. This the Candidates did, almost invariably, correctly. Three quarters of an hour was allowed for investigation of the case, one hour for writing it out in full, and one quarter of an hour was occupied in the Examination of the Candidate at the bed-side and in the microscopical work.

The written reports of cases were drawn up in conformity with a detailed "method of case taking" used at the hospital and printed on a card, which the Candidates were allowed to have beside them. We looked over these reports. They were carefully done, indicated a familiarity with Clinical work, and the diagnosis and treatment, in most instances, corresponded fairly with the symptoms described.

This Clinical Examination, as far as it went, was well conducted, and calculated to give a good estimate of the practical knowledge of the Candidates. We think, however, that it would be an important improvement if each Candidate were required to investigate, in the presence of the Examiners, some one or more cases in addition to that of which he writes the

report. The investigation of one case can scarcely be considered to afford sufficient test of Clinical knowledge.

We had no opportunity of being present at the Examination in Clinical Surgery, this being postponed to the 22nd in consequence of the absence of Professor LISTER, who is, by leave of the Senate, on the Continent for the purpose of investigating the Practice of Surgery in Germany.

At the conclusion of the Third Examination for M.B., the Candidates who have done best in all three Examinations are arranged in two Honour Classes on the following plan :—

Twenty-five "*Bene*" marks are obtainable in the three Examinations, viz.: in Botany, 2 ; Natural History, 2 ; Chemistry and Practical Chemistry, 3 ; Anatomy, 2 ; Physiology, 2 ; Materia Medica, 2 ; Pathology, 2 ; Practice of Medicine and Clinical Medicine, 3 ; Surgery and Clinical Surgery, 3 ; Midwifery, 2 ; Medical Jurisprudence, 2. Those Candidates who have obtained 20 "*Bene*" marks, or more, are placed in the first Honour Class. Those who have obtained from 16 to 19 "*Bene*" marks are placed in the second class. A "*Vix satis bene*" mark, or a mark below "*Satis bene*," in any one subject, excludes the Candidate from either of the Honour Classes ;* so that the recipient of Honours must have done well in every subject in each Examination. Last year two Candidates were in the first Honour Class and six in the second. The year before last only one Candidate was in the first class and four in the second.

The Candidate who obtains the greatest number of "*Bene*" marks each year obtains the Eccles Scholarship, which is of the value of £40.

This plan of admitting to Honour Classes is found to exert a good influence upon the Students throughout their career to M.B.

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* Some relaxation of this rather severe rule, we were told, is occasionally made; the circumstances of a "*Vix satis bene*" mark being reconsidered in the case of a Candidate who has obtained more than 20 "*Bene*" marks.

We were, altogether, favourably impressed by what we saw of this Final Examination. It was carefully conducted, and well calculated to elicit the practical knowledge of the Candidates. It is to be observed that this is the first occasion of the introduction of the plan of conducting the Examination by Examiners appointed to assist the several Professors; and, it may be anticipated, that this arrangement will be found to be attended with satisfactory results. We are much indebted to Professor BALFOUR for information and assistance, and also to the several Examiners for the courtesy shown to us, and the other arrangements made to facilitate our observation of the various parts of the Examination.

GEO. M. HUMPHRY, M.D.
ARTHUR WYNNE FOOT, M.D.

FINAL PROFESSIONAL EXAMINATION.

PRACTICE OF MEDICINE.

Only three *questions to be answered.*

1. Describe the onset and course of an attack of Rubeola. What difficulties attend the diagnosis with and without the eruption? Mention the commonest accompaniments and sequelæ of the disease, and give the treatment of the disease.

2. State as to Chronic Osteoid Arthritis—

a. The joints most commonly attacked.
b. Why one joint is affected rather than another.
c. The differential diagnosis from chronic gout.
d. The treatment both local and general.

3. Contrast the following :—Infantile, Diptheritic, Saturnine Paralysis, Progressive Muscular Atrophy or Wasting Palsy.

4. What morbid temperature is denoted by the term Hyperpyrexia? What is its prognostic significance in Pneumonia, Rheumatic Fever, Scarlatina, and Typhus, and how would you treat a case of the latter as to the temperature?

PRESCRIPTIONS.

Each Prescription, with directions for its administration, must be written in Latin, without the use of contractions or abbreviations.

1. Prescribe Chalk Mixture, combined with an astringent and opiate for a case of Diarrhœa.

2. Prescribe Green Iodide of Mercury for a case of Syphilis.

3. Prescribe Sugar of Lead to be used externally in a case of Orchitis.

SURGERY.

1. Describe—

a. The characteristic appearances of Weak and Callous Ulcers respectively.

b. The pathological conditions, local and general, which give rise to these characters or tend to prevent the healing process.

c. The treatment to be adopted in each of these forms of Ulcer, with your reasons for adopting it.

2. Describe the line and extent of the incisions necessary to expose and tie the common Carotid Artery.

a. Immediately above the omo-hyoid muscle.

b. When the vessel is to be tied very low in the neck.

c. Describe these two operations, step by step, mentioning, in relative order, the parts to be divided or drawn aside, and note the structures to be specially avoided.

d. Name the principal anastomoses which restore the circulation beyond the deligated point of the vessel. Give briefly the general and local after-treatment.

3. A patient is brought to you who has injured his leg near the ankle in jumping from a height. On examination you find the leg swollen at the injured part. There is a depression about two inches above the external malleolus, whilst the internal malleolus projects abnormally. The foot is twisted, everted, and its outer edge is turned upwards and outwards What is the nature of the injury, and how would you treat it?

MIDWIFERY.

1. State the Signs and Symptoms of Pregnancy observable during the sixth month of Utero-Gestation, and estimate the relative importance of each of them.

2. Mention the risks to mother and child in a case of Breech Presentation, and give rules for the management of such a case.

3. Give the causes, Diagnosis, and Treatment of Pelvic Peritonitis.

PUBLIC HEALTH.

I. *Vitiation of Air.*

1. Describe the changes which take place in the air of an apartment where many human beings are congregated.

2. State a method of determining the amount of the chief impurity in such air.

3. State how the existence of other impurities may be proved.

II.—*Water Supply.*

1. State what is the proper amount of water to be supplied to a town, how this is expressed, and upon what considerations the estimate is founded.

2. State how you would detect the presence of Nitrites in a water.

3. What inference do you draw as to the water from the detection of Nitrites in it?

MEDICAL JURISPRUDENCE.

I.—*Cadaveric Rigidity.*

1. What is its nature?

2. What is the order of its occurrence and disappearance?

3. What is the time of its appearance, and by what circumstance is this modified?

4. What is its usual duration?

II.—*Chronic Poisoning by Lead.*

1. What are its sources?

2. What are the symptoms and signs as regards—

a. The alimentary canal?

b. The muscular system.

c. The nervous system.

3. Its prophylaxis.

4. Treatment.

REPORT ON THE VISITATION OF THE MEDICAL EXAMINATIONS AT THE UNIVERSITY OF ST. ANDREWS.

Held April, 1875.

Visitors:—Professor HUMPHRY, M.D., Member of the General Medical Council.

A. W. BARCLAY, M.D., Visitor appointed by the Council.

Degrees in Medicine are conferred at the University of St. Andrews, *first*, on those Candidates who have passed through a Curriculum of Education and Examination prescribed by the University, and who are admitted to the Degrees of M.B. and M.C., and subsequently to that of M.D. *Secondly*, The University has the privilege of annually granting the Degree of Doctor of Medicine to ten registered Medical Practitioners, above the age of forty years, whose professional position and experience are such as, in the estimation of the University, to entitle them to that Degree; and who, on Examination, satisfy the Medical Examiners appointed by the University of their professional knowledge.

The Teachers in the Medical Faculty in the University are the Professor of Medicine (Dr. BELL), the Professor of Chemistry (Dr. HEDDLE), and the Professor of Civil and Natural History (Dr. ALLEYNE NICHOLSON). There is no Infirmary, or Dissecting-Room, or Chemical Laboratory for Students; and there are not any Medical Students. One Annus Medicus may be kept here.

The Examiners for Medical Degrees are the three Professors in the Faculty, together with certain extra Professorial Examiners, appointed

annually by the University Court from a list of persons who make application for the office, and who have devoted special attention to the subjects on which they are severally appointed to examine. The same Examiners are often reappointed several times; and some of those acting at present have held office four years. The non-professorial Examiners at this time are Dr. G. W. BALFOUR in the practice of Medicine, Dr. T. H. WATSON in Surgery, Dr. H. D. LITTLEJOHN in Materia Medica and Medical Jurisprudence, and Dr. THOMAS KEITH and Dr. KEILLER in Midwifery; all are resident in Edinburgh. Dr. P. D. HANDYSIDE, of Edinburgh, was deputed to act on this occasion as Examiner in the place of Professor BELL who was confined to his house by illness.

The Written questions on each subject are set by the two Examiners in the subject; and, previously to the Examination, they are submitted to the Medical Faculty, by whom they are sometimes increased, reduced, or altered.

Every Candidate for the Degree of M.B. and M.C., having passed the Preliminary Examination at this University, or being a B.A. of another University, and having produced Certificates of the fulfilment of the required Curriculum of Education, is examined both in Writing and *vivâ voce* — *First*, in Chemistry, Botany, Elementary Anatomy, and Materia Medica; *secondly*, in Advanced Anatomy, Zoology with Comparative Anatomy, Physiology, and Surgery; and, *thirdly*, in the Practice of Medicine, Clinical Medicine, Clinical Surgery, Midwifery, General Pathology and Medical Jurisprudence. The Candidate may be admitted to the First of these Examinations at the end of the second year of Medical Study; to the Second, at the end of the third year; and to the Third, after he has completed the fourth year of Medical Study. Candidates may also be admitted to the first two of these Examinations together at the end of the third year; and to all three at the end of the fourth year.

The number of Candidates for these Examinations and, consequently, for the Degrees of M.B. and M.C., is very few; not more than one or two

in a year. This is considered to be owing, in part at least, to the stringency of the regulations to which they are required to conform; such as the number of Lectures (not less than 100 on each of the several subjects, including Chemistry, Materia Medica, and Pathology) which must be attended. There can be no doubt that a regulation, which requires the Candidate to have passed two years, at least, of his four years of Medical and Surgical Study at one of the British or Irish Universities or Colleges, would, of itself, in most instances, prevent the Student from resorting to St. Andrew's for a Degree; inasmuch as only one Annus Medicus can be kept here, and that very imperfectly; and he would naturally prefer to Pass the Examinations, and take his Degree at the University in which he had spent so much time in the study of his profession.

These restrictive regulations did not originate, we believe, at St. Andrews, but were enjoined by the Universities' Commission.

On the present occasion there was only one Candidate. He had not been a Student at St. Andrews, but at Edinburgh. He offered himself for all three Examinations at the same time, but was rejected.

The Written Examination of this gentleman on all the subjects comprised in the three Examinations took place on Monday, Tuesday, and Wednesday, April 19th, 20th, and 21st. His answers, which we read, showed a certain amount of knowledge on all the subjects, but not sufficient to justify the University in granting him a Degree. Copies of the questions are appended. His Clinical Examination had taken place in the Infirmary at Edinburgh on the preceding Saturday.

His Oral Examination took place on Thursday the 22nd at the same time and by the same Examiners as that of the Practitioners' Candidates for the M.D. Degree. In Anatomy he was questioned on a partially dissected lower limb preserved in spirit. In Materia Medica specimens were shown; but there was no other practical Examination and no means of testing his knowledge of Histology. This Examination, therefore, although conducted

with a good deal of care, can scarcely be said to come up to the modern requirements of a Pass Examination. Nor does it appear that there are, at present, at St. Andrews, the means for conducting such an Examination with efficiency.

The privilege of conferring the Degree of M.D. on a limited number of Registered Practitioners is exercised as follows: Applications accompanied by testimonials (of which we saw several signed by men of eminence in the profession) are received from such Practitioners, above the age of forty, as desire to present themselves. Ten are selected by the University Court, and are directed to appear at the Examination. If any of these fail to attend, others, who stand next on the list of accepted testimonials, are requested to come. One or two had thus been summoned by telegraph only a day or two before the Examination.*

The Examination occupied two days, April 21st and 22nd, being written on the first day, and oral on the second. We were present on these days. The questions are appended, and will be seen to be plain, simple, and practical. We read over all or nearly all the answers. Some showed a fair amount of knowledge, but the greater number were indifferent.

The Oral Examination was conducted at four tables; by Professor NICHOLSON and Dr. BALFOUR in the Practice of Medicine; by Professor HEDDLE and Dr. LITTLEJOHN in Materia Medica and Medical Jurisprudence; by Dr. THOMAS KEITH and Dr. KEILLER in Midwifery and Diseases of Children; and by Dr. WATSON and Dr. HANDYSIDE in Surgery.

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* Every Candidate deposits fifty guineas before the Examination. If he fails to pass forty guineas are returned to him. Should he come up to be examined on a subsequent occasion the ten guineas stand to his credit. The fees thus resulting are, roughly stated, £52 10*s.* × 10 = 525—126 (twenty guineas to each of six Examiners) = £399. In the present year, and the same was the case in 1871, the sum is still further reduced in consequence of the failure of two Candidates out of the ten.

The Candidates were about twenty minutes at each table, being questioned by one, or, more commonly, by both Examiners. At the Surgical table specimens of healthy bones and soft parts, preserved in spirit, were shown, and questions of a simple kind were asked upon the Surgical Anatomy of the diseases of these parts. At the Midwifery table the pelvis and fœtal head, and various instruments were shown, and made the basis of simple practical questions. At the Materia Medica and Medical Jurisprudence table a few specimens were shown. At the Practice of Medicine table questions on diagnosis and treatment were asked. No morbid or microscopical specimens were shown or any other practical tests used. Indeed, the character of the Examination, both written and oral, was such as to indicate that a moderate amount of practical knowledge of their profession was all that was required or expected of the Candidates. This was justified by the answers given, which were of no high order, especially in Surgery and in Anatomy. In the subjects of Physiology or Morbid Anatomy or Morbid Process, scarcely any questions were asked.

Two of the Candidates were rejected, so that the Degree of M.D. was conferred upon eight only out of the ten practitioners who presented themselves.

On the whole we must confess that the manner in which the privilege of granting ten M.D. Degrees annually to practitioners as exercised by this University, does not appear to us satisfactory. We cannot think that the conferring of the highest Degree in Medicine in consequence of the Candidates having presented testimonials and passed such an Examination as we witnessed can be fraught with any real benefit to the profession or the public, or even to those who seek and obtain the Degree. It fails to afford any sufficient stimulus to induce the Candidates to take pains in making preparation, or in maintaining that higher culture which such a Degree should indicate. This is the more to be regretted because we cannot but feel that a very beneficial influence might be exerted by a judicious mode of exercising this privilege, and giving to practitioners, who really merited the distinction, an opportunity of obtaining the doctorate of

medicine which they could in no other way reach, and of connecting themselves with an institution of much antiquity and interest. This end would probably be, to some extent at any rate, effected, if, instead of sending for ten practitioners only to come up, and so limiting the Candidates at the Examination to the number of Degrees to be conferred, a larger number were admitted, and a selection made upon well defined grounds of professional distinction, and the possession of such superior knowledge as may be indicated by an Examination of a higher order.

The numbers who have presented themselves in each of the last five years have been as follows:

FOR M.B. AND M.C.

1871.—One Candidate for First Examination rejected in Chemistry and Materia Medica; passed in Botany and Anatomy.

1872.—One for Second Examination. Passed.

1873.—One for Third Examination. Passed.

1874.—One for First Examination remitted in Anatomy and Chemistry; passed in Botany and Materia Medica.

1875.—One for all three Examinations, remitted in all subjects.

PRACTITIONERS ABOVE FORTY FOR M.D.

1871.	Ten	Eight admitted.
1872.	Ten	Ten ,,
1873.	Eleven*	Ten ,,
1874.	Ten	Ten ,,
1875.	Ten	Eight ,,

We beg to express our thanks to Professor HEDDLE for the information and assistance he was so good as to render us in the absence of Professor BELL who, we regret to say, was confined to his bed by serious illness.

GEO. M. HUMPHRY, M.D.
A. W. BARCLAY, M.D.

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* Occasionally in the uncertainty whether one or more of the Practitioners summoned would appear, an extra one has been sent for, and eleven having come, all were, in this year, admitted to the Examination.

EXAMINATION FOR THE DEGREE OF M.B. AND C.M.,

April 21st, 1875.

CHEMISTRY.

1. What do you understand by Quantivalence? State and prove by typical compounds the quantivalence of Carbon, Mercury, Tin, Silicon, Chlorine, and Potassium.

2. What are the chief points of distinction between the Alkalies and the Alkaline Earths? Give the tests for two members of each family.

3. What Salts of Mercury, of Bismuth, and of Antimony are used in medicine? Write in formula the composition of each.

4. What are the chief ores of Zinc and Tin:—how are these metals extracted from their ores? To what purposes are these metals and their alloys applied in the arts?

5. What is the proximate chemical composition of Blood, and what changes does it undergo in the circulation?

6. Give a process for the separation, detection, and estimation of Arsenic and Antimony in presence of animal matter.

BOTANY.

1. Describe the general structure of "Stomata," and indicate their function.

2. Describe, shortly, the structure of a perennial endogenous stem.

3. What are the two chief forms of venation exhibited by leaves, and what great groups of plants do these serve roughly to distinguish?

4. Distinguish between definite and indefinite inflorescence, and define the terms Raceme, Corymb, and Umbel.

5. Describe the parts which are ordinarily present in a Simple Pistil, or in

a single carpel of a Compound Pistil, and explain what is meant by the Dorsal Suture and Ventral Suture.

6. Distinguish between a Legume and a Siliqua, and mention the groups of plants which these fruits respectively characterize.

ELEMENTARY ANATOMY.

1. Give the general characters of a Rib. Name the peculiarities of the First Rib.

2. Mention the bones that form the Nasal Cavity. Name its several openings.

3. Give the origin and insertion of the muscles that rotate the Os Humerus (*a*) inwards, and (*b*) outwards, on the Scapula.

4. Describe the course and relative anatomy of the Œsophagus.

5. Give the origin and course of the A. Profunda Femoris, its terminal branches and anastamoses.

6. Describe the articular apparatus and the arterial supply of the Hip-Joint.

MATERIA MEDICA.

1. Henbane:—mention (*a*) its botanical name; (*b*) its natural family; (*c*) part of plant used; (*d*) its physiological action; (*e*) officinal preparations; and (*f*) their doses.

2. Name the principal Diuretic Substances, and state how these differ in their actions. What rules should be attended to in the exhibition of remedies of this class?

3. What is the medicinal strength of Prussic Acid? What are its therapeutical applications? State the doses.

4. How is Nitrate of Silver prepared? In what form and in what dose should it be prescribed? What are its therapeutic actions when administered internally?

5. Mention the chief Purgative Remedies. Give the indications for the use of each, and the doses.

6. Write in full, and in Latin, two Prescriptions.
1st. For a case of Atonic Dyspepsia.
2nd. For a case of Cardiac Dropsy.

Specify the reasons that lead you to select the various ingredients.

ADVANCED ANATOMY.

1. Describe the articular apparatus of the Temporo-Maxillary joint. Give the name of the muscle in immediate connection with it, and the exact position of the nearest artery of importance.

2. Name, in order, the parts that are cut in exposing the entire extent of the Inguinal Canal. Give (*a*) its boundaries; and (*b*) the arteries within it in the male.

3. Describe the structure generally of the Pancreas, and give its relative anatomy.

4. What is the dissection necessary to lay bare the Thoracic Duct at its termination? Name the parts met with, step by step, in this dissection.

5. Name, in order, the parts divided (in the Perinæum) so as to expose Cowper's Glands and the Prostate.

6. Give the boundaries of the several ventricles of the Brain.

ZOOLOGY.

1. Describe briefly the structure of the common Tape-worm (Tænia Solium), and indicate the chief peculiarities connected with its development.

2. State the leading characters which distinguish the classes Crustacea, Arachnida, Myriapoda, and Insecta.

3. Compare the orders of the Dibranchiate and Tetrabranchiate Cephalopods as regards (*a*) the arms; (*b*) the nature of the skeleton; and (*c*) the structure of the respiratory organs.

4. Give the general characters of the class Amphibia, enumerate the orders into which it is divided, and mention an example of each.

COMPARATIVE ANATOMY.

1. Describe the poison-apparatus of a Viperine Snake.

2. Describe the circulation of a Fish.

3. Indicate briefly the structural peculiarities connected with the pectoral arch and fore-limb of a typical bird.

4. Define the incisor, canine, præmolar, and molar teeth, and give the dental formula of the deciduous and permanent dentition of man.

PHYSIOLOGY.

1. Give the origin, distribution, and function of the several nerves found within the Orbit.

2. What is the structure of an Ovum? What is the course of development of a Graafian Vesicle?

3. Name the Muscles of Deglutition, and state the successive order in which they execute this function.

4. What do you understand by Reflex or Excito-Motor actions? Give one or two instances.

5. Describe the Fœtal circulation. Mention the changes in the course of the Blood which occur at birth.

6. Describe the origin, the ganglia, the connections, and the distribution of the Glosso-Pharyngeal Nerve. Give the functions of this nerve.

SURGERY.

1. Mention what you know of the increase of temperature in Inflammatory Affections, especially as bearing upon (*a*) part affected; (*b*) system; (*c*) nature of inflammatory process; (*d*) period of its progress; (*e*) nature of the result.

2. What are the distinctive characters of Moist Acute Traumatic Gangrene

and Senile Gangrene as regards (*a*) appearances; (*b*) clinical history; (*c*) progress; (*d*) results; (*e*) mode of induction; (*f*) treatment?

3. What are the symptoms, characters, consequences, and treatment of Acute, Suppurative, Septic Osteo-Myelitis?

4. Describe the operation of ligature of the Brachial Artery at the bend of the elbow, on account of a punctured wound of the vessel. Name the parts engaged in such a dissection; state their relative position; the anatomical guides to the vessel, and any abnormalities of vascular distribution in this situation as bearing upon the operation, or its success.

5. What is meant by "Esmark's bloodless method of operating?" What apparatus is employed in effecting such a result? How is it employed? What objections have been taken to its use? Give your own opinion, with such arguments as seem to you conclusive on this point.

6. What is intended in Lithotomy by the terms Supra-Pubic, Lateral, Median, and Bilateral? What special circumstances render one of these operations preferable to the other in actual practice?

PRACTICE OF MEDICINE.

1. Describe the symptoms and physical signs associated with the first stage of Pneumonia.

2. Describe the characters and treatment of Tinea Tonsurans.

3. Describe the indications for the use of alcoholic stimulants in Typhus.

4. State how you would treat a case of Diabetes Mellitus dietetically and otherwise.

5. Describe the differential diagnosis between Hemiplegia from Embolism and that from Hæmorrhage.

6. Describe the symptoms and treatment of Hæmatemesis.

MIDWIFERY.

1. What are the axes and diameters of the brim, cavity and outlet of the Female Pelvis?—and mention the corresponding diameters of the Fœtal Head.

2. What are the indications of the commencement of Labour, and how would you distinguish them from false pains?

3. What are the causes of Tedious Labour in the first stage?

4. What is meant by a Cross-Birth, and how would you ascertain and manage such a case?

5. How would you diagnose and conduct a Twin Case?

6. What are the causes, symptoms, and treatment of Post-Partum Hæmorrhage?

GENERAL PATHOLOGY.

1. Describe the characters of Waxy (Amyloid) Degeneration, and state the organs most liable to be affected by it.

2. State the muscles implicated in Paralysis of the third and of the sixth nerves, and the form of strabismus produced in each case.

3. Describe the various Pathological causes of Polyuria (Diabetes in all its forms).

4. State the cause of Aortic Regurgitation, and describe those facts upon which you would depend for its diagnosis.

5. State the difference between a Thrombus and an Embolus, and describe the causes of Thrombosis.

6. Describe the anatomical seat, and pathological nature of the lesion in Enteric Fever.

MEDICAL JURISPRUDENCE.

1. How do you distinguish between wounds inflicted before and after death?

2. What do you understand by the "Lung Test," and what objections may be urged, in a court of law, against its employment?

3. What circumstances connected with death from a pistol-shot would lead you to conclude that the case was one of murder?

4. A suspicious stain is found on a knife, how would you determine that it was caused by blood?

5. Oxalic Acid. Give (*a*) its chemical composition; (*b*) its character as a poison; (*c*) the poisonous dose for an adult; (*d*) the symptoms; (*e*) post-mortem appearances; (*f*) the steps of the analysis for its detection in the stomach.

6. What diseased conditions are apt to be mistaken for poisoning with opium? State in detail the chief points in the diagnosis.

EXAMINATION FOR THE DEGREE OF M.D.,

April 21*st*, 1875.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

1. What are the causes of delay in the second stage of Labour?

2. What are the predisposing causes of Puerperal Convulsions, and how would you treat a case?

3. Give the diagnosis and management of a Footling case.

4. What are the causes, symptoms, and treatment of Rupture of the Uterus?

5. Give the diagnosis in a typical case between Ovarian Dropsy and Ascites.

6. What are the symptoms of Tubercular Meningitis, and what is the ordinary duration of the disease?

7. What are the symptoms of Cancer of the Uterus? What part of the organ is most commonly affected, and what are the different ways in which this disease terminates?

8. Give the treatment of the early stage of Croup.

MEDICAL JURISPRUDENCE AND PUBLIC HEALTH.

1. What are the proofs that death has taken place, and how do we determine *when* death occurred?

2. Mention the substances that are generally employed to procure abortion. At what period of the pregnancy are they used, and what appearances are found on dissection?

3. A patient is affected with gastro-enteric symptoms that baffle treatment, and you suspect the continued administration of an irritant poison. Name the poisons that may thus be insidiously given, and state the steps you could take, without exciting the suspicions either of the patient or of the poisoner, to assure yourself that poison was actually administered. Give also the antidotal treatment in each case.

4. Small Pox appears in a country town or district. What precautions should be taken (*a*) by the Medical Officer of Health to arrest the progress of the disease; (*b*) by a private practitioner, the medical attendant of, say a boarding-school, the inmates of which are healthy?

MATERIA MEDICA.

1. Anthelmintics. Mention (*a*) the chief remedies of this class; (*b*) their various therapeutical indications; and (*c*) the precautions necessary to ensure their successful administration.

2. Chloral. (*a*) In what class of remedies would you place this substance? (*b*) What are the doses for the different ages, and the usual vehicle of administration? (*c*) Detail the varying circumstances that would lead you to prefer Chloral to other and similar remedies.

3. Iodide of Potassium. Give (*a*) its chemical composition; (*b*) its therapeutical indications; (*c*) the effects of its prolonged administration; and (*d*) *two* prescriptions *in full, and in Latin*, for its use internally and externally.

SURGERY.

1. Describe the characters of fractures of the lower extremity of the Humerus as regards (*a*) line of fracture; (*b*) displacement; (*c*) symptoms; (*d*) causes; (*e*) differential diagnosis; (*f*) treatment; (*g*) complications and results.

2. Describe the dislocations of the ankle joint, simple and compound, as regards (*a*) causation; (*b*) displacement; (*c*) symptomatology; (*d*) treatment.

3. What is meant by the term "Sarcomata" in the modern classification of Tumours. Mention the different forms included under this head—their naked-eye and microscopic characters—their clinical history, discrimination, and treatment.

4. Describe the operation of ligature of the subclavian artery in its *third* stage; (*a*) external incision; (*b*) dissection to reach the vessel, parts exposed, and guides to its situation; (*c*) nature of cases in which it has been employed.

CASE I.—A patient, a sailor lad, falls astride the doors at the top of "the companion." He experiences pain and swelling in the perinæum. He finds that blood is escaping from the urethra. He attempts to make water, none escapes from the penis, but the swelling in the perinæum increases and extends forward, distending the scrotum and the integuments of the penis and lower part of the abdomen, but does not extend downwards, either anteriorly, or internally, into the upper part of the thighs. What lesion has occurred? Explain the phenomena. What is your prognosis? What treatment should be employed?

CASE II.—A patient, while sitting at breakfast, is seized with sudden pains in the region of the umbilicus, accompanied by sickness and faintness. Vomiting sets in, with hiccough, and everything taken is rejected. On examination (three days afterwards) the coils of small intestines are recognized distended with flatus, and manifesting peristaltic action through the emaciated abdominal parietes. They can be traced down to the right iliac fossa, occupying the central and left lateral parts of the umbilical and hypogastric regions. Half a gallon of water can be injected up the rectum, which comes away with a few scybala floating in it. Neither fœculence nor flatus is passed by the anus. The pulse is soft, and there is no increased temperature. What is your diagnosis, prognosis, and treatment?

PRACTICE OF MEDICINE.

1. What are the symptoms which distinguish Acute Rheumatism from Acute Gout?

2. In the course of what other disease is Pericarditis liable to occur? Describe its symptoms and physical signs.

3. Describe the causes and symptoms of Jaundice, also give the treatment for its curable forms.

4. Describe the modes in which Lead may be introduced into the system, the characteristic symptoms of this poisoning, and its treatment.

CASE I.—A man, aged 40, comes for the first time under treatment, with an evening temperature of 105°, and a morning one of 103°5. He has tenderness over the right iliac region; slight diarrhœa—three to four loose stools, of a yellowish colour, daily; some degree of tympanitis confined to the large intestines; tongue red and fissured transversly; slight malar flush; conjunctivæ slightly congested; pupils dilated; skin natural in colour, with three or four pink-coloured and slightly-elevated spots scattered over the abdomen. What is his disease, how long has the patient been probably ill, and what treatment would you adopt?

CASE II.—A woman, aged 30, comes under treatment for general dropsy; her urine is scanty, not much altered in colour, highly albuminous, and contains numerous tubecasts of every variety. What is the organ affected, and what is its pathological condition?

REPORT ON THE EXAMINATION IN MEDICINE AND MIDWIFERY FOR THE LICENCES OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS, IRELAND.

Held on April 13th and 14th, 1875.

Visitors:—J. RISDON BENNETT, M.D., Member of the General Medical Council.

WILLIAM STOKES, F.R.C.S., Visitor appointed by the Council.

The Examination for the Licence in Medicine of this College consists of two parts.

The subjects of the First Part or Previous Examination are Anatomy, Physiology, Botany, Chemistry. This Examination is conducted first by printed questions to be answered in writing and afterwards *vivâ voce*. The subjects of the Second Part or Final Examination are Materia Medica, Practice of Medicine, Medical Jurisprudence, and Midwifery.

The Examinations we attended were the Final Examination, and that for the Diploma in Midwifery, Examinations for which latter are held on the day after that on which the stated Examinations for the Licence in Medicine are held.

The Examinations for the Licence in Medicine are held on the second Tuesday and following day in each month (except August and September).

The Examination we attended commenced on April 13th, at which there were six Candidates. On assembling at the College of Physicians the Candidates were informed at what Hospitals the Clinical Examinations were to be conducted. On this occasion those selected were the City of

Dublin Hospital, the Meath Hospital, and County Dublin Infirmary. Dr. KENNEDY was the Examiner at the former, and Dr. FOOT at the latter Hospital.

The Candidates proceeded first to the City of Dublin Hospital, and to each Candidate a case was given to diagnose and make a written report on. Dr. KENNEDY also examined each Candidate orally on the differential diagnosis, prognosis, and treatment of the case he had been given to make the report on, and in addition to this the Candidates were brought to a case of Chorea, and all standing round the bed of the patient, were severally examined on the symptoms, etiology, prognosis, and treatment of the case under observation. The questions, as well as the answers of the great majority of the Candidates, struck us as being remarkably good.

At 12 o'clock the Candidates and Examiners proceeded to the Meath Hospital, where Dr. FOOT conducted the Examination. Here, as at the City of Dublin Hospital, each Candidate had a case assigned to him for diagnosis, and that being made, he was subjected to a careful and thoroughly practical Examination in reference to the disease from which the patient suffered as well as its treatment. At the conclusion of this Clinical Examination the Candidates were separately examined on various instruments and appliances which the Physician has to employ in practice. Among these may be mentioned the Microscope, Laryngoscope, Ophthalmoscope, Sphygmograph, Thermometer, Dynamometer, Syringes for hypodermic injections, Electro Therapeutic Instruments, &c., &c. Of both Clinical Examinations which we witnessed this day, we feel bound to speak in terms of high commendation.

At 4 p.m. the Written Examination commenced in the Hall of the College of Physicians, when the following papers were given :—

PRACTICE OF MEDICINE.

HENRY KENNEDY, M.B.

1. State the causes which give rise to displacement of the heart.
2. With what other diseases may the rash of scarlatina be confounded?

3. State the symptoms which would attend a severe attack of acute Dysentery, in an adult, and describe how you would treat it, writing a prescription, in full, for same.

4. What symptoms, occurring within the first week of an attack of Typhus Fever, in an adult, would lead you to prognosticate a fatal result?

5. When an Empyema opens of itself, outwardly, state where it usually points.

PRACTICE OF MEDICINE.

Dr. Foot.

1. Describe the points of difference between the "Cerebral Respiration" of Fever, and the dyspnœa due to pulmonary obstruction.

2. Describe the symptoms, course, and treatment of Herpes zoster.

3. Give the grounds for a diagnosis between nervous excitement of the Heart, and active hypertrophy of the organ.

4. Describe and figure the various forms of tube casts observable in the Urine in renal disease.

5. Describe the diagnostic features of an Abdominal Tumour due to fæcal accumulation.

MATERIA MEDICA.

Dr. Walter Smith.

1. Trace the steps of the conversion of Metallic Mercury into Corrosive Sublimate, and explain accurately the use of Black Oxide of Manganese in the process for preparing the latter salt. Mention the dose of Corrosive Sublimate and the preparations into which it enters.

2. Describe the origin and characters of Ergota, and explain the pharmacopœial test for its powder. Write a prescription for the hypodermic injection of "Ergotin."

3. In what particulars is the action of Opium, Belladonna, and Conium,

respectively, modified by the age of the patient? What is a full dose of Succus Conii for an adult?

4. Give examples of Laxatives, Simple Purgatives, Drastic Cathartics, and Hydragogue Cathartics, and state the dose of each of the officinal purgative resins.

5. What objection is there to prescribing in combination—(*a*) Liquor Potassæ with preparations of Belladonna or Henbane; (*b*) Rochelle Salt with Calcined Magnesia, if left in contact for some time?

MIDWIFERY.

Dr. ATTHILL.

1. Under what circumstances is prolapse of the Funis likely to occur, and what treatment will you adopt, when it has been detected during the first stage of labour.

2. A woman is seized with convulsions without any premonitory symptoms having occurred, in the first stage of labour, the os being but the size of a shilling. What treatment will you adopt during the interval which must occur, before delivery can be effected?

3. The lochia occasionally become very fœtid about the third or fourth day subsequent to delivery. What treatment will you adopt to lessen this, stating exactly the quantity and strength of any solution you may desire to use, and the directions you will give regarding the use of such?

4. A married woman, who, however, has never been pregnant, is weakened by the repeated recurrence of profuse menstruation; on questioning her she states that the flow is always ushered in by severe pain in the mammæ and in the ovarian region; the uterus proves on examination to be normal in size. How will you treat this case?

5. Enumerate the most common causes producing enlargements of the uterus, and the most prominent symptoms accompanying them.

On April 14th, the second and last day of the Examination for the Licence in Medicine, the proceedings did not commence until 4 p.m.,

and the Examination was exclusively Oral. Each Candidate was examined by each of the four Examiners for fifteen minutes, the Examiners being, in Practice of Medicine, Drs. KENNEDY and FOOT, in Materia Medica, Dr. WALTER SMITH, and in Midwifery, Dr. ATTHILL. The Examination for each Candidate, was, with some slight variation, the same. Dr. KENNEDY'S questions were chiefly on the forms, diagnosis, aud treatment of Pneumonia, and on Variola. Dr. FOOT discussed chiefly facts connected with Bright's Disease, Facial Palsy, Symptomatology of Cerebellar Tumours, and the conditions which give rise to abnormal pulsation of the Abdominal Aorta; on the means relied on for the elimination of Tape Worm, the treatment of vomiting in Mitral Valve disease, the treatment of suppression of urine in Scarlatina, and hœmorrhage from Renal Calculus.

Dr. WALTER SMITH examined on the therapeutic agents employed for lessening bodily temperature; on certain Mercurial Salts, effervescing Saline Mixtures, Elaterium, Nux Vomica, the therapeutic uses of Ice, and the agents used for arresting hœmorrhage. Dr. ATTHILL'S questions related chiefly to accidental and *post partum* hœmorrhage and their treatment; on Uterine Polypi and Fibrous Tumours; on cases necessitating the use of the forceps, and the treatment of the hœmorrhage that depends on Uterine Fibrous Tumours.

Of the four Examiners, we observed that three of them gave each Candidate the same examination. In reference to this, we would observe that the principle of giving all the Candidates the same Examination, though excellent in a Competitive Examination, may be considered to be open to question as a means of testing the *general* knowledge and competency of the Candidates. In reference to the Examination in Practical Medicine, we noticed that only a single pathological specimen was exhibited and questioned on. We are the more inclined to notice this in consequence of having observed that no recent pathological specimen was employed to test the knowledge of the Candidates at the Clinical Examination at the Hospitals, which we think might have been done with great advantage.

With regard to the Materia Medica Examination we must bear our

testimony as to its excellent practical character. It was, in every respect satisfactory, and if more attention had been paid to Pathology and Histology, the same might be said of the other parts of this Examination, both Clinical and Oral.

EXAMINATION FOR THE DIPLOMA IN MIDWIFERY.

On April the 15th the Examination for the Midwifery Diploma commenced. There were five Candidates. The Examiners were Drs. SINCLAIR and CHURCHILL, who gave the following papers. One hour was allowed for answering each paper.

DR. SINCLAIR.

1. What are the circumstances which would contra-indicate the operation of Version in Shoulder Presentation?

2. Describe minutely the manner of performing the operation of Delivery by Evisceration in Shoulder Presentation.

3. What forms of Nates Presentations are most dangerous to the Fœtus, and why?

4. Who was it first recommended the following practice:—"Pursuing, with a hand on the abdomen, the fundus uteri in its contraction, until the fœtus be entirely expelled, and afterwards continuing, for some time, this pressure, to keep it, if possible in a contracted state"?

5. CASE.—An infant just expelled, and not yet separated from its placenta, makes vain efforts to respire; face congested and lips blue—What treatment would you adopt?

DR. CHURCHILL.

1. Describe the structure of the Funis.

2. What is Pseudo-cyesis? For what could it be mistaken?

3. How would you treat a case of Sore Nipples?

4. In what cases would you bring on Premature Labour?

5. How would you perform that operation?

In the afternoon, at 4 p.m., the Oral Examination in Midwifery commenced. It was conducted by Dr. CHURCHILL and Professor SINCLAIR. The five Candidates present were examined in a class, each of the Examiners giving ten rounds of questions.

The Examination was long and painstaking, and, for the most part, ably and satisfactorily conducted. Having regard, however, to the fact that the Examination is one solely for the purpose of testing competency in Obstetrics, it appeared to us remarkable that little or no attempt was made to determine if the Candidates possessed any practical knowledge of Midwifery. For example, no models or examples of normal or abnormal Pelves were exhibited and examined on, nor were the Candidates required to show that they knew how to apply or make use of many of the ordinary instruments used in Obstetric Practice, a pessary being the only instrument of the kind about which the Candidates were asked any questions.

We venture to suggest that the introduction of such practical tests as we have alluded to would materially improve this otherwise satisfactory Examination.

With reference to the written answers given both at the Examination for the Licence in Medicine and in Midwifery, we must remark that they were for the most part quite satisfactory. Some of the answers, in truth, gave proof of an amount of accurate information on the subject examined on far beyond that usually found among average Students in Medicine.

It gives us pleasure to be able to report so favourably of the Examinations

for the Licences in Medicine and Midwifery of the King and Queen's College of Physicians. Although in some points, which we have already alluded to, there is room for improvement, the Examinations are, on the whole, highly satisfactory.

J. RISDON BENNETT, M.D.
WILLIAM STOKES, F.R.C.S.

REPORT ON THE EXAMINATIONS OF THE APOTHECARIES' HALL, DUBLIN.

Held on April 5th, 6th, 7th, 8th, and 12th, 13th, 14th, 15th, 1875.

Visitors:—J. RISDON BENNETT, M.D., Member of the General Medical Council.

WILLIAM STOKES, F.R.C.S., Visitor appointed by the Council.

The Professional Examinations of the Apothecaries' Hall of Ireland are held quarterly, and commence on the first and second Monday in the months of January, April, July, and October.

They are conducted as follows :—

The FIRST PART, for Junior Students, on the *first* Monday, at Twelve o'clock, noon ; and on the Tuesday and Wednesday succeeding, at the same hour. Subjects :—Chemistry and Botany, Anatomy and Physiology, Materia Medica and Pharmacy.

The SECOND PART, or Final Examination, for Senior Students, on the *second* Monday, at Twelve o'clock, noon; and on the Tuesday and Wednesday succeeding, at the same hour. On Thursday, the Clinical Examination.

Candidates who fail to pass the First Part of the Professional Examination are remitted to their studies for *three* months, and unsuccessful Candidates at the Final Examination are not readmitted until after the expiration of *six* months.

Fifty is the maximum number of marks allowed to each Examiner for answers, written or oral, and fifteen minutes are allowed for the oral questions on each subject.

Five written questions are given on each subject, and one hour is allowed for the answering of each paper.

Fifty per cent. of the aggregate marks constitutes the minimum "Pass" for each Part.

For the First Part - -	300
For the Second Part - -	300
Total Pass	600

If the Candidate be a Physician, 240 constitutes the "Pass;" if the Candidate be a Surgeon and Licentiate in Midwifery, 280; and if he be a Physician, Surgeon, and a Licentiate in Midwifery, 180 is sufficient.

At the Examination commencing on April 5th there were Eleven Candidates. Previous to the Examination the Candidates had to write their names and addresses in a book for the purpose, and to each Candidate a number was given. They were then seated at separate tables, sufficiently apart to prevent the possibility of any inter-communication.

Two papers, one on Chemistry and one on Botany, were then given to each Candidate, one hour being allowed for each paper. The following were the questions :—

GENERAL CHEMISTRY.

Dr. Collins.

1. Write the Chemical Symbols and the equivalent weights of Chloride of Barium, Iodide of Iron, and Nitrate of Silver, according to the new and old notations.

2. How may Cyanogen Gas be obtained?

3. How may the amount of Carbonic Acid in the atmosphere be estimated?

4. How may Sugar and how may Albumen be proved to be present in Urine?

5. Which of the following substances are oxidising, and which deoxidising agents:—Sulphurous Acid, Iodine, Chlorinated Lime, Hyposulphite of Soda, Permanganate of Potash?

BOTANY.

Dr. LEET.

1. State the distinction between a "Bulb," a "Corm," and a "Rhizome." Give an officinal example of each.

2. Mention a group of Monocotyledons having *reticulated* leaves.

3. Give the distinction between the following forms of Inflorescence:—A "Raceme," a "Panicle," an "Umbel," a "Cyme."

4. Name the structural characters which assist in the determination of the natural affinities of Plants.

5. Describe fully the "Digitalis purpurea," and refer it to its proper place according to botanical arrangement.

At 2 p.m. the answers were handed to the Assessor, who gave them to the Examiners.

The Oral Examination in Chemistry and Botany commenced at 2.30 p.m.

Two Candidates at a time were admitted into the Hall for examination.

In Chemistry the Candidates were required to test various Salts. Those for which tests were required were Iodide of Potassium, Acetate of Lead,

Chloride of Mercury, Perchloride of Iron, Nitrate of Silver, Sulphate of Magnesia, &c.

This part of the Examination struck us as being particularly well calculated to elicit the practical knowledge of the Candidates, but we observed that they were not required to state the nature of the various reactions that took place when the tests were applied, either according to the old or the new notations.

On a second table there was a large number of Plants arranged, the specimens being both fresh and dried. The Candidates were required to give the characters of several of the natural orders, among which were discussed the Cruciferæ, Umbelliferæ and Compositæ. Among the specimens which the Candidates were required to recognize and refer to their respective natural orders, were Stramonium, Hyoscyamus, Belladonna, Colchicum, &c. When the two Candidates had each been examined for fifteen minutes on the two subjects above referred to, two more Candidates were brought in and given the same Examination as the two first had been subjected to, these latter not being allowed to leave the Hall until the entire Oral Examination was completed.

The Oral Examination lasted from 2.30 p.m. till 5.15 p.m.

On the second day the Candidates assembled at 12 o'clock, and were placed each at a separate table as on the previous day; and the following papers on Anatomy and Physiology were given, one hour for each being allowed :—

ANATOMY.

Dr. O'Neill.

1. State the origin, course, and termination of the Thoracic Duct.

2. Give a general description of the Spleen, and mention the course and termination of the Splenic Artery and Vein.

3. Describe the Shoulder Joint and the ligaments and muscles immediately surrounding it.

4. Describe the Glands from whence the Saliva is derived.

5. Mention the boundaries of the Popliteal space, and state contents.

PHYSIOLOGY.

Dr. MOORE.

1. What classification of Food is that generally adopted?

2. What are the chief differences between Arterial and Venous Blood?

3. What is understood by Asphyxia, and to what two conditions is it due?

4. Describe the Liver, its structure, the vessels that enter it and those that leave it.

5. What is Bile, its estimated quantity? Mention its leading physical and chemical characters.

At 2.30 p.m. there was an Oral Examination in Practical Anatomy and Physiology. In the former subject the questions were elementary, but practical. We observed that the Examination was confined altogether to Osteology, questions not being asked in reference to the relative anatomy of the arteries, their branches and distribution, the surgical spaces, or the course or distribution of any of the nerves. As far as it went, however, the Examination was satisfactory, and the answers of the majority of the Candidates very fair.

At a second table there were two microscopes, and the Candidates were required by Dr. MOORE to recognize various objects, such as, for example, sections of bone, muscle, pulmonary tissue, &c. Various questions

bearing on these specimens were given, and the answering, on the whole, was satisfactory. For this portion of the Examination ten minutes only for each Candidate were allowed, which, we think, was insufficient.

At 3.30 p.m. the Examiners and Candidates repaired to the Carmichael School of Medicine. Here there was a subject which had been partially dissected, and the Candidates were required, not to make any dissection themselves, but to point out and name the different structures that were already exposed to view. For this test only ten minutes were allowed to each Candidate. The questions were sufficiently numerous, but, like those given at the Oral Examination in Anatomy, were too elementary, and such as any Junior Student of ordinary intelligence should have been competent to answer, but of questionable sufficiency to test the competency of a Surgical Practitioner.

On the following day the Examinations on Pharmacy and Materia Medica took place. From 12 o'clock till 2 p.m. the Candidates were required to answer the following questions on these subjects :—

PHARMACY.

Dr. HARVEY.

1. Give the process for the preparation of "Ferrum Redactum;" describe its appearance, and mention the Pharmacopœial tests.

2. How is "Extractum Ergotæ Liquidum" obtained? Explain the process, and state its appearance and dose.

3. State the composition of "Confectio Sennæ," and describe the mode of preparing it.

4. How is "Acidum Sulphurosum" obtained? Explain the Pharmacopœial process.

5. Write the chemical symbols of "Potassæ Chloras;" give the formula for its preparation, and state its characters and tests; name the Pharmacopœial preparations in which Chlorate of Potash is used.

MATERIA MEDICA.

Dr. MONTGOMERY.

1. Describe the "Colchicum Autumnale," its mode of growth, and the parts of the plant used in Medicine. Mention the Pharmacopœial preparations.

2. Give the Botanical name of Hemlock. Mention its officinal preparations, and the portion of the plant used in each; give its distinctive test. State at what period the leaves should be collected, and the colour of the powder.

3. Name the source from which Elaterium is obtained, and give its mode of preparation. Write a prescription in full Latin containing it as the principal ingredient.

4. Give an example of an Essential Oil, obtained severally from the flowers, leaves, seeds, fruit, peel, bark.

5. Mention the source from which Camphor is obtained; give some of its characters; state its chemical constitution, and the mode and form of its administration; give the Pharmacopœial preparations.

In the afternoon, at 2.30 p.m., the Oral Examination in Pharmacy and Materia Medica commenced. Two Candidates were brought in at a time, and at one table the Examination in Pharmacy was conducted by Dr. HARVEY, and at the other that on Materia Medica by Dr. MONTGOMERY. At the former there were specimens of Bark, Aloes, Gentian, Gum Ammoniacum, Guaiacum, Quassia, Rhatany, Pareira Brava, Colocynth, Aconite, Scammony, Calumba, Cascarilla, Senega, Arnica, Opium, Buchu, Uva Ursi, &c., which the Candidates were required to recognize, and to mention the various Pharmacopœial preparations into which they enter. This portion of the Examination made a most favourable impression on us, and the answering from several of the Candidates was excellent.

At the second table the Examiner, Dr. MONTGOMERY, handed written

prescriptions to the Candidates, which he required them to read in Latin, and many thoroughly practical questions on the various ingredients mentioned in the prescriptions were asked. The Pharmacopœial preparations chiefly discussed were Gallic Acid, Tincture of Opium, Blue Pill, Soap Liniment, Plummer's Pill, Camphor Liniment, Compound Iron Mixture, Compound Decoction of Aloes, Compound Assafœtida Pill, Compound Senna Mixture, &c. Numerous questions were asked in reference to the composition of these various preparations, which were well calculated to elicit the practical knowledge of the Candidates. In truth, in the Examinations held on this day, we are not in a position to mention any defect, or to suggest any improvement.

On Thursday, the 8th, the Examiners met to add up the marks. It was found that of the eleven Candidates only four had scored the requisite fifty per cent. of answers. The marks were :—

Candidate No.	4	375
,, ,,	8	459
,, ,,	10	375
,, ,,	11	366

In reviewing the First Part of the Professional Examination of the Apothecaries' Hall, we think the Anatomical and Physiological portions of it are those in which improvement is required. Confining the Oral part of the Anatomical Examination exclusively to Osteology, not requiring the Candidates to make dissections, and limiting the Oral Examination in Physiology to ten minutes only for each Candidate, are defects which we venture to suggest require to be amended. The Examinations in the other subjects appeared to us, we are bound to say, fully to meet the necessary requirements.

The Second Part, or Final Examination for Senior Students, commenced on Monday, the 12th April, at 12 o'Clock. Only two Candidates presented

themselves. Being placed at separate tables, the following papers on Medicine and Surgery were given them. One hour being allowed for answering the questions on each paper.

We were informed that a comparatively small proportion of the Candidates who pass the First part of the Examination come up for the Second Part. This partly arises from the fact that a certain number of these Candidates have already a Qualification in Medicine or Surgery, or both, and therefore are excused Examination in the subjects of the Second Part; and also, partly because a certain number having passed the First Examination, go elsewhere for Examination in Medicine and Surgery. Thus the average number of those who annually receive the Licence of the Hall is only about thirty.

MEDICINE.

Drs. LEET and RYAN.

1. Detail the symptoms, physical signs, and progress of a case of Acute Pleuritis, and give the therapeutical indications.

2. Give the diagnosis, pathology, and treatment of Uræmic Toxæmia.

3. Sketch the symptoms and course of Rheumatic Fever, and state the chief complications it is prone to.

4. To what class of Cutaneous Diseases is Eczema referred; describe the acute form, and give the remedial treatment.

5. State the physiological action and therapeutical uses of:—Aconite; Belladonna; Digitalis; and Strychnia.

6. Write a Prescription in Latin containing Strychnia in proper form and dose for an adult.

SURGERY.

Drs. MOORE and OITAL.

1. What is Onychia? Describe its varieties, and the treatment of each.

2. Give the Definition of Paronychia, the symptoms, progress, and treatment.

3. To what causes may Retention of Urine be referrible? Sketch the treatment in each case.

4. What are the symptoms of Glossitis? To what cause is it frequently attributed? Mention the treatment.

5. Describe Anthrax, its symptoms, progress, and treatment.

At 2 p.m., the Oral Examination on Medicine and Surgery commenced.

IN MEDICINE.

Each Candidate was examined on the same subjects, *e.g.*, Lead Poisoning, Croup, and Diphtheria, Typhus and Typhoid Fevers, Pneumonia, &c., &c. The questions were generally good and practical, but for the most part of a kind calculated rather to test book learning than clinical knowledge. Some wet preparations in bottles, and some plates of Skin Diseases, were on the table, and on these the Candidates were questioned. The preparations were good typical specimens of Valvular Disease of the Heart, Emphysema, of the Lung, and Cirrhosed Liver, which, however, neither of the Candidates recognized very easily, or described very accurately. No microscopical specimens were employed. The plates of Erythema Nodosum and Herpes Zoster were recognized by the Candidates; but few questions were put to them on the etiology or pathology of those diseases. Through the whole Examination rather too much assistance appeared to be rendered to the Candidates, and thus too little evidence was obtained of the Candidate's real knowledge.

In Surgery, the Candidates were given questions on the following subjects:—Concussion and Compression of Brain, Burns, Morbus Coxæ, Venesection, Subcutaneous Injection, Cupping, Fractured Patella, Collis's Fracture, Fractured Clavicle, and Hydrocele.

As regards this part of the Examination, we have to observe, that although the subjects examined on were well selected, the number of topics

discussed (considering the short time allowed for the Examination) appeared to us to be excessive. The result of this was that only a few leading questions on each of them were asked; and therefore it was not very easy to determine if the Candidates had anything more than a superficial knowledge of any one of the subjects alluded to.

The application of Bandages and Splints did not form part of the Examination; nor were the Candidates required to perform operations on the dead subject. The adoption of these practical tests would, we venture to suggest, be desirable.

On the Second Day, April 13, the following paper on Midwifery was given:—

MIDWIFERY.

Dr. SHAW.

1. In what cases may it be expedient to produce "Premature Labour?" Mention the different means recommended to accomplish it.

2. What symptoms would indicate "Post Partum Hæmorrhage?" What precautions would you use to prevent it, and what treatment would you adopt in the event of its occurrence?

3. In a case of "Shoulder Presentation," with greatly diminished brim, so as to preclude the insertion of the hand, what course would you adopt?

4. Mention the predisposing causes of Rupture of the Uterus, the class of cases in which it usually occurs, and the symptoms and treatment.

5. Under what circumstances would you consider it advisable to administer Ergot of Rye? What are the precautions in using it, and in what doses and form would you use it?

The Oral Examination, held in the afternoon, and conducted by Drs. SHAW and WYSE, was eminently painstaking, searching, and practical. In truth, we are bound to say that the questions, as well as the answering at this Examination, struck us as being highly satisfactory.

On the following day, April 14th, the following papers on Medical Jurisprudence and Hygiene were given :—

MEDICAL JURISPRUDENCE.

1. What are the symptoms of Chronic Lead Poisoning, and the treatment to be adopted?

2. How may it be known that a Corpse has recently passed over the stage of Cadaveric Rigidity?

3. How may it be known that a Burn has been produced after Death?

4. How may it be known that a dangerous amount of Sulphurretted Hydrogen Gas has accumulated in an ill-ventilated Sewer, and how may it be got rid of chemically.

5. Name the principal varieties of Insanity, and those in which a recovery may not be hopefully expected.

HYGIENE.

1. Describe the causes which promote Zymotic disease, and the measure you would adopt to prevent them.

2. State the conditions that produce unsound Meat, and the effects of bad food on the animal economy.

3. Describe the aspect, soil, and water supply necessary to constitute a healthy Hospital.

4. What Diseases are chiefly caused by over-crowding Wards, and state the best mode of ventilation.

5. State the characters of good drinking water, and mention the impurities that Water is liable to.

In the afternoon, at the Oral Examination on Medical Jurisprudence, conducted by Dr. COLLINS, the subjects discussed were the antidotes, subsequent treatment, and tests for Tartar Emetic and Corrosive Sublimate; the methods of determining the age of a dead infant, and the appearances of the thoracic viscera of an infant that had never breathed. The mode

of determining the presence of Carbonic Acid Gas in a deep well or pit and the measures that ought to be adopted, in order to render a descent into it free from danger, were also discussed; also the mode of distinguishing the stupefaction produced by Alcohol from that induced by Opium, and the most appropriate treatment in each case. This Examination, as well as that conducted by Dr. WYSE on Hygiene, in which was discussed the composition of Atmospheric Air, the changes produced in it by Respiration; Baths; Modes of purifying Water; Effects of Tropical Climates on Europeans; the Mode of Estimating the sufficient Cubic Space for each patient in an Hospital; the Diseases likely to appear on board Emigrant or Troop Ships; were highly deserving of commendation.

On April 15th we went to the Peter Street Dispensary, to be present at the Clinical Examination. We found that two cases had been set aside for the purposes of the Examination. One was that of an infant that had recently been vaccinated, and had on its arm a well-formed vaccine pustule. The Candidates were required to recognize the nature of the pustule, and were asked nothing further about it. The second was a cardiac case of some obscurity, and in the diagnosis of which, we think, even an experienced Physician would have been slow in forming a decided opinion. We were informed, that usually the Candidates are brought also to the Cork Street Fever Hospital, and examined there, but on this occasion the Examiner did not adopt that course. The Candidates were, however, brought to a neighbouring house, where there was a young man labouring under Delirium Tremens. The Candidates were required to recognize the disease, but no questions were asked as to the usual symptoms, prognosis, differential diagnosis or treatment.

It can scarcely be questioned that this Clinical Examination admits of much improvement. What we witnessed satisfied us of its insufficiency to test the practical knowledge of Disease possessed by either of the Candidates.

Being, however, favourably impressed by both Candidates throughout the entire Examination, we learned, with some surprise, that both were rejected. We should not have mentioned this had we not learned that this determination was arrived at in consequence of the answering at the Clinical Examination, the defective nature of which we have felt it incumbent on us to notice.

The written answers of the Candidates, both at the First and Second Parts of the Examination, were, on the whole, very fair.

If the improvements we have suggested were made, we think the Examination would, on the whole, be a satisfactory one, viewed as a test for competency for ordinary practice.

In conclusion, we feel bound to acknowledge the courtesy of the Examiners, who evinced the greatest anxiety to give us all the information and assistance in their power to enable us to form a just estimate of the Examinations.

J. RISDON BENNETT, M.D.
WILLIAM STOKES, F.R.C.S.

REPORT OF THE VISITORS ON THE PREVIOUS MEDICAL EXAMINATION OF THE SCHOOL OF PHYSIC, TRINITY COLLEGE, DUBLIN.

Held June 1st to 5th, 1875.

Visitors—D. R. HALDANE, M.D., Member of the General Medical Council, GEORGE BUSK, F.R.C.S., Visitor appointed by the Council.

I. This Examination, also termed the Half M.B. Examination, includes the subjects of Physics, Botany, Materia Medica, Chemistry, and Descriptive Anatomy.

In each of these subjects the Examination is quite distinct from the rest; for although a Candidate may, if he chooses, come up in all five, but few do so.

Therefore, in estimating the proportions of rejections to passings, each subject must be considered separately, and altogether independently of the others.

Except that in some of the subjects there was an Oral as well as a Written Examination, the mode of conducting it was the same in all. In all the subjects the Examination was conducted by two Examiners, except in that of Anatomy, in which three took part. In those subjects in which there was no Oral Examination, each of the two Examiners set a printed paper of ten questions, for the answering of which, on two separate days, one hour only was allowed.

On the present occasion the only two subjects in which an Oral or

Practical Examination separate from the Written was held, were Chemistry and Descriptive Anatomy; but we were informed that heretofore it has been usual, in all the subjects except Physics, for one of the Examiners to set a written paper of questions, whilst the other undertook the oral part. The reason assigned for the departure from the usual practice on the present occasion, was the number of Candidates.

The answers to the written, or, as on the present occasion, printed questions, were perused by the Examiner by whom they are set, and each Examiner forms his independent opinion upon his own paper.

The total number of marks that can be gained on eaeh paper is ten, or at the rate of one for each question; but this number, it would seem, can only be gained by the Candidate giving a satisfactory answer to every question; and as this seems to be scarcely possible even to the most ready writer, in the time allowed, of six minutes to each question, the result is that the number gained, so far as we could perceive, never exceeded eight or a little more.

Ten marks are also allotted to the Oral or Practical Examinations, so that, with the exception of Anatomy, in which there is a double Oral Examination, the total number of marks possible to be obtained in any one subject is under twenty; and in the case of Anatomy, thirty.

The final judgment on the results of the Examination is formed at a Board consisting of all the Examiners present, either personally or, as it were, by proxy. At this meeting each subject is taken separately. Each Examiner puts in the number he has thought fit to assign to the answers he has received, either written or oral, together with the expression of his opinion as to the fitness of the Candidate for passing or rejection. The marks thus given in are then added together, and the sum being divided by two and multiplied by ten, gives a number which is taken to represent a certain percentage, and upon this percentage the verdict is in some degree, but not solely, based; other considerations besides the mere number being allowed to have weight.

As one of us was kindly invited to be present at the meeting of the Board, he had an opportunity of noticing that, in point of fact, no Candidate passed whose marks thus computed did not amount to above 30 to 31 per cent. of what it is possible for him to have gained. But as it would appear impossible for him ever to obtain this full number, the above percentage may, perhaps, be regarded as equivalent to 32 or 33 per cent., or to one-third of the total number of marks.

One peculiarity in the mode of deciding upon the verdict to be passed remains to be noticed. If the two Examiners agree in their judgment of the Candidate's fitness or unfitness, no discussion respecting it takes place; but should they differ in opinion, the question is referred to the whole Board, which, upon due consideration, determines by a majority of votes what the verdict should be.

We may be allowed to remark that this mode of proceeding appears to be open to the objection that the question is determined, in part at least, by the voices of some who possibly not having any special knowledge of the subject, must be guided by more or less vague and undefined considerations; so that to us it seems hardly possible but that occasionally some inequality in the judgment given must arise.

II. The Examinations on the subjects of Physics, Botany,* and Materia Medica having been entirely by written papers, we were enabled to form a judgment respecting them only from a perusal of the answers put in.

By a resolution of the Council of Trinity College, founded on the recommendation of the Professors, the written answers cannot be removed from the custody of the Medical Registrar, nor is any person allowed to make extracts from them for the purpose of publication. Though unable to perceive the necessity or reason for such an unusual prohibition, we

* In Botany, however, the Examination did contain a practical element, inasmuch as one of the questions involved the dissection and systematic description of a plant, of which specimens were furnished to the Candidates.

were, of course, compelled to obey it, and our only course was to request permission to inspect the papers in the Registrar's room. This permission was at once courteously and liberally granted by Dr. HAUGHTON; and, availing ourselves of it, we have been able, from the perusal of as many of the papers as our time would allow, to arrive at a tolerably accurate estimate of the extent to which the recorded judgments of the Examiners coincided with or differed from those which we ourselves should probably have given.

The papers examined by us were chiefly those on Botany, Materia Medica, and Anatomy; but we also looked over some of those on Chemistry. The result of the inspection was, that as regards the Anatomical paper, our estimate of the value of the marks given, more especially in the papers of greater merit, was to a trifling extent higher than that assigned to them by the Examiner; and in that of the inferior answers of the rejected Candidates, almost precisely identical with his. We could, however, hardly avoid remarking the rather easy or elementary character of the questions themselves.

Our estimate of the values assigned to the Botanical and Materia Medica answers might be stated in almost the same words; the values assigned by the Examiners very nearly coinciding in all cases with that which we should have been inclined to give.

As regards Materia Medica, it may be mentioned that Candidates are not required to produce evidence of having received any instruction in Practical Pharmacy, although the Professors are anxious that a change should be made in this respect.

III. (1) The Oral or Practical Examination in Chemistry was held on the 2nd June, and was conducted by the University Professor of Chemistry, Dr. REYNOLDS. As neither of us was able to be in Dublin before the 3rd, this part of the Chemical Examination was not actually witnessed by us, but, owing to the kindness and foresight of Dr. HAUGHTON and Professor REYNOLDS, the Laboratory in which the Examination had been held on

the previous day had been allowed to remain in the same condition as when actually in use. We, or rather one of us, was thus enabled, with the obliging assistance and explanations of the Professor of Chemistry, fully to understand the mode in which the Examination was conducted.

Each Candidate had a separate compartment of the Laboratory table allotted to him, furnished with all the appliances, re-agents, &c., necessary for chemical analysis. The objects enumerated in one of the subjoined papers (No. 5) having been set before him, he was directed to analyze them, and to give either orally or in writing the steps and reasoning by which he arrived at his results. For this purpose about two and a half hours were allowed.

With respect to this Examination we would remark that the proceeding followed, and the subjects selected, were well contrived and well chosen to test the extent of the Candidate's acquaintance with Practical Elementary Chemistry; whilst it will be seen, from the printed questions set by Dr. APJOHN, that some of the more complex problems in Chemistry had not been omitted.

(2) The Oral, or Practical Examination in Anatomy, was commenced on the 2nd June and continued on the 3rd and 4th. It was held in the Anatomical Theatre and conducted by Dr. LITTLE, the "University Anatomist," and Dr. MACALISTER, the Professor of Comparative Anatomy and Zoology, but who is also largely engaged in the instruction given in the dissecting room.

We were neither of us able to be present on the 2nd June, but as the Examinations on the following days were precisely similar, the description of what one of us was then enabled to witness will suffice.

The Examination was divided into two parts, one chiefly confined to Descriptive Anatomy, and the other to Dissection and Topographical Anatomy. In the former of these parts the Candidates (twelve in number) were placed in a row, on the lowest bench of the theatre,

in front of a table, on which were placed numerous disarticulated bones, the two Examiners being on the opposite side, and at opposite ends of the table. Each Examiner began at one end of the row of Candidates, by placing in his hand one of the bones, which he was expected to describe, and to give an account of its relations, connections, development, &c., together with replies to such questions as might incidentally arise on points relating to it. The Examiner then passed to the next Candidate in the row, and so on, until the two Examiners met at the centre, where they changed sides, and proceeded in this way until each Candidate had answered questions on five objects to each Examiner, or ten in all.

The time thus occupied with the twelve Candidates was between two and a half and three hours, so that each individual may be said to have been under Examination for about twelve or fifteen minutes; the time of course varying according to his readiness in answering.

At 2 p.m., the same Candidates came into the theatre again, for the Examination on the dissected subject.

For this purpose two subjects were provided, at each of which one of the Examiners was stationed. When a Candidate had answered five questions, or rather demonstrated five different points at one of the subjects he was passed over to the other, and gave replies to the same number of queries. Any confusion with respect to the same parts being given by both Examiners was avoided by a previous understanding between them.

The time occupied in this part of the Anatomical Examination was about ten or fifteen minutes under each Examiner. But no time was actually assigned, and as much was taken as sufficed to enable the Examiner to elicit the extent of the Candidates' knowledge.

Thus taking both sections of the Oral Examination together, each Candidate was under examination for from twenty-five to thirty minutes, and it is impossible to over-estimate the care and patience exhibited by

the Examiners in the performance of their duty, which was in all respects executed in the most satisfactory manner.

IV. We subjoin a Table in which are shown the number of Candidates who presented themselves in the several subjects of the "Previous Examination," together with the number of those who passed or were rejected, and the percentage of the latter, and in the entire number of Candidates, though for the reason above stated, that some of the Candidates may have been, and, in fact, were rejected, in more than one subject. The last line is of little significance.

TABLE.

SUBJECT.	No. of Candidates.	No. Passed.	No. Rejected.	Percentage of Rejections.
Physics . . .	29	27	2	6·8
Botany . . .	12	3	9	75
Materia Medica . .	10	4	6	60
Chemistry . . .	12	9	3	25
Anatomy . . .	21	15	6	28
TOTAL . .	84	58	26	51

This Table exhibits a very remarkable difference in the number of rejections in different subjects, inasmuch as, while only 6 or 7 per cent. were rejected in Physics, in Botany as many as 75, and in Materia Medica 60 per cent. failed to pass. The explanation given to us of this, was that in *the* subjects in which the rejections were so numerous, the Candidates consisted of men who had either been up several times before, or had not attended the Courses on those subjects since the previous year. The Lectures on Botany and Materia Medica not having terminated before the commencement of the present Examination. And it is to be remarked that a supplemental Examination in Botany, Materia Medica, and Chemistry is held at the close of the Summer Session, at which, as we understood, the better prepared class of Students usually present themselves.

V. We subjoin copies of the printed papers of questions, as well as a list of the various Examiners, in order to show how many of them are Professors or Teachers in the University, or not. And from this it will be seen that, except in Anatomy, one of the two Examiners in each subject, is not a Teacher in the University.

LIST OF EXAMINERS.

NAME.	University.	Extern.	Subject.
Mr. GALBRAITH . .	...	1	Physics.
Mr. LESLIE . . .	1	...	
Dr. PERCEVAL WRIGHT .	1	...	Botany.
Dr. DAVID MOORE . .	...	1	
Dr. APJOHN . . .	...	1	Chemistry.
Mr. REYNOLDS . . .	1	...	
Dr. A. SMITH . . .	1	...	Materia Medica.
Dr. MACNAMARA . .	...	1	
Dr. MACDOWELL . .	1	...	Anatomy.
Dr. LITTLE . . .	1	...	
Dr. MACALISTER . .	1	...	

D. R. HALDANE, M.D.
GEO. BUSK, F.R.C.S.

(1.)

PHYSICS.

Mr. GALBRAITH.

1. Describe the Mercurial Thermometer, and state how it should be used to ascertain the temperature of the body of an animal.

The temperature of an adult man taken under the armpit, varies,

according to Gavarret, from 36°.5 to 37°.5 centigrade. Reduce these to Fahrenheit scale.

2. In order to compare the temperatures of different parts of the human body, Becquerel used thermo-electric needles and a galvanometer. State the method of making this experiment.

3. Define a unit of heat—specific heat—latent heat. State the values of the latent heats of water and steam.

4. How much Steam at 212° F. must be condensed in a bath of 20 gallons of water at 60° F. in order to raise it to 100° F.?

5. What methods are resorted to for keeping the surface cool? State the principle on all which such methods are founded.

6. State the construction of any Self-registering Thermometer with which you are acquainted.

7. The division of bodies into Electrics and Non-electrics has been superseded by Gray's division into Conductors and Non-conductors. State an illustrative experiment.

8. Of what use is the row of points opposite the glass plate or cylinder in the common Electric Machine.

9. State the construction of a cell of Grove's or Bunsen's Battery: illustrate by a Diagram, and state the use of the Nitric Acid.

10. How would you convert a bar of soft iron into a strong magnet? State the principle of induction on which this is supposed to be effected?

(2.)

PHYSICS.

Mr. LESLIE.

1. State *the principle of Archimedes,* and describe the method of applying it to find the Specific Gravity of Solids.

2. Explain the different methods of finding the Specific Gravity of Liquids and state any uses to which the result is applied.

3. Give experiments to illustrate the pressure and weight of the Air.

4. State the principles of the Barometers ordinarily used, explaining the theory of the vernier used for marking the height, and giving the corrections necessary for deducing the true from the observed height.

5. Give the principle of any instruments used for finding the amount of moisture present in the air.

6. Give an experiment to show what is meant by *Latent* heat; and state the mode of applying it to the construction of Freezing Machines.

7. Describe the action of the *Electrophorus*, and mention any Electrical Machine which depends on the same principle.

8. Give experiments to illustrate the Calorific and Chemical effects of the discharge of a Leyden jar.

9. State, in detail, the construction of an Induction Coil, and mention any uses to which it may be applied.

10. Trace the directions of the induced currents in the Armatures of a Magneto-electric Machine, and give applications of its use.

(3.)

BOTANY.

PROFESSOR E. PERCEVAL WRIGHT.

1. Describe the chief forms of Underground Stems.

2. Describe Aculei as they occur in the Bramble, and contrast them with spines, say of the Blackthorn.

3. Enumerate the chief forms of Vernation of individual leaves.

4. Enumerate the structures met with in a two years old stem of the Bark Oak.

5. State what you know as to Pringsheim's researches into the Spectroscopic Analysis of Chlorophyll and Etiolin.

6. Give examples of Protandrous and of Protogynous Flowers.

7. Give the native countries of the following :—

Artocarpus.	Coffea.	Sarracenia.
Aucuba.	Durio.	Strychnos.
Chinchona.	Eucalyptus.	Telfairia.
Cocculus.	Pringlæa.	Victoria.

8. Enumerate the forms of Fruit met with in Solanaceæ, and mention any that are good for food.

9. What are the characters of the natural family of the Cruciferæ?

10. Describe the plant on the table, using the schedule given to you for this purpose.

(4.)

BOTANY.

Dr. MOORE.

Physiological and Systematical.

1. Describe the vegetable cell and its contents.

2. Describe the formation of woody tissue in a Dicotyledonus stem.

3. Describe the movements of sap in plants, stating the parts of the plant through which it ascends, also the causes of these movements.

4. Describe the functions of leaves in plants.

5. Describe the pollen grain, stating the manner in which fertilization is effected in Angiosperms.

6. State the nature of a Hybrid, and the difference between a Hybrid and Crossbreed.

Vascular Cryptogams.

7. Describe the reproduction and fertilization in Ferns.

8. Describe the reproduction in Marsilea or Isoetes.

Systematic Botany.

9. State the essential characters of the natural order Solanaceæ.

10. Describe the plant on the table, using the schedule given to you for this purpose.

(5.)

PRACTICAL CHEMISTRY.

Dr. REYNOLDS.

1. Analyze the three specimens of simple salts handed to you, and marked respectively *a*, *b*, and *c*. Name the base and acid present in each compound, and explain the steps of the analysis.

2. The Organic Liquid before you contains either Arsenic or Antimony. Determine precisely which of these metals is present.

3. *Completely* convert the solution of *Ferrous* Sulphate given you into Ferric Sulphate, and fully explain the process.

(6.)

CHEMISTRY.

Dr. APJOHN.

1. Explain the process of the *B. Pharmacopæia* or making Bromide of Potassium, and how you would test the salt for Iodide of Potassium.

2. How would you insulate the elements of Hydrochloric Acid, and how would you combine them so as to form the Acid?

3. Heavy spar is usually employed for the preparation of the soluble Barytic Salts. Give the details of the process.

4. How is Mercuric Sulphate made, and how is it converted into Turbith Mineral, Corrosive Sublimate, Calomel, and the Yellow Oxide of Mercury?

5. A good source of Chlorine is Bichromate of Potassium, acted upon by Hydrochloric Acid. Explain its development from these materials.

6. How is Ferri Sulphas Granulatum made, and what change does it experience when through a solution of it a stream of Chlorine is passed?

7. Mention the processes by which, from Cyadine of Potassium and Ferrous Sulphate, Ferrocyanide of Potassium may be made, the method by which this compound may be converted into Ferrocyanide of Potassium, and the action of the Ferrocyanide and the Ferridcyanide on the Ferrous and Ferric Chlorides of Iron.

8. Give the process mentioned in the *British Pharmacopœia* for converting Amylic Alcohol into Valerianic Acid.

9. How would you use Nitroprusside of Sodium to demonstrate the presence of Unoxidized Sulphur as a constituent of the Proteinic Compounds?

10. A Triatomic Alcohol occurs in the present edition of the *British Pharmacopœia*. Mention its name, write its formula, and explain how it may be obtained.

(7.)

MATERIA MEDICA.

Dr. RAWDON MACNAMARA.

1. Contrast in their physiological and therapeutical aspects, Opium and Belladonna.

2. How is Manna obtained? How does it differ from, and how does it resemble, ordinary Sugar? State its physiological effects, its uses, dose, and mode of administration.

3. Describe the physical appearances of a Senna leaf. Contrast these with the physical appearances of the impurity most frequently met with in the Senna of commerce. Describe the Pharmacopœial preparations containing Senna, and state their dose and mode of administration.

4. Explain the Pharmacopœial process for making the Mistura Ferri Composita. Mention its physiological effects, dose, and mode of administration.

5. Explain the Pharmacopœial process for preparing Carbonate of Zinc, and account for the effervescence alluded to.

6. Describe the Pharmacopœial process for preparing Santonine. What are its uses, doses, and best method of administration?

7. From what source is Bael fruit obtained? State its therapeutic value and mode of administration.

8. What special therapeutic value, over the other Antacids, has been ascribed to Lithia? What are its Pharmacopœial preparations, their dose, and mode of administration?

9. Mention what would influence you in selecting one, in preference to another, of the following Cathartics:—Aloes, Rhubarb, Podophyllum, Sulphate of Magnesia, Castor Oil, Croton Oil.

10. Explain the Pharmacopœial process for preparing Nitrate of Silver What are its physiological effects, its therapeutic value, dose, and best mode of administration?

(8.)

MATERIA MEDICA.

Dr. AQUILLA SMITH.

1. Describe the pharmaceutical processes—maceration, infusion, and digestion. Why is Infusum Calumbæ directed to be macerated?

2. What are the doses for an adult of the following preparations in the British Pharmacopœia?:—

Hydrargyri Iodidum Rubrum.	Creasotum.
Tinctura Digitalis.	Nitras Argenti.
Hydrargyri Perchloridum.	Extractum Ergotæ Liquidum.

3. How is Acetate of Morphia to be readily distinguished from Hydrochlorate of Morphia?

4. Write a prescription in Latin, without abbreviations or symbols, for twelve pills, containing Croton Oil, and suitable for a case of constipation in a delicate young female.

5. What is Cochineal? How is the diluted tincture affected by the addition of an acid, and by the addition of an alkali? What change takes place in Tinctura Croci when exposed for some time to light?

6. Give the characters of Iodine, and the tests for its purity. How would you test for Iodine the urine of a person who had taken Iodide of Potassium for some days?

7. What is Veratria? Give the botanical name and part of the plant from which it is obtained. How is Veratria readily distinguished from all other alkaloids, and what preparation of it is in the Pharmacopœia?

8. Name six of the most active vegetable Cathartics, and the average dose of each for an adult.

9. Describe the colour of Mistura Ferri Aromatica, and of Mistura Ferri Composita, and state the form in which Iron exists in each preparation.

10. Give the distinctive characters of Gallic and Tannic Acids; which of them is most suitable for internal administration?

(9.)

DESCRIPTIVE ANATOMY.

Dr. M'Dowel.

1. Enumerate the connections of the Frontal Bone.

2. What bones form the several walls of the Orbit?

3. The attachments, mode of action, and nervous supply of the Digastric Muscle?

4. Describe the origins, course, and distribution of the greater and lesser Occipital Nerves.

5. Enumerate the arteries met with in the dissection of the back of the neck.

6. Describe the dissection you would make to expose fully the Pancreas.

7. Mention the several Arteries which supply this Gland.

8. Give the distribution of the Median Nerve of the Plexus.

9. Give the fascial relations of the Femoral Artery in the upper part of Scarpa's space.

10. Enumerate and classify the several Muscles which act as rotators of the Hip-joint.

REPORT ON THE MEDICAL DEGREE EXAMINATION AT TRINITY COLLEGE, DUBLIN.

June, 1875.

Visitors—D. R. HALDANE, M.D., Member of the General Medical Council.
GEORGE BUSK, F.R.C.S., Visitor appointed by the Council.

This Examination commenced on Monday, June 7th, and was continued on the two following days.

It was divided as usual into a Written and an Oral portion, but the latter was held only in the subjects of Medicine and Practical Histology.

The subjects included in the Examination were—

1. Physiological Anatomy.
2. Midwifery.
3. Institutes of Medicine (Physiology).
4. Medical Jurisprudence.
5. Surgery.
6. Medicine.

It was conducted by the following Examiners, all of whom are Professors or Teachers in the College—

1. Dr. M'DOWEL, Professor of Anatomy and Surgery.
2. Dr. SINCLAIR, Professor of Midwifery.
3. Dr. PURSER, Professor of the Institutes of Medicine.
4. Dr. TRAVERS, Professor of Medical Jurisprudence.
5. Dr. E. H. BENNETT, Professor of Surgery.
6. Dr. STOKES, Regius Professor of Physic.
7. Dr. MOORE, Professor of Practice of Medicine.

I. WRITTEN EXAMINATION.

On each of the above subjects a paper containing five questions was set, for the answering of which an hour was allowed; but the Examination was divided into two portions of three hours each, the interval between twelve o'clock and two being allowed for relaxation.

Copies of the papers set on this occasion are appended to this Report.

We were allowed free access to the written answers in the Registrar's room after judgment had been passed upon them by the Examiners, and perused a number of those marked highest and lowest, together with some of the intermediate class.

The result of our examination of the answers, as compared with the estimates given by the various Examiners, was that, on the whole, a fair and discriminative value had been attached to them. In the subject of Medical Jurisprudence the value assigned to the answers far exceeded the average of that given in any other subject, and the Examiner might therefore, perhaps, be regarded as unusually lenient; at all events the difference was so marked, as at once to attract our attention.

Although, as we have stated in our Report on the "Previous Examination," the Examiners are not guided solely by the number of marks in arriving at their judgment, this element enters largely into their decision. It may afford a fair notion of the relative proficiency of the Candidates if we state the mean number of marks obtained in each subject at this Written Examination.

1. Surgery 30
2. Medicine 30
3. Physiological Anatomy 33
4. Midwifery 49
5. Institutes of Medicine 51
6. Medical Jurisprudence 75

From which it would appear that the average value of the written answers in Surgery and Medicine was lower than in any other of the subjects, and that of those in Medical Jurisprudence is by far the highest.

As this Examination may be regarded as the final one for the highest *Medical* Degree granted by the University, a higher standard for the written answers in the Practice of Medicine might, perhaps, have been expected and desired. The apparent deficiency, it is true, is to some extent made up by the far greater success of the Candidates in the Clinical or Oral Examination, in which the mean number of marks gained was 63, showing a satisfactory amount of practical knowledge, but on so important a subject it might, perhaps, be better if a greater proficiency in the Written Examination were also demanded.

II. THE CLINICAL OR ORAL EXAMINATION.

This Examination, which included also the *vivâ voce* Examination that was given in Medicine, was held in the Royal Military Hospital on the 8th and 9th of June, and was conducted by the Regius Professor of Physic, and the King's Professor of Practice of Medicine. One of the Examiners went to the Hospital on the previous day and selected cases suitable for examination. The number of Candidates on this occasion was twenty, ten of whom were examined on each day.

The Candidates met the Examiners at ten o'clock, and were divided into two parties of five each, one division being under the superintendence of each Examiner. A case was then assigned to each Candidate, urinometers, thermometers, and chemical re-agents, being provided for his use. One hour was allowed to each Candidate, and he was required during this time to examine the case and write out a description of it, including a statement of the facts he had elicited, together with his diagnosis, prognosis, and views as to treatment. At the end of an hour the Candidates handed in their papers to the Examiners, and the five who had been with each Examiner were transferred to the other, when the same process was repeated. In

this way every Candidate gave in a case to each Examiner. The papers were not looked over at this time, but we were informed that the Examiners would meet in the afternoon, and come to a decision regarding them.

The Oral Examination was immediately proceeded with; the two Examiners sat together, and five Candidates appeared before them at the same time. Each was required to give a short account of the cases he had examined, and was questioned by each Examiner on points suggested by the cases. The questions were not confined to the Candidate whose case was under consideration, but questions were passed on from one to another. This Examination lasted for about three-quarters of an hour, and the same process was repeated with the five remaining Candidates.

Consequently, if the time occupied by the Examination be divided by the number of Candidates, each may be considered as having been under Oral Examination for about ten minutes.

The total number of marks which could be gained at this Examination was twenty, ten being assignable by each Examiner, that is to say, five for the *vivâ voce*, and five for the Written Case.

Remarks.

We were, on the whole, much pleased with this examination. The cases were well selected, and the *vivâ voce* Examination was conducted in a very thorough manner. There is only one point to which we think it right to allude. The time devoted to the *vivâ voce* Examination appeared to us too short, and as being out of proportion to the time allowed for the examination and description of cases. We consider that one hour would be sufficient for these latter purposes, and in this way, the time of the *vivâ voce* Examination might be nearly doubled, without extending the total time assigned to the Examination.

The only other Oral Examination, and which was held for the

first time on this occasion, was on Practical Histology. It was conducted by Professor PURSER, commencing at 10 A.M., on the 8th and 9th of June, and the mode in which it was carried out was as follows:—

The Candidates (ten on each day) were seated at tables, in a well-lighted apartment, and each was furnished with a miscroscope and the necessary implements for histological dissection and preparation, whilst, on a side-table, were placed the various re-agents, &c., he might require, together with the body of a freshly killed rabbit.

Each Candidate then drew by lot, from a list of subjects, that which he was to prepare, display, and explain, in writing. The list we saw contained the following subjects:—

1. Squamous Epithelium.
2. Columnar do.
3. Ciliated do.
4. Transitional do.
5. Subcutaneous Areolar Tissue.
6. Serous Membrane to show Fibres and Elastic Element.
7. Medullated Nerve.
8. Voluntary Muscle.
9. Hyaline Cartilage.
10. Reticulated Fibro Cartilage.
11. Cortical portion of Kidney (section.)
12. Section of Liver.
13. Vertical section of Small Intestine.

We watched this Examination with great interest, and with one or two exceptions, were much pleased with the proficiency in the making of Microscopic preparations, and the knowledge of what was shown in them displayed by the Candidates. And we were fully satisfied with the complete and accurate manner in which the Examination was conducted.

The only remark beyond this that we would offer, is, as to whether this Histological Examination might not be advantageously relegated to the Previous Examination, for it would appear obvious that an acquaintance with Histology is as necessary a preliminary to the study of Pathology, as is a knowledge of Topographical Anatomy.

The mode in which the Board of Examiners proceeds in forming its judgment upon the merits and places of the Candidates being, in the main, exactly the same as in the Previous Examination, which we have already detailed, it need not be here stated. But in this Examination the successful Candidates are arranged in order of merit, and rejection in one subject involves rejection in all, and the whole must be gone through in any subsequent appearance.

On this occasion twenty Candidates presented themselves for Examination, of whom sixteen passed, showing rejections in the proportion of 20 per cent.

By the kindness of Dr. HAUGHTON we were furnished with a statement of the highest number of marks gained at the M.B. Examinations for the last five years, and also of the lowest with which a Candidate was passed :—

	Highest.	Lowest for Passing.
1871 *	84 ...	47
1872	88 ...	52*
1873	77 ...	43
1874	70 ...	42
1875	80 ...	38†

From these numbers it would seem that the examinatory test for the M.B. Degree has been tolerably uniform for the above period; and also, to judge simply from the number of marks, that it has not been unduly lenient.

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* In this year the next lowest number was 39·5.

† The passing of this Candidate was carried by a small majority of votes of the Board.

We have already remarked upon one or two points in this Examination which seemed to us open for consideration, and, in addition, would beg to call attention to another.

It will be noted that in each of the subjects of this Examination the Candidate is submitted to only a single Examiner, who is in all cases a Teacher in the College. It was explained to us that as no one Examiner had the power of rejection such as is exercised by the two Examiners in each subject in the Previous Examination, who, if in accord, can reject a Candidate, the latter had so far a security against individual caprice; that the judgment was given by the Board collectively. Still it might, on the other hand, be argued that a Candidate may in this way pass, who is altogether deficient in some one subject.

If we were allowed to make a suggestion it would be that the authorities of the College should consider the advisability of adopting the same course in the M.B. Examination which has been, we believe, so satisfactorily followed in the Previous Examination, and associate, with each of the College Examiners, a coadjutor not connected with the teaching in the School of Medicine.

In concluding our Report upon the Examinations in Trinity College, we have much pleasure in acknowledging the kind and courteous manner in which we were received, or, as we might say, welcomed by all the Professors and Examiners. Our thanks are especially due to the Medical Registrar, the Rev. Dr. HAUGHTON, for his uniform urbanity and obliging attention, and for the arrangements he made on every occasion to facilitate our enquiries; and also for the readiness with which he furnished us with information on every point connected with our mission.

D. R. HALDANE, M.D.
GEO. BUSK, F.R.C.S.

MEDICAL DEGREE EXAMINATION.

PHYSIOLOGICAL ANATOMY.

Dr. M'DOWEL.

1. Describe and contrast the appearances seen on a transverse section of the Spinal Cord in the cervical, dorsal, and lumbar regions.

2. The origin and distribution of the Spinal Accessory Nerve.

3. Describe the various forms of Areolar Tissue met with in the human body.

4. Describe the structure of the Capillary Blood-vessels.

5. Describe the Arytenoid Cartilages and the action of the several Muscles attached to these structures.

MIDWIFERY.

Professor SINCLAIR.

1. Describe a case of complete Impaction of the Vertex below the Pelvic Brim. In such a case, what symptoms would lead you to expect the rupture of the uterus?

2. In a case of threatened Abortion in the third month of gestation, what would be the indications of treatment? Give the treatment under each indication.

3. Describe the changes which take place in the Nipple, Areola, and Mamma, during pregnancy.

4. Distinguish between Acute Tympanitis and Puerperal Peritonitis. Give the treatment of the former.

5. An infant three months old is sent to you for advice: what marked symptoms would lead you to suspect it was affected with Congenital Syphilis; on what part of the body would you look for the eruption, and how would you treat such a case?

INSTITUTES OF MEDICINE.

Dr. PURSER.

1. Enumerate the forces by which the Lymph is kept in motion.

2. What is the principal change effected in the Lymph by its passage through the Lymphatic Glands?

3. Give the chief differences between raw Egg-albumen and Peptone.

4. Give examples of articles of Food which consist mainly of Hydrocarbons, and of others which consist mainly of Albuminates.

5. How does muscular exertion influence the excretion, first, of Carbonic Acid; second, of Urea?

MEDICAL JURISPRUDENCE.

ROBERT TRAVERS, A.M., M.D.

1. Caius, aged sixty, robust, apparently of good health, and active in his habits, walking several hours daily in the open air, leads a solitary life, having no servant nor other person residing with him in his house, of which he is the sole occupant, performing all domestic offices for himself. A week having elapsed after his being last seen abroad, his neighbours, with officers of justice, force an entrance into the dwelling, and find his dead body, the condition of which indicates that his death must have occurred three or four days previously. No wound, contusion, or other mark of violence is visible on the body, but it is expected that an anatomical examination would discover the *cause of death*. In such a state of circumstances, how would you proceed? and what causes sufficient to explain the event might be traced out in your dissection?

2. When examining the recent dead body of an immature Fœtus, what are the observable circumstances from which you may determine that the state of *viability* had been attained?

3. It is suspected that, either by accident or design, the common *White Arsenic* of the druggist has been used instead of *Bi-carbonate of Soda* in the domestic preparation of Bread. Some portions of such bread being referred to you for investigation, by what process will you ascertain that it does contain an Arsenical poison?

4. Distinguish the *stupor of Inebriation* from that of *Apoplexy*.

5. By what means can a *hard water* be rendered sufficiently *soft* for cooking and other domestic uses?

SURGERY.

Dr. E. H. Bennett.

1. Mention the conditions under which Emphysema of the areolar tissue occurs. State the value of this symptom in determining diagnosis or treatment.

2. Give the characters of simple Dislocation of both bones of the fore-arm backwards at the elbow. State specially those on which you would rely in distinguishing between this injury and the fractures of the humerus, which either simulate or complicate the injury.

3. Name the causes of Secondary Hæmorrhage as it occurs after amputations of the limbs, and describe the treatment you would adopt when this accident complicates an amputation of the thigh on the fifth or sixth day after operation.

4. Give the details of the operation of Excision of the Elbow Joint, and point out the differences of the methods practised by Park, Moreau, Roux, and Langenbeck.

5. Give the diagnosis and modes of treatment of Carotid Aneurism.

PRACTICE OF MEDICINE.

Dr. Moore.

1. Describe the displacements and deformities which may result from Chronic Pleurisy, the diseases they may be confounded with, and their differential diagnosis.

2. Mention the varieties of Aphonia, their respective symptomatic value and pathology.

3. Give the pulse, temperature, and symptoms generally, of a case of Erysipelas, and what treatment you would adopt.

4. State the diseases of the circulation with which "Systolic Murmurs" are associated, and what differential diagnostic value attaches to "continuity" or "non-continuity" in such murmurs.

5. Detail the symptoms, pathology, and treatment, of a case of Tubercular Peritonitis.

REPORT ON THE SURGICAL DEGREE EXAMINATION AT TRINITY COLLEGE, DUBLIN.

June, 1875.

Visitors:—D. R. HALDANE, M.D.,* Member of the General Medical Council.
GEORGE BUSK, F.R.C.S., Visitor appointed by the Council.

This Examination, to which, I believe, only Candidates who have taken the M.B. Degree are admitted, commenced on the 14th June, and was continued on the two following days.

It comprised:—

I. An Examination by printed papers of five questions each, on the following subjects:—

1. Surgery: Theory and Practice, in which three papers were set.
2. Surgical Anatomy. One paper.
3. Ophthalmic Surgery. One paper.

II. A Clinical Examination.

III. An Examination in Operative Surgery on the dead subject.

IV. A *vivâ voce* Examination in Surgical Anatomy.

I. The papers for the Written Examination were set by Dr. COLLES, Dr. E. H. BENNETT, Dr. BUTCHER, and Mr. WILSON, the University

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* Dr. HALDANE, having been obliged to return to Edinburgh, the Inspection of the Examination was conducted by Mr. BUSK alone.

Examiner in Ophthalmic Surgery. Copies of the papers are appended to this Report. All I have to remark with respect to the questions is, that in my opinion, they are judiciously selected, and well calculated to guage the Candidate's knowledge in the Theory and Practice of Surgery.

Having been allowed to inspect the answers at the conclusion of the Examination, I was enabled to satisfy myself that in the value attached to those I perused, the judgment of the Examiner coincided with what I should myself have given. Each Examiner, it may be remarked, as in the other Examinations, considered only his own questions.

II. The Clinical Examination was carried out on the first day in the Male Infirmary Ward, and on the second in the Female Ward of the South Dublin Union. The total number of Candidates (15) having been divided into two batches, eight attended on the first day and seven on the next, at 10 A.M.

The Examination was thus conducted :—A certain number of cases having been previously selected by Dr. COLLES and Dr. BENNETT, by whom this Examination was conducted, a list of them was drawn up, out of which each Candidate selected one by lot.

This case he was expected to examine, and afterwards to write down the history he obtained from the patient, and the diagnosis he had made. When all had had time (which did not appear to be limited) to do this, the Candidates were called, one by one, into another apartment, where they underwent an Oral Examination by the same Professors, upon the case they had seen, and any collateral questions in Pathology and practice that might arise from it. The cases selected for this purpose, on the occasion of my visit, were—

1. *Morbus coxarius*, far advanced.

2. *Talipes equinus varus.*

3. A united Fracture, of recent date, of the upper end of the *femur*, with contraction of the muscles on the back of the leg.

4. Extracapsular Fracture of neck of Femur, united but recent.

5. Injury, with fracture and partial dislocation, of one or more of the Cervical Vertebræ, with some remaining paralytic affection.

6. Extensive Syphilitic Necrosis of the frontal bone.

7. Chronic disease of the Knee-joint, with sinuses.

8. Scrofulous or tubercular disease of the Dorsal Spine, with angular curvature, and contraction of the muscles of the inferior extremities.

One of the Candidates, who had failed to satisfy the Examiners in the account of his case, was retained until the Examination of the rest was concluded, and was then taken to a case in another part of the house (necrosis of the *Tibia*) and examined upon it.

With respect to this Examination, I would venture to remark:—

1. Upon the absence of any attempt in it to test the Candidate's ability in the application of bandages, splints, trusses, and other surgical appliances, as well as of his knowledge of the names and uses of surgical instruments generally. This appears to me to be an omission of some importance, and one, which of course, can be very easily supplied.

2. If there were no insuperable difficulties in the way, it would perhaps be better if the resources in surgical patients afforded in the numerous and excellent Hospitals in Dublin, were made available for the Clincal Examination, in which, it may be remarked, notwithstanding its name, out-patients of Hospitals may be very well made use of. The reason I heard alleged against this being done, was, that some of the Candidates who had been Students in a given Hospital, might have an advantage over their fellows, in the possession of a previous knowledge of the cases. With the limited number of Candidates, however, who come up for the Surgical Degree, it does not seem difficult to make such arrangements as would send the Students of one Hospital to be examined Clinically in another, as is done in the Fellowship Examination at the London College of

Surgeons. In this way a greater number, and greater variety of cases, and those of a more recent character, would, perhaps, be secured, than can usually be afforded in the ward of an infirmary, occupied, for the most part, with chronic, bed-ridden patients.

III. At 2 p.m., on the same day, the Examination in Operative Surgery took place in the Anatomical Theatre, under the superintendence of Dr. BUTCHER.

Seven Candidates presented themselves, being the remainder of the fifteen, of whom the other eight had undergone the Clinical Examination above described.

Each Candidate was called up separately, together with one of the others, to act as his assistant, and who was told to follow passively the directions given him by the Operator.

One or more capital, and some minor Operations were performed by each Candidate; who, during the time of the Operation, was submitted to a continuous and searching Examination on Anatomical and other points, and in some cases, on the history of the Operation he was performing, and on the different modes in which it was done.

Nothing could be better, or more complete, than the way in which this Examination was conducted; nor anything more conspicuous than the patience and consideration of the Examiner.

It cannot, however, be denied, that on the occasion when I was present, the operative skill displayed by some of the Candidates was by no means remarkable, or that they would not have been better for a little further training in such an important part of the Profession in which they were aiming to take so high a Degree.

IV. The Examination in the Operations of Surgery was immediately followed by one on Surgical Anatomy, which was conducted by the "University Anatomist," so far as I observed, mainly with the aid of the bones. I did not notice that any use was made of preparations

of the ligaments and joints, which would probably be found a useful addition. The Surgical Anatomy of the Muscles, and of the blood-vessels and nerves, so far as they are concerned in operations, seemed to fall more especially to the province of the Examiner in Operative Surgery, as mentioned above.

As a concluding remark, I should desire to call attention to what appears to me a serious omission in an Examination, success in which virtually confers the highest Degree obtainable in the Medical Faculty of Trinity College. This consists in the absence of any practical, or "object" Examination in Surgical Pathology, as illustrated by specimens and preparations. Nor, properly speaking, are there any direct questions on that subject among those in the printed papers; so that it may almost be said that it is practically altogether absent in the Examination for the Surgical Degree. If allowed, I might venture to suggest that an Examination in Surgical Pathology might easily be introduced in place perhaps, of one of the three papers on the Practice of Surgery, or it might supplement the Second Examination in Surgical Anatomy. The omission appears the more remarkable in an Examination for so high a Degree, held in a building which contains, at least so far as Osteal Pathology is concerned, one of the most extensive and valuable collections of specimens with which I am acquainted.

At the final meeting of the Board of Examiners, at which I was allowed to be present, the proceedings were conducted in the same manner as in the other Examinations.

Fifteen Candidates had presented themselves, of whom twelve passed, and three were rejected. The total number of marks obtainable was 100, of which 40 were allotted to the Clinical and Operative Examination in Surgery. The highest number of marks obtained was seventy, and the lowest 27. The lowest number of marks allowed for passing, was, on this occasion, 38, but this Candidate was only admitted by a majority of votes of the Board. The successful Candidates were arranged in order of merit.

Having closely watched some of the Candidates through each step of the Examination, I was able fairly to estimate the positions assigned to them in the final list, and which, I am satisfied, were very fairly and properly determined.

GEO. BUSK, F.R.C.S.

SURGICAL DEGREE EXAMINATION.

Dr. Colles.

1. What is Granulation, its structure, and its uses?

2. Give all the symptoms observable in a case of Fracture of the Clavicle, with displacement.

3. Distinguish between direct and oblique Scrotal Hernia.

4. What circumstances would prevent you operating on a Fistula opening at the anus?

5. In what situation are Lipomatous Tumours found? and give the symptoms, distinguishing them from other tumours.

SURGERY.

Dr. E. H. Bennett.

1. Describe the ordinary form of Fracture of the Patella. What are the complications that usually embarrass its treatment, and the circumstances attending any given case of the injury which should guide you in giving a favourable opinion, or the reverse, as to the ultimate result?

2. Mention the varieties of Abscess which occur in the Axilla, and the modes of treatment suitable to each.

3. Give the characters of Tubercular Disease of the Testicle. State the diagnosis between this disease and those affections of the Gland which it most closely resembles.

4 What are the distinctive features of an irritable Ulcer of the Leg? Describe the special forms of the treatment that have been recommended for this affection.

5. Give the opinion of Syme as to the class of cases to which the operation of Perineal Section is applicable, and state shortly the steps of the operation.

SURGERY.

Dr. Butcher.

1. Mention the circumstances under which it would be advisable to Trephine the Skull; the marked symptoms in each case, making the operation warrantable; the instruments required, and the steps of the operation.

2. Describe a Varicose Ulcer of the Leg; the pathological conditions of the skin and vessels in the neighbourhood; and, if the patient perishes from Hæmorrhage, give an explanation of the mode of death.

3. A man gets a violent blow upon the head with a stick. Enumerate the several injuries that might be occasioned; detail the characters of each, and the serious symptoms that may arise *immediately*, and those at a *remote* period.

4. Mention the different forms of Tumour that may be met with about the Knee-joint, in the Ham, and give the characteristic features of each, and the diagnostic marks between them.

5. Mention minutely Dupuytren's views and mode of reasoning on Fracture of lower extremity of the Radius, and on Dislocation of the Wrist-joint; also his method of treating Fracture of the lower extremity of the Radius.

SURGICAL ANATOMY.

Dr. M'Dowell.

1. Describe the line of articulations concerned in Hey's and Chopart's Amputations respectively.

2. Describe the appearances of the Inguinal Region above the line of Poupart's Ligament, as seen from the internal or peritoneal aspect.

3. Describe the steps of the operation for Tying the External Iliac Artery after the method of Abernethy.

4. Give a description of the Bones and Ligaments which constitute the Sterno-clavicular Articulation.

5. Mention and explain the symptoms which follow an injury of the External Thoracic (long Thoracic) Nerve.

Mr. Wilson.

1. State the symptoms, causes, and usual termination of Panophthalmitis or Suppuration of the Eye-ball, and its treatment.

2. A penetrating lacerated wound is inflicted on the Eye, extending from the Cornea for a distance of some lines into the Sclerotic. What are the most probable immediate and remote results of such injury, and what should the treatment be?

3. Describe the objective and subjective symptoms of, and connected with Myopia. How is it to be recognized ophthalmoscopically, and how treated?

4. Describe Suppurative Keratitis. Mention its causes, complications, and terminations, and how it is to be treated?

5. Contrast Pannus with Interstitial Keratitis, and mention how each should be treated.

REPORT

OF THE

COMMITTEE

ON THE

VISITATIONS OF EXAMINATIONS IN 1873-74,

AND ON THE

REMARKS OF THE LICENSING BODIES

ON THE

REPORTS OF THE VISITORS.

REPORT.

The Committee appointed by the Resolution of Council, June 18th, 1875, "to consider the Reports of the Visitations which have been submitted to the Licensing Bodies, and the Remarks of the Licensing Bodies upon them," have read over the following Reports and Remarks:—

1. On the Examinations of the Society of Apothecaries of London, on the 10th, 18th, 23rd, and 24th December, 1873.

2. On the First or Primary Conjoint Examination of the Royal Colleges of Physicians and Surgeons of Edinburgh, on the 8th and 9th July, 1873.

3. On the Second or Pass Conjoint Examination of the Royal Colleges of Physicians and Surgeons of Edinburgh, on the 10th and 11th July, 1873.

4. On the Examination for the Single Qualification of the Royal College of Physicians of Edinburgh, on the 16th July, 1873.

5. On the Examination for the Single Qualification of the Royal College of Surgeons of Edinburgh, on the 15th and 16th July, 1873.

6. On the Second, or Pass Conjoint Examination of the Faculty of Physicians and Surgeons of Glasgow, and of the Royal College of Physicians of Edinburgh, on the 15th and 16th January, 1874.

7. On the First and Second Examinations of the Faculty of Physicians and Surgeons of Glasgow, on the 12th and 13th of August, 1873.

8. On the First and Second Professional Examinations for the Degree of M.B. in the University of Glasgow, in October, 1873.

9. On the Visitations of the Medical Examinations (First, Second, and Third), in the University of Glasgow, in April, 1874.

10. On the Examination for "Letters Testimonial" of the Royal College of Surgeons in Ireland, Junior Class Candidates, January, 1874.

11. On the Examination for "Letters Testimonial," of the Royal College of Surgeons in Ireland, Senior Class Candidates, on the 24th, 26th, and 27th January, 1874.

12. On the Visitation of the Medical Examinations in the Queen's University, Ireland, in June, 1873.

13. On the Visitation of the Medical Examinations in the Queen's University, Ireland, in September and October, 1873.

The Committee has first taken out from these Reports those statements of the Visitors and the Remarks made upon them, which appear to require special attention, and has then referred to some general questions which arise out of the Reports, and to which the Committee consider the attention of the Council should be directed.

The Society of Apothecaries of London.

The Visitors remark that since the last Report (in 1867) on this Licensing Body, was made to the Medical Council, two defects then noticed, have been remedied; Candidates are now practically examined on patients brought to the Hall; and the Written and Oral Examinations are conducted on separate days, for which changes they think the Society deserves credit.

They now consider the Examination "a fair test of the capacity of the Candidate, and of his fitness for being placed on the Register."

They remark, however, that the holding the Examinations, weekly as enforced by Law, is objectionable; that the time allowed for the writing of answers is out of proportion to the "number and character of the questions proposed;" that some of the Candidates showed a want of preparation, and that the Society is not carrying out the Resolution of the Council (Minutes

Vol. V. p. 238), that Surgery should be one of the subjects on which every Candidate should be examined before receiving a Qualification entitling to Registration.

The Society reply that they are obliged by Law to hold the Examinations weekly, but that they have made regulations to obviate the disadvantages pointed out by the Visitors in this respect, and also as regards the time allotted for the Written Examinations; that they can only meet the want of due preparation on the part of the Candidates by refusing their Licence, and have no control otherwise over this matter; and that, as regards Surgery, the point is, as far as this particular case is concerned, of little moment, since only 3·5 per cent. of the Licentiates appear to hold no Surgical Qualification.*

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*The following statistics have been laid before the Committee on this point by Mr. BRADFORD; they refer to some years ago, but the Committee are informed by Mr. BRADFORD that they represent fairly the results of recent years:

During the years 1865-6, 1866-7, 1867-8, Certificates to Practise as Apothecaries were granted as follows:

In	1865-6, to	248 persons.
	1866-7, to	238 „
	1867-8, to	261 „
Total in 3 years,		747 „

Of this total it has been ascertained that 721 hold other Qualifications entitling to Registration. About 100 have Scotch or Irish, or other Qualifications.

Not less than 620, or 84·5 per cent. are either Members or Fellows of the Royal College of Surgeons of England.

26 only (less than 3·5 per cent.) appear to hold no other Qualification than that of L.S.A. Of these last, not more than 10 or 11 appear to be resident, the remainder have not been traced, and it is probable that some of them have acquired additional Qualifications since the lists were made up.

We are informed also by the representative of the Society that, in accordance with the recommendations of the Visitors, eleven instead of fourteen questions are now put; that three hours are now allowed for each Written Examination, and that an extra quarter of an hour is also given for the Clinical Examination, and for the Examination in Regional Anatomy.

As the Committee will have to return to some of the points noticed above, they will now merely remark that they do not think the Council need make any further communication to the Society of Apothecaries, as the Examination is satisfactory, and as the Society has attended, as far as its powers extend, to the suggestions of the Visitors.

The First Conjoint Examination of the Royal College of Physicians and Surgeons of Edinburgh.

The Visitors to this Examination report favourably of it, and consider it a fair test. They suggest, however, that the Examiners in the Oral Examination should see the written papers; and we find in the remarks of the Royal College of Surgeons, Edinburgh, that, "they have now provided that the Examiners for the Oral shall have before them the written answers of the Candidates for reference, with some distinctive mark affixed to the most defective part of the answers."

The Colleges have also extended the Examination on Physiology, and intimate their intention of adopting the recommendation of the Council, that the area of Examinations in certain subjects, be limited.

The Visitors were unfortunate enough to meet only very inferior Candidates, who were all rejected. They have given the answers, and have stated their sense of the great deficiencies of those Candidates, both in general and professional knowledge. This was not intended as a reflection on the two Colleges, and is not so taken by them; but the College of Surgeons remarks on this point, "That a large number of the Candidates who come to be examined in Edinburgh, have received their education in other parts of the kingdom, and that it would be most unjust, from the results observed by the Visitors, to infer any inferiority in the Edinburgh School of Medicine."

No imputation can, on this ground, lie on the Edinburgh School of Medicine, but the fact remains that five gentlemen were so deficient in preliminary education as not to be able to spell or express themselves, and after being supposed to have been taught Anatomy and Chemistry, knew little or nothing of these subjects. The Committee think that when Candidates show such deplorable ignorance of general as well as of Professional Education, it would be desirable for the Licensing Body to report the facts to the Medical Council, in order that the nature of the Preliminary Examination the Candidates underwent, should be enquired into.

Second or Pass Conjoint Examination of the Royal Colleges of Physicians and Surgeons of Edinburgh.

The Visitors Report "that they were not entirely satisfied that the Examination is as good a test as it ought to be," and they suggest that the Examiners in Medicine, Surgery and Midwifery should conduct all parts of the Examination; that the Written Examination should be spread over two days, and that six subjects in six hours is too much; that the Written Examination in Medicine and Materia Medica should be a little extended, and that the Anatomical and Clinical parts of the Surgical Examination should be increased.

The College of Surgeons reply to the first point that the attempt to have all parts of the same subject conducted by the same Examiners is impracticable even if desirable; and that they have now provided, as far as it can be done, for continuity of Examination.

The Committee believe that there are difficulties in carrying out completely this recommendation of the Visitors, but they agree with the Visitors that the practice of the same Examiners conducting all parts of the same subject is correct, that it should always be done in the case of the Written and Oral Examinations, and in the case of Clinical and Practical Examinations when that is possible.

The College replies to the question of time that it has not

in practice been found to be too short. The Committee, however, agree with the Visitors that the time allowed for the Written Examination in the Second Conjoint Examination is too short, and that the two Royal Colleges be recommended to extend it over two days.

The Royal Colleges have increased the Examination in Surgical Anatomy in accordance with the suggestions of the Visitors of the Conjoint and Single Qualifications of the College of Surgeons.

Single Qualification of the Royal College of Physicians of Edinburgh.

The Visitors report the Examination as satisfactory, except that there is no proper Surgical Examination, and that at the Oral Anatomical Examination, no use is made of dissected preparations.

The College of Physicians remarks, that the deficiency in the Surgical Examination has been remedied, and that the wants of dissected preparations has been also amended.

Single Qualification of the Royal College of Surgeons of Edinburgh.

The Visitors report some deficiency in both the Primary and Second Examinations. In the first the Anatomical Examination was too little demonstrative, and no use was made of the microscope. In the second the Visitors remark, especially on what they consider the deficiencies of the Clinical Examination, but which appear to be rather deficiencies in the Examination generally, and not especially in the Clinical part of it.

The College, in its remarks, corrects some inaccuracies of the Visitors, in stating the number of Candidates, and the number of subjects examined upon. The other points referred to have been noticed in the remarks on the previous reports.

Second or Conjoint Examination of the Faculty of Physicians and Surgeons of Glasgow and the Royal College of Physicians of Edinburgh.

The Visitors report favourably of this Examination, but remark that the time allowed for the Written Examination (5 subjects in 6 hours on one day) is too short, and point out, as in previous visitations, the fact that in the Oral Examination the Examiner

should have the written answers before him. The Faculty and the Royal College of Physicians make no remarks on this Report, but the Committee are informed by Dr. Fleming, that the whole system of Examination is at present under review.

First and Second Examinations of the Faculty of Physicians and Surgeons of Glasgow.

In respect of the First Examination the Visitors report that there is room for considerable improvement in the mode of testing the proficiency of the Candidates in Anatomy and Physiology; they particularly remark that Anatomy should not only be tested by written answers but by *vivâ voce* Examination and by Dissection; and that a knowledge of Physiology cannot be properly determined by one hour's written and five minutes *vivâ voce* Examination. They observe also that some microscopical knowledge should be required from every Candidate. In Chemistry they report the Examination as quite sufficient.

The Faculty state in their remarks that these suggestions are receiving attention.

In the Second Examination the Visitors were better satisfied, but advise that the Examination in Clinical Medicine should be

somewhat extended, and recommend written reports of cases; they also refer to some deficiencies in the Oral Examination on Surgery, and in the Practical Surgical Examination, and remark that no instruments were exhibited, bandages applied, or operations on the dead body made.

With regard to the extension of the Medical Clinical Examination, the Faculty remarks, in its comments on the Visitors' Report, that in no other Examination for a Surgical Licence is there a Clinical Examination in Medicine. It is creditable to the Faculty to have instituted such an Examination, but still, if done at all, the Committee think the Visitors justified in demanding it should be done well; and, if the Faculty is correct in stating that it is the only body which institutes such a test in a surgical Examination, the Committee think it is a fact to be much regretted. With regard to the other points, the Faculty does not appear to admit the justice of the criticisms, but still adds that it will endeavour to carry out any suggestion which appears fitted to improve the Examination. It also points to the statistics of rejections to prove that the Examination is sufficiently searching.

University of Glasgow.

There are two Reports on this University, one dealing with the First and Second Examinations only; the other referring chiefly, though not entirely, to the Third Examination.

The Examinations are stated to be thorough and good, but some points requiring amendment are pointed out by the Visitors, viz., the extension of the Examination in Physiology; the employment of actual dissection during the Anatomical Examination, and an arrangement that not more than two subjects shall be taken on the same day, p. 118.

With respect to the test by dissection the Visitors observe, "that the requirement of dissection, especially by the Candidates who had shown themselves weak in other parts of the Examination, would render the Examination a still better test, and a stronger stimulus to practical work."

In the remarks on these recommendations it is stated that the last point has been now arranged, and that a Laboratory for Physiological teaching is now provided, so that the Examination in it will be improved, and also that the question of Dissection during the Examination will be considered.

One observation was made by the Visitors of importance, viz., that the strong recommendation of the Council that there shall be two Examiners at every Oral and Clinical Examination, was not attended to. The University state that the number of non-professorial Examiners will be increased to meet this point, and "that they will not be connected with the teaching staff of the University."

Examinations for "Letters Testimonial" of the Royal College of Surgeons in Ireland—Junior and Senior Class Candidates.

With regard to the Junior Class Candidates the Visitors remark that the time occupied in the Examination should be considerably extended; that more time should be given by the Examiners to the perusal of the Written Papers before the commencement of the Oral Examination; that more questions should be put in the paper of Anatomy and Physiology; that a certain amount of Histology should be introduced into the Examination, and that the system of marking (which practically permits one Examiner to pass a Student who is deficient in other subjects) should be altered.

The Royal College in its remarks observes that, some time ago, before the Visitation, a Committee was appointed to report what changes were required in the Examinations, and that the Report of this Committee embodies, without exception, every suggestion, in their opinion of value, in the Reports of the Visitors. The College goes on to state that four hours shall be allowed for the Written and one hour for the Oral Examination, questions on Histology are to be introduced, and provision has been also made for testing Candidates on Chemistry and Medical Jurisprudence, the latter subject being transferred to the second part of the the time of Examination.

In reference to the second part of the Examination (Senior

Class Candidates), the Visitors observe that the Examination "combines, in a very appropriate and advantageous manner, a Written, an Oral, a Clinical, and a Practical Examination." They notice, however, defects, and consider that "no one of the branches of the Examination is fully carried out," and they especially refer to Operative Surgery and Clinical Surgery. The College in its remarks has vindicated itself with success from some of the observations of the Visitors, and the Committee believe that this whole matter may be safely left to the authorities of the College.

Medical Examinations on the Queen's University in Ireland.

There are two Reports of Visitations made respectively in June, 1873, and in September and October, 1873, of the Examinations in the Queen's University.

These Reports have been forwarded to, but have not been commented on by, the Queen's University, but the Secretary of the University writes to the Registrar "that the Senate thinks it better to defer any remarks on the Reports of the Visitors of the Medical Council respecting Examinations of the Queen's University in Ireland, until they shall have before them the Reports on the Examinations of the other Licensing Bodies."

The Committee consider this course a very inconvenient one: the Queen's University is asked to remark on the Report on its own Examinations, but delays doing so until it knows what is said of the Examinations of other Bodies, with which it has nothing to do!

The Committee can, therefore, only enumerate the opinions of the Visitors, and must leave it to the Council to decide how the views of the University, on the remarks and suggestions of the Visitors, can be obtained.

In the Report of the Examination, in June, 1873, the Visitors feel pleasure that "they are able to report so satisfactorily of the Medical Examinations of the Queen's University."

They suggest, however, that additional Examiners should be appointed, so that not less than two Examiners should act together; that the questions set in any particular subject should be submitted to the Examiners in that subject before being printed; that the Oral Examination in Zoology, Chemistry and Physics, should be more practical; that modern languages should not form part of the Medical Examination; and that Students should be able to present themselves at an earlier period for Examination in Experimental Physics, Chemistry, Botany, and Zoology.

In the Visitations in September and October, 1873, the Visitors had an opportunity of inspecting the Matriculation Examination, which, in this University, is Collegiate; they speak unfavourably

of it, and say, "they cannot think the Examinations are at all adequate to insure that the successful Candidates shall have had even a very moderate previous education."

In respect to the Medical Examinations these Visitors report: "that they are very much impressed with the general excellence and thoroughness of the Examinations, as far as they went." They say that the practical Anatomical Examination was quite admirable in its thoroughness and completeness, but that both the Medical and Surgical Clinical Examinations were meagre. The practical Midwifery Examination was not sufficiently searching to justify the granting of a Special Midwifery Diploma; there was a want of practical Examination in Physiology, Chemistry, and Forensic Medicine.

They then make many observations on the general scope and method of the Examinations, and system of marking, and conclude with certain recommendations.

The Committee feel that, in the absence of any comment from the Queen's University, it would be a waste of time to discuss these recommendations, and, on the whole, they think it best to suggest that these Reports, and the Remarks of the Queen's University, when received, shall be taken into consideration by the Committee, which will, probably, be appointed next year, to report on the Visitations, which are now about to be sent to certain Licensing Bodies.

GENERAL CONSIDERATIONS.

The Committee have now brought before the Council the chief points in the Reports of the Visitations, and in the remarks of the Licensing Bodies, which appear to call for comment. But there are certain general points adverted to in several of the Reports which can be best considered in this place.

The Committee must, however, first remark that it has been a source of gratification to them to observe in how good a spirit the Licensing Bodies have received the suggestions of the Visitors, how almost uniformly they have given their suggestions full attention, and in how many cases they have adopted them. The Committee have also observed with pleasure not only the thoroughness with which the Visitors have inspected the Examinations, but the freedom of their Reports from any thing like captiousness or unnecessary criticisms.

The Committee beg to recommend that in future Visitations the Visitors should be instructed to make themselves acquainted both with the Reports previously made of the Examinations they are about to inspect, and also of the Remarks of the Licensing Bodies on these Reports.

The Committee will now proceed to the general questions raised in the Reports :—

1.—It appears that there are still Examinations conferring Licences to Practice which are only partial, *i.e.*, which do not

include all the ten subjects* which the Medical Council has recommended shall be tested before a Qualification is granted. The Committee think that when all the Visitations are completed, it may be desirable to consider how to deal with such cases if they then exist.

2. The old question of Teachers examining their own Pupils has been raised in some of the Reports. But as the custom of appointing non-professorial Examiners, and of giving them a large share in the Examination, is now generally adopted in all the cases where Professors are also Examiners of their Students, the point seems to the Committee of less importance than formerly.

An entirely different practice is followed by one Licensing Body, the Royal College of Surgeons of Ireland; in which either by Charter or By-law, it has been arranged that no Teacher can be an Examiner; and thus the Dublin College, by going to the other extreme, deprives itself of the very best examining power.

Teachers, and especially those who use Examination in the instruction of their classes, must be the best Examiners, but when Teachers have to examine their own Pupils, non-professorial aid must be introduced. But surely it is a great mistake to convert this necessary adaptation into a principle, and to refuse to make the best examining talent available, as is done in this instance.

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* The ten subjects are Anatomy; General Anatomy; Physiology; Chemistry; Materia Medica; Practical Pharmacy; Medicine; Surgery; Midwifery; Forensic Medicine.

The Committee think it would be well if independent Corporations in arrangements for the composition of their respective Examining Boards had regard to some plan for securing an interchange of personnel.

By such a course the advantages undoubtedly secured by having practised Teachers to act as Examiners would be obtained without the drawbacks sometimes found to attach to the working of Boards in which teachers examine their own pupils.

3.—The question whether actual dissection should always be required in the Anatomical Examination is raised in some of the Reports, but this point is now settled by a late Resolution of the Council, which has decided that Candidates may be called on to Dissect, and, therefore, they will necessarily always prepare for the contingency.

4.—Several of the visitors have objected to so many subjects being taken too closely together; in one case 6, and in another 5 great subjects are examined upon in writing in one day. The Committee agree with the Visitors that this is putting too much pressure on the Candidates, and that better answers would be obtained if these Examinations were extended over two days.

The point will probably recur next year, and can be then dealt with.

5.—The method of conducting the Clinical Medical Examinations is extremely diverse. In some instances the Candidate is taken to

the bedside, is left there for a definite time, and then writes out the case, on which he is to be questioned. In another instance the Candidate examines the case for himself but does not write it; the Examiner then goes to the bedside, and hears his diagnosis and the reasons. In another Examination the Examiner and Candidate go together to the bedside, and the latter then examines the case under the eye of the former for any time deemed necessary by the Examiner. Some Licensing Bodies do not take the Candidates to the bedside at all, but bring the patients to the room where the Candidates are.

In some cases the Visitors have made remarks and recommendations to which the Licensing Bodies do not give their assent, and the Committee believe that in the present state of things it will be well for the Council to make no suggestion on this point, but it would be desirable that the Council should request the Licensing Bodies to direct their attention to these diversities of practice, in order that each Body may review its own practice, and improve it if it sees cause.

The Committee, however, entertain no doubt on one point, *viz.*, that the Candidates should be taken to an Hospital to be examined, and that the medical patients should not simply be brought to the Examining Hall.

6.—The methods of conducting the Surgical Clinical Examination are also different, but the Committee recommend that this matter should be discussed at the next Council Session, when the Reports of all the Bodies will have been made and commented on.

7.—The Committee has had under consideration the custom of allowing a Candidate to pass only one portion of an Examination, and of permitting him to be examined on a future occasion, only in a subject he has failed in before. This custom takes several forms ; in one case a Candidate who passes in Surgery, but fails in Medicine, is allowed to present himself in Medicine only at a future occasion ; or a Candidate who passes in Materia Medica, but fails in Chemistry, is subsequently only examined in Chemistry ; but in some cases this plan is carried farther, and a Candidate who fails in the Written and Oral parts of the Examination in Medicine, but passes in the Clinical Examination, is not required to undergo the Clinical Examination a second time.

These several plans of residues or remanets appear to the Committee to require some consideration from the Council, but, probably, as in two or three other cases, this matter had better be discussed next year, when all the Reports of Visitations are before the Council.

8.—A question has been raised in the Committee with regard to Candidates, who have been rejected by one Licensing Body, presenting themselves (without additional study) before another Examining Board. This question has often been before the Council, but without any satisfactory plan being suggested, by which a Licensing Body could know that they had a Candidate before them who had shortly before been rejected by another Board. A member of the Committee has proposed that in all cases every Candidate's schedules should be stamped by the Licensing Body admitting him to Examination, and that the

date should be inserted. A rejected Candidate would receive back his papers, but these would inform any other Examining Board that he had been rejected at a certain date. In this way, without any record of rejection, and without any invidious distinction between Candidates, the fact of previous rejection would be known.

9. — Another question has been raised in Committee which does not fall within its power to consider, but which it thinks of importance enough to be reported to the Council. It has been asked whether the Council should not directly or by means of the Licensing Bodies, inspect the Schools of Medicine, and see whether the appliances for teaching are sufficient? The Committee conceive they have discharged their duty in passing over this question to the Council for consideration if it deems fit.

E. A. PARKES,

Chairman.