

BY

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On the Examinations of

THE CAIRO MEDICAL SCHOOL 1920-1921

And on

MEDICAL EDUCATION IN EGYPT

REPORT BY
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1. A BRIEF SURVEY OF THE EXAMINATIONS

I arrived in Cairo on the 13th December 1920 and left for England on the 19th January 1921.

The examinations extended over a period from December 15th to January 13th.

The impression produced on my mind on visiting the Kasr-el-Aini Hospital and School in Cairo is that of admiration for the ability, tact, and courage of the Director, Mr Owen Richards CMG, DSO in the face of many difficulties, and for the great progress and success of the Hospital and Medical School under successive Directors and Professors since the year 1882.

The examinations are conducted in much the same manner and with the same precautions, as are the examinations of the two Royal Colleges. The questions in each subject are set by two Examiners (English) and are discussed and sanctioned at a meeting of all the Examiners. Great care is taken to secure secrecy of papers and there is no possibility of a candidate obtaining any knowledge of the questions prior to the time of the examination.

During each written examination the Examiners act as invigilators and the arrangements are such as to prevent any cheating at the examination.

The viva voce and practical part of each examination is made the most important part. Ample time is allowed for both the written and practical parts of the examination.

I was present at the written and practical examinations in each subject as well as at all the Examiners' meetings. Dr Hastings also was present at the Examinations. He was appointed Inspector of the Examinations by the Ministry of Public Health.

Compensation for weakness in one subject by excellence in another is not allowed, but when a student is a few marks short in one subject the Examiners at a general discussion, decide whether he shall be allowed to pass, due consideration being given to the student's industry during the year. The decision rests with the whole body of Examiners and not with the Examiners of the particular subject affected, though the latter's opinion, rightly has the greatest weight. Each paper is read and marked by two examiners. I noticed that one set of Examiners in a Final subject, if a candidate had nearly reached the pass mark, gave him the pass mark before the general meeting of the Examiners. In my opinion this should not have been done.

With regard to the certificates of study required for admission to examination, a professor may refuse to sign up a student for unsatisfactory attendance on lectures and demonstration. The Director in these cases supports the action of the professor. In this way a student is debarred from entering for an examination for which he is insufficiently prepared. The Director may also refuse admission to examination for bad conduct, absence from the School for insufficient cause, strikes etc. the question of satisfactory work is thus left by the Director in the hands of the teachers but disciplinary powers are reserved by the Director in his own hands.

In each subject of the examination an external examiner was appointed and took an equal part with the other examiners in the examination. It is a source of great satisfaction that the Director was enabled to obtain the services of such excellent external Examiners as were present during my visit. I have handed to the Secretary a list of the Examiners, external and internal, and a list of the Staff to the Kasr-el-Aini Hospital and of the Medical School, and also the questions set at each of the examinations, together with a description of the practical tests, all of which can be seen in the Secretary's Office.

In the subjects of Chemistry, Physics, Botany and Biology, 100 marks are awarded for the written part and 100 marks for the oral and practical parts, 60% of the total is required to be obtained for a pass in each subject. In Biology the students are required to report on and to make drawings of microscopical specimens, to prepare a specimen (such as the venous system of the frog) and to identify some six specimens without drawing.

The examination in Anatomy consists of a written paper, a practical examination and a viva voce examination. 100 marks are awarded to the paper: 25 marks for dissection and 75 marks for the oral examination, the percentage to pass being 60.

It appeared to me that in the oral part of the examination the Examiners did not err on the side of leniency.

In Physiology there is a written paper and a practical examination. The latter was divided into 5 parts for which the following marks were awarded:-

- | | | |
|----|---|----------|
| 1. | Bio-chemistry | 40 marks |
| 2. | Histology | 20 marks |
| 3. | Experimental e.g. stimulating the vagus in a frog | 7 marks |
| 4. | Book drawings | 3 marks |
| 5. | Oral examination by 2 Examiners for 15mins each | 30 marks |

100 marks were allowed for the paper, 60% in the paper and 60% in the practical were required for a pass.

I was much impressed with the examination in Pathology which includes Morbid Histology, Practical Bacteriology and Practical Parasitology, as well as oral examination in each branch. The marks awarded in the examination were as follows:-

Written – 100 marks. Practical and Oral – 100 marks

The paper was marked as follows:-

	Pathology	Parasitology	Total
Pass Mark	45	15	60
Full Mark	75	25	100

Practical and Oral

	Morbid Histology	Practical Bacteriology	Pathological specimens	Pract Parasit	Oral Parasit	Total
Pass Mark	12	12	21	6	9	60
Full Mark	20	20	35	10	15	100

In the practical part candidates were required to stain a blood film of their own blood, to use a special stain for a film of blood or of sputum, to report on such films and to identify a culture from the nature of the colonies as seen by naked eye or low-power microscope.

They were called upon to examine ten microscopical specimens in Morbid Histology, and four specimens in Parasitological and they were then examined orally on the work they had done, as well as in General Pathology. The examination was very complete.

In Midwifery and Gynaecology there was a written paper and oral with 100 marks and 150 marks respectively. There is no practical examination but the oral examination was conducted by two examiners each asking questions for ten minutes or longer, one examiner taking questions on Midwifery and the other on specimens and gynaecology.

Forensic Medicine is an important subject in Egypt on account of the numerous cases of poisoning and other forms of murder. 100 marks are allotted to the paper and 100 to the oral in this subject. The oral examination was conducted by two examiners, specimens being shown; and each examiner asked questions for at least fifteen minutes. A pass mark of 60% is required on the whole subject.

The examination in Medicine consists of a written paper for which 100 marks is awarded, and a practical examination which is divided up into clinical, skin cases, urine-testing and oral examination, the marks for the respective parts being 70, 15, 15 and 50; in the clinical examination each student examined two selected cases in bed and then was taken over them by one of the examiners. Every student is examined on skin cases and has to make a diagnosis on from four to five selected cases collected in a separate room. Urine testing is conducted by the student with an examiner in a separate room. The oral examination extends over fifteen to twenty minutes between the two examiners and an extra ten minutes or more is given to an oral examination in Lunacy by a special examiner.

In Surgery there is a written paper for which 75 marks is allotted to General Surgery and 25 marks to Ophthalmology and a practical examination for which 200 marks are allotted divided as follows:- 45 for operations, 75 for clinical, 30 for viva voce, and 50 for examination of eye patients.

By an oversight a surgical paper was given out by mistake with the Medicine papers. The Surgery paper was immediately withdrawn, the examination was postponed, and another paper substituted.

At the examination on operations on the dead body an artery had to be tied and an amputation performed by nearly all of the candidates. The operations by the candidates could not by any stretch of the imagination be described as operations or dissections. No student appeared to have the moral courage to put all to the test by making a definite cut, and even when an artery was found, the violent dissection by fingers or instruments would have irretrievably damaged the tissues in the living body. The candidates were asked questions on Anatomy when they had completed their 'operations'.

At the Clinical examination two or three patients in bed were examined by each student and then the examiners took the students over each case and asked questions.

At the viva voce examination each examiner examined every student for fifteen minutes on splints, instruments, X-ray plates and museum specimens.

In the Ophthalmological oral examination the two examiners were separate, one in each room and each had four or five patients; Every student was examined in each room for fifteen or twenty minutes making a total of thirty to forty minutes in all and the examination was excellently conducted.

The following tables show the percentage of passes in this and previous years: as the strike had lasted a year the students may be said to have had an extra year for book work. This is my reason for the large proportion of passes:-

December Examination 1915

Chemistry	72%
Physics	84%
Biology	70.58%
Practical Pharmacy	72%

March Examination 1916

58.33%
66.66%
71.42%
72.72%

December Examination 1918

Chemistry	78.89%
Physics	79.59%
Biology	67.34%
Practical Pharmacy	91.83%

October Examination 1919

72.72%
91.66%
58.82%
None

January Examination 1921

Medicine	92.30%
Surgery	88.46%
Forensic Medicine	100%

January Examination 1915

100%
92.85%

October Examination 1920

Hygiene	80.55%
Dispensing	91.66%

January Examination 1921

Anatomy	79.54%
Physiology	88.63%
Pathology	89.65%
Midwifery & Gynaecology	93.10%

At the Final Examination which I attended there were 33 students of whom six were absent and one withdrew from the examination. Of the 26 students who presented themselves 22 satisfied the Examiners and obtained their Diplomas. Of the four students who failed one has to be re-examined in Medicine, one has to be re-examined in Surgery, and two have to be re-examined in all subjects.

The real number of students in for the examination was 33 and not 26 because the six who were absent became suddenly neurasthenic and should therefore be treated as failures. It is fair therefore to say that of 33 students 22 satisfied the Examiners.

2. A proposal for the institution of a diploma in certain subjects

The examinations in Medicine and Surgery are overloaded with subjects.

The question arises whether it would not be better after the final qualifying examinations to grant a diploma after a further examination in certain subjects such as Lunacy, Radiology and Medical Electricity, Hygiene and public health, Venereal disease, Tropical Medicine, Ophthalmology etc., which are of especial importance to those practising in Egypt. The Government would then know, when vacancies occur in public appointments, who are the best qualified to fill them. The fractional knowledge of any special subject possessed by the student after passing a qualifying examination does not fit him to hold any special appointment. The granting of diplomas in special subjects has been successfully carried out by the Royal Colleges and its usefulness has been demonstrated. A similar scheme in Egypt would be I think of much public benefit.

In the Surgery written Examination papers one simple question should be set either in Otology, Rhinology or Laryngology, as is the custom in the final MRCS examination.

3. THE MEDICAL SCHOOL

1. Demonstrations and Lectures

The demonstrations and lectures are admirable. The laboratories are well equipped. The English Professors and their Assistants are a remarkable group of able and hard working men. One or two perhaps are unnecessarily conscientious and occupy their time in routine work which should be part of the work of the Assistant Staff. The answer given to me when I criticised e.g. the cutting of Sections by a Professor was that “for the work to be done well I must do it” but I think the supervision of the professor should be sufficient to ensure the work being well done. This has an important bearing on the subject of research and original work by the Professors. It is well recognised, especially in America, that research work and teaching should go hand in hand and that the amount of teaching and routine done should be definitely limited, otherwise the research work will suffer. Teaching divorced from research loses much of inspiration and enthusiasm for both the Teacher and the Student.

A rule has been laid down that a lecturer shall not be re-elected at the end of three years unless he has shown evidence of being (1) a good Teacher and (2) has produced evidence of some original work of merit. For the latter condition however to be fulfilled it is necessary:-

- (1) That the atmosphere of research should pervade the Laboratory:
- (2) That the line of research which each assistant should conduct should be indicated or suggested by the professor:
- (3) That the Professor should continually supervise each research conducted in the laboratory and inspire and encourage his assistant in every way.
- (4)

As a typical example of the teaching in the School, an outline of a morning's work in the Biological laboratory is appended.

Biological Department, School of Medicine, Cairo

Practical Botany, Jan 2nd. 1921. 10.12am

The Laboratory contained 98 students, supervised by an assistant professor and three demonstrators. Each student was provided with a drawing book in which was printed the work he had to do in each working period. This day the students were drawing examples of modified stems and had the following:-

- (1) Runners Lippia Plants showing a runner with scale leaves
- (2) Sucker Mint Plant showing suckers
- (3) Rhizome An Asparagus plant showing rhizome, adventitious roots, etc

- (4) Corm The Corm of Colocasia
- (5) Tuber A potato showing buds and scale leaves

Sections of the last two were being cut to see the structure of the buds.

Demonstration in Physiology

In an adjoining room a demonstration in physiology was shown by the lecturer. The demonstrations were arranged with labels, and 12 students at a time were brought into this room from the practical laboratory and given a 15 minute demonstration.

The subject being illustrated was a lecture on glands and secretions of plants and the students were shown the following:-

- (1) Flowers with conspicuous nectaries
- (2) Section of a nectary under the microscope
- (3) Nettle plant to show hairs
- (4) Section of a Nettle-leaf under the microscope to show poison-gland hairs.
 - (a) intact, and
 - (b) broken to allow escape of poison
- (5) Plants exuding water from the leaves
- (6) Part of a leaf rendered transparent in chloral hydrate, seen under the microscope to show:-
 - (a) Water exuding gland with xylem vessels leading up to it
 - (b) Gum secreting gland hairs.

- (7) A mould living saprophytically on bread and another living parasitically on seedlings.

2. The Egyptian Medical Student

The students appeared earnest and diligent in their work. Their preliminary education is lamentably defective. In England it has long been recognised that the higher the standard of education attained by a student before commencing his medical studies, the easier it is for him to absorb the new knowledge and the more likely it is that he will become an able and useful practitioner in Medicine.

This lack of good general education in Egypt before proceeding to medical studies can only be altered for the better by an improvement in the teaching in the primary and secondary schools. The pass mark for leaving the Secondary Schools is only 20% in any one subject. Formerly 80% of the teaching was in English and 20% in Arabic. These proportions have been reversed to the great detriment of the teaching of Science, for Science cannot be taught with success or usefulness in a language in which there is no current Scientific literature.

Another point which is of vast importance is that the Egyptian Medical Student is drawn from a very small proportion of the Egyptian population of whom only 5 or 6

percent can be said to be educated. If universal compulsory primary education were adopted the Egyptian Medical Student would be drawn from the whole population, and a far finer type of student would be seeking medical education. The population of Egypt is in great part agricultural. As germane to this point it should be remembered that in Scotland the poorest farmer's son has open to him a University education and has often subsequently attained to high positions in the British Empire. The loss to Egypt in brainpower in consequence of the absence of general primary education is incalculable. Further it appears to me like a scene from a Gilbert and Sullivan opera to be building Secondary Schools when primary education has not been provided for.

3. The Teaching in Obstetrics and Gynaecology

The examination in these subjects cannot be carried out in a practical way by the examination of patients. It is very important however that the students before the final examination should have practical acquaintance with the examination of patients. There are large numbers of women in Cairo who are not of the Harem Class and I was told by Egyptians that the students could obtain good practical knowledge of Obstetrics and Gynaecology under the supervision of the professor.

Before proceeding to the Final Examination in the above subjects a student should receive a certificate somewhat on the following lines.

Final Examination

Attendance in Outpatient Department	(Max.30)
Examination of Pregnant Women	(Max.20)
Examination of Gynaecological Patients	(Max.20)
General Clerking in the Wards	(Max.30)

(Signed)

Professor of Obstetrics and Gynaecology.

4. The New Medical School Curriculum

The length of the curriculum is to be increased by one year: making it in all 5 years and 3 months.

1st year. Inorganic Chemistry, Physics, Botany and English

2nd year. Organic Chemistry, Physics, Zoology and English

These courses will be held in the New University laboratories and are designed so that at the end of two years students in medicine, science, engineering etc., should all take the same intermediate examination.

This plan leaves 3 years and 3 months only for the attainment of knowledge in strictly Medical Subjects: the 1st 15 months are given to the study of Anatomy and Physiology. The subjects of the last two years are bacteriology, pharmacology, dispensing, pathology, parasitology, forensic medicine, gynaecology and obstetrics, ophthalmology, applied anatomy, dermatology, operative surgery, surgery, medicine

and preventive medicine. Besides these there are lectures on Medical Electricity, on Fevers and on Lunacy.

The students in the last two years are divided into 8 groups and each group passes through eight 3 months' courses of Clinical work in different departments.

Remarks.

Three years and 3 months are too short a time to grasp the essentials of the strictly medical subjects. I believe that 4 years is the minimum time which should be allowed.

The fact that the first two years must be devoted to Elementary Science and English is due to the failure of the teaching in the Secondary Schools where the students learn science by committing to memory sentences in Arabic without even the simplest practical demonstrations.

5. Research at the Cairo Medical School

One of the most hopeful signs at the Cairo School is that Research Work in Chemistry, Clinical Medicine, Biology and Physiology is being carried on as far as circumstances permit. It must be confessed, however that, at present, research is not generally regarded as at least of equal importance with teaching. This is unfortunate, since the teaching of science in any institution is only rendered efficient according as that institution and the workers in it, whether teachers or students, are permeated with the true research spirit.

It appears certain that if there were professors on the staff whose duties were primarily devoted to research and who would strive to create a great research school in Cairo, the solution of, what may be at present, difficult educational problems would be achieved automatically. If research goes hand in hand with teaching, the students will clearly comprehend, which they do not now, that the completion of their examinations only brings them to the gateway of innumerable fields of unexplored knowledge. It should be the aim of the Cairo School to provide for post-graduate research under conditions which would attract physicians and surgeons of other countries with an enthusiasm for research to come to Cairo and there attempt the solution of problems connected with their work.

It is difficult to conceive a School of Medicine being more advantageously situated for a centre of research than the school at Cairo.

The history of the School shows that research of high value has been done there, and in the interest of science generally, it is to be greatly desired that much greater provision for research may soon be provided. By the greater encouragement of scientific research, Egypt will give undeniable proof that she is a nation among the nations. It is impossible to estimate the advantages which Egypt herself would reap, and she would secure the admiration of all people who are striving to extend the bounds of knowledge and improve the condition of humanity. By having on its staff men whose work is almost entirely devoted to research, the School might easily become one of the foremost research institutions on this side of the Atlantic.

Apart from any advantages that might ensue from Cairo becoming more widely known as a scientific research centre, it is clear that the more the true research spirit permeates the School, the more efficient will it become as an educational institution. An institution of university standing must be permeated by research if it is to be a success from an educational point of view. If the teaching of science is divorced from research, it will be ineffective; and if research is secondary and not equal in importance in an institution where scientific education is given, that institution cannot progress.

The conditions in Cairo are unique. The establishment of the University of Cairo is imminent. The building of the new and greatly enlarged Hospital and Medical School is immediately to be taken in hand, but these will avail little unless the opportunity is seized for the greater encouragement of research on which the success of the contemplated schemes vitally depends.

I consider it to be of the utmost importance that, apart from teaching professors, who can devote to research only time and energy left over from teaching, research professors should also be appointed. These appointments should be made immediately, so that the influence of the research professors may be evident without delay. Their duties should be to stimulate research without delay. Their duties should be to stimulate research among all members of the staff and advanced students alike. They should aim at collecting round them a body of keen Egyptians who will work on problems suggested by them and under their direction until they have acquired such a knowledge of research methods and of original literature as will enable them to continue original work on outstanding problems unaided. The research professors should not give routine lectures but special post-gradual courses, and lectures on modern work to members of the teaching staff and to the interested public.

The duties of the research professor do not require elaboration. Everything depends on the right man being chosen. His personality, perhaps the predominant factor, will be sufficient to achieve the end in view. It is sufficient to point out here that the creation of an atmosphere of living and growing knowledge by the research professors would revolutionize the laboratories and the teaching. The moral effect on the students and junior members of the staff could not fail to become evident, and many of the most important educational problems of the Cairo School would be solved.

6. The School of Pharmacy

Egypt is woefully lacking in dispensing chemists of Egyptian origin. A 3 years' course has now been established to fill this need and the lectures and practical work are given in the School of Medicine. The student of Pharmacy, like the medical student, is admitted after passing the Secondary School Examination. The syllabus of work appears admirably suited to procure for Egypt reliable dispensing chemists. A dispensing chemist should not be required to take a University degree; if such were insisted upon Egypt would never obtain what she now urgently requires – numbers of reasonably well-qualified dispensing chemists.

7. A Professor of Biochemistry. A Curator of the Museum and Division of the Professorship in Pathology

- A. At present there is no professorship in biochemistry. This professorship is urgently needed to bring the School up to Modern Standards. It should be a link between the physiological and pathological laboratories. If a Research Professor of Chemistry was appointed with leanings towards bio-chemistry the gap would be filled.
- B. A Museum is urgently required where anatomical pathological, biological, chemical, forensic medicine and public health specimens and models would be displayed, greatly to the advantage of the Education of the Student.

It should be the rule that a post-mortem examination be conducted on every patient who dies in the Hospital and that each post-mortem should be accurately recorded. Otherwise a vast amount of knowledge is lost to the world and progress in the Healing Art is hampered.

A Curator of the Museum should be appointed, whose duty it should be to prepare, mount and display specimens; and among his duties might be the performance of post-mortem examinations for from these many typical and important pathological preparations would be obtained.

- C. I recommend that the professorship of pathology should be divided and two professors appointed:-
 - 1. A professor of bacteriology and parasitology
 - 2. A professor of general pathology.

8. The Work and Position of the Director

The Director is the Director or the Supreme Authority in the Hospital and School. He has also the continuous duty of suggesting and carrying out improvements and changes in the various schemes of work. This necessitates, his attendance on various Government Educational Committees, and frequent visits to the Ministry of Public Health. It will thus be evident that the Director is overburdened with work and has hardly enough time for personal supervision in the Hospital and School. I therefore think that it would be wise for him, while still holding the position of Director of the Hospital and School, to appoint a Dean of the School (query a research professor) who would relieve him of some routine work and keep him in touch with research and teaching and the progress of the students in the School.

In a great London Hospital the Treasurer is the Supreme Authority. The representatives of the Staff and the Dean of the School have access to the Treasurer at all times. In Egypt the Ministers of Public Health and of Education are the Supreme Authorities. The Director should have absolute power in the Hospital and School subject only to the veto of the Ministers of Public Health and of Education with whom he should be able to communicate directly, and in whom alone should rest the responsibility of sanctioning or vetoing any measure, great or small, proposed for increasing the efficiency of the Hospital and School.

THE HOSPITAL

1. Need for many more Beds.

In the Kasr-el-Aini Hospital there are 600 beds. About 12,000 in-patients and 200,000 out-patients are treated yearly. The Hospital supplies or rather fails to supply the needs of at least 1,000,000 people. The utmost capacity of the present hospital has been reached. Many more in-patients per bed are treated in the year than in any London Hospital. Overcrowding is the chronic condition of the Hospital. The mortality is about 800 per year, which may be looked upon as a normal Hospital mortality. The hospital is an old building and cannot be adapted to modern requirements – As a building it is not a credit to the Egyptian Government and it is surprising that the Nation has for so long been satisfied with it. When new hospitals have been built the Kasr-el-Aini building might be used as an Infirmary for Chronic cases. About 1,500 operations were performed last year in the two Surgical theatres but the total number of operations reached about 4500, including gynaecological, ophthalmological and minor operations. The death rate of the major operations is about 80 per 1000. Spinal anaesthesia is extensively employed, as is also chloroform.

It is proposed to build a hospital with 1,200 beds. An admirable site has been secured. I was informed by Dr Dobbin, the professor of Midwifery and Gynaecology, that 12,000 patients had been treated in his Department last year up to the beginning of November, and upwards of four times that number required operative and other treatment and there was no possibility under present circumstances of treating these poor people. The Egyptian Nation can never raise its head among the nations of the world while the sick and injured are not adequately provided for. What is true of gynaecological patients is true of patients attending all other departments of the hospital.

2. Need for a Second Hospital

The provision for Hospital treatment is totally inadequate. What is required at once is not only the proposed New Hospital and an enlarged Medical School, but an additional Hospital of 1,200 beds and another Medical School. This second hospital and Medical School should naturally be located at Alexandria. The most famous Medical School in the world in olden days was the Alexandrian School in the Third century B.C. for it was there that human anatomy was first systematically studied and taught. The ligation of arteries and other great operations of Surgery were the natural outcome of the Alexandrian Studies and hence arose as a direct consequence of research in human anatomy, the great Surgical Schools of Celsus (BC 50) and of Galen (AD 150). The Kasr-el-Aini Hospital is maintained by the Government. There are many Egyptians who are very wealthy and besides these there are Greeks, Syrians and other foreigners who have made large fortunes in Egypt. In Great Britain in past times wealthy persons commonly left money to the Church, The University, and to the Hospital. Is there

not a wealthy Egyptian, or some rich foreigner resident in Egypt, who would build a great Hospital in Alexandria and endow some of the professorial chairs? This is the true pathway to fame. Service for the common weal should be esteemed of higher value and a far nobler asset than the possession of great riches or the most ancient title of nobility. In England and America the happy combination of public service with riches often exists, even in the present day.

3. Contact of Students with Patients

Case-taking is the basis of the students medical education. At least two Clinical Clerks are required for this purpose for each section of 60 beds but at present there are not enough students. 50 students are admitted to the Medical School each year. The numbers is to be increased next October to 100, and when the new hospital is opened it is proposed to admit to the Medical School 150 students a year. Few notes are taken by the students and the contact of the students with the patients is not so intimate as it ought to be. In the Midwifery and Gynaecological wards perhaps Egyptian prejudice may be at fault, but if it is, this prejudice works to the disadvantage of the Egyptian public when the students become practitioner and spread about the country. The teaching of students on the cases in the wards during the visits of the staff appeared to me to be ineffective and in some cases it did not seem to be carried out at all.

The gynaecological operating theatre is well equipped and is run on modern lines. There is no auditorium and no anaesthetic room but a certain aseptic ritual is carried out. The operations are done as team work and while celerity in operation is not the object in view it is attained in a very admirable manner. The students did not assist but the professor described every detail of the operation as it progressed to the class.

4. The Operating Theatres

There are two surgical theatres: one was under repair when I was in Cairo. With one exception I saw no attempt to carry out the ritual of a modern theatre during operation. It is of no avail to tell me that sepsis does not occur in Egypt. This is just the statement that I remember was made by those Surgeons who opposed in their own hospitals the advent of Listerian Surgery; and in both instances my own observations confirmed the opposite view. It is surprising that surgery should be practised in the chief hospital in Egypt in a way that no second rate hospital would dream of being satisfied with in any civilized country. For example there is no auditorium and no anaesthetic room, and spectators enter and watch operations without change of clothes or boots. Septic and clean operations may be going on at the same time and, with the exception of the work of the English theatre sister, which was admirable, and of one of the Surgeons; my mind was inevitably thrown back by what I witnessed to theatre operations of long ago, of an almost forgotten past.

Egyptian surgeons travel and have opportunities of seeing surgery in European countries. The contrast between what they see there and the operation theatre ritual or absence of ritual in the Kasr-el-Aini Hospital cannot but fail to dim the lustre of British surgery. It is to be hoped that a great change will take place when the new Hospital is built. It will be useless to build the finest hospital in the world from the

architectural point of view unless the living element insists on the work being carried on in a manner not excelled by any other hospital. The student should be taught by example that an operation is a solemn and sacred service. The student learns surgery in the operating theatre, but he ought also to learn in witnessing the infinite care and labour taken to win a successful result – a moral lesson which will be an influence for good during all his future life. To the patient an operation is sad, pathetic and terrible. The student should be expected to enter an operating theatre in the subdued spirit in which he enters a mosque or Christian Church where a solemn service is about to be performed.

In the wards where septic cases are treated it appeared to me that there was not much attempt to cure the sepsis except in cases where the Carrel Dakin treatment was being properly applied. Much improvement on modern lines was observed in the treatment of fractures especially of the thigh and the students were taking much interest in these cases.

It is interesting to note that splenectomy is a successful operation in Egypt, that acute abdominal emergencies are rare and that the removal of vesical calculus and enlarged prostate are common operations.

5. The Administration and Teaching of Anaesthetics

This department has not been brought up to date. All students should give under the supervision of the Chief Anaesthetist at least 30 anaesthetics before entering for the final examination and each student should be signed up for this work in this department by the Chief Anaesthetist and not by the Surgeon whose dresser he happens to be.

At present the number of patients anaesthetised by a student before the final examination may be as few as 3 or 4. The plan at present appears to be casual and does not impress the student with the great responsibility which is entailed by making a patient unconscious by means of anaesthesia. Further, as the Chief Anaesthetist has no trained and qualified assistances he is unable to devote sufficient time to supervise the giving of anaesthetics by students as he is always engaged in anaesthetising some serious case himself.

In all modern Hospitals young qualified men are appointed as resident or non-resident anaesthetists for 6 months. These appointments give very valuable experience and with the anaesthetic duties the appointments carry with them other duties as well, such as Casualty work.

All modern anaesthetic apparatus should be supplied to the Hospital including that for giving Oxygen and Nitrous Oxide together.

6. Remarks on some Diseases seen in the Hospital.

Bites of wolves, monkeys, dogs and camels are common events in Egypt and Pasteur's prophylactic treatment for hydrophobia is admirably carried out. Daily are

to be seen van loads of happy children being carried to and from the Institute for treatment. About 10 cases of hydrophobia occur in the Hospital during the year.

Leprosy is rife but there is no attempt to segregate the lepers who are allowed to roam at large and mix at will with the rest of the population. This is a surprising state of things but with the increase of the disease the authorities in Egypt will be forced to take measures to combat it.

Surgical Tubercle appears to be much more virulent than in Europe. Perhaps the inhabitants have a low resisting power to the disease. I was told that tubercle is a comparatively recent addition to disease in Egypt, and the condition in which the poorer classes live in Cairo make them prone to the disease.

Perhaps the Government might be induced to set aside one of the large palaces at its disposal for the treatment of tuberculosis – Not only the spaciousness of the building would be suitable but the large gardens attached would provide an excellent means for the provision of open air treatment.

Bilharzia. The patients suffering from this disease are chiefly under the care of Dr Day one of the professors of Medicine who is carrying on an important research on this subject. Dr Day has also on hand researches on Spleno-megaly and Nephritis. Surgically an operation occasionally may cause the disappearance of the disease and this is especially notable in Bilharziosis of the large intestine.

The prevalence of venereal disease causes the venereal clinic to be a very important one.

Diseases of the Skin also are very common and large numbers of patients are under treatment.

Lunacy is an increasing factor in Egyptian life and more Asylums are required. The students visit an asylum in order to gain practical knowledge of this subject.

7. School of Nurses and Midwives

Selected women are admitted to the Hospital for a 4 years' course of training and encouraging reports have been received of some of those who have left the school and obtained appointments to work elsewhere in Egypt. These probationers owe a great debt to the Matron and the English Sisters, whose example has an incalculable influence not only on the Egyptian women pupils, but on the whole life of the Hospital. Without the English Sisters it is clear to the onlooker that the Hospital work could not be maintained at the present high standard, indeed without them I doubt whether there would be any standard at all.

8. Maternity Wards and Infant Welfare Centre

The energy of the Director has established both these departments, which are a boon and blessing to many. The Infant Welfare Centre has recently been established and

already is showing promise of great usefulness and the striking fact about it is that it has attracted private Egyptian assistance and in Egypt voluntary gifts for the promotion of Hospital charities is not common.

9. The Appointment and Duties of the Surgical Registrar

In a great English Hospital the appointment of Surgical Registrar is an important and responsible post. In the absence of the Staff he performs serious operations and is the Staff Officer in charge of patients. In the Kasr-el-Aini Hospital this is not so and the Surgical Registrar occupies an inferior position since young house surgeons are responsible for the patients and urgent operations in the absence of the Staff. The plan should be adjusted so that the patients should have the advantage of the skill and knowledge, which are inseparable from seniority and a wider and longer experience.

The improvement of the position of the Registrar would enhance his prestige as a teacher as he has daily to visit the wards and teach the clerks and dressers on their cases. Besides a teaching appointment in the wards the Registrar might well hold a demonstratorship in Anatomy or Elementary Surgery in the School.

The Registrar should not be overburdened with routine work for it is just the time in the life of a young surgeon when he should be engaged in research work.

The Registrar should live in the Hospital or be provided with rooms in the close vicinity of the hospital, so as to be at all times available for the Hospital service.

The Registrar should be chosen from the type that gives promise of becoming the Scientific Hospital Surgeon, and if his work is good and he has shown evidence of keenness in research his claims for the next vacancy on the Surgical Staff should receive favourable consideration.

THE EGYPTIAN MEDICAL PROFESSION AND EGYPTIAN MEDICAL EDUCATION

1. The Egyptian Medical Profession

The members of the profession in Egypt received me with every courtesy and hospitality. My grateful thanks are due to them. I frequently had an opportunity for conversation with some of them concerning the future of Medical Education in Egypt.

One of the first questions I was asked by my Egyptian friends was what I thought of the Milner Report. I replied that I had not read it, that I was a Surgeon, not a politician; but I added every Englishman since the time of King John had been in favour of representative Government but that personally I was very doubtful of the value of representative Government when only five or six per cent of the population of a country was educated.

As far as I could judge the Egyptian Medical Profession keenly desired.

- (1) General compulsory primary education
- (2) Improvement in the education imparted in the Secondary Schools
- (3) The appointment in the Medical School of a Research Professor – a man who would be to them “a great example”. The hope was also expressed that as vacancies occur only the ablest and most enthusiastic men should be appointed to the Professorships in Science and Medicine.
- (4) The sending every year to Egypt of two or more men prominent in Science or Medicine to give advanced courses (post graduate) of lectures in Science and Medicine.
- (5) The finding by the English Government every year of resident hospital appointments for at least three young Egyptian doctors in the Hospitals in England. In past times the French Government invariably did this to the great benefit of Egypt. I was also told that the selection of Egyptians sent to England was at present most unsatisfactory, and that it had happened that undesirable men had been sent who brought discredit on the Egyptian Nation: that the living of the Egyptians in lodgings whilst attending lectures and clinical work in the hospital was unsatisfactory and that what was wanted was that the young Egyptian doctor sent to England should live in the hospital and mix with the resident medical staff and thus absorb the atmosphere and morale of English life.

I strongly recommend that this aspiration of Egyptian Medical opinion should in some way be met. I explained that English hospitals were voluntary while French hospitals were mainly Government Institutions, but that I had hopes that all difficulties in this matter would be overcome. If this could be done I believe that it would not only be an advantage to Egypt but also of high British and Imperial interest.

Suggestions (3) and (4) would I believe be met by the appointment of Research Professors in the way I shall deal with later.

2. The English Staff of the School of Medicine, and Hospital.

Few institutions whose foreign staff has been recruited outside the country can claim to have a staff which, speaking generally, is of such a high quality as the English staff of the School of Medicine. This English staff consists of Professors of Chemistry, Anatomy, Biology, Physiology, Pathology, Radiology, Surgery, Clinical Surgery, Medicine and Clinical Medicine.

There are also English Lecturers in the Biological, Physiological and Pathological Departments. These are in addition to the Director of the School and Hospital whose work for Egyptian Medical education is of exceptional and outstanding merit. Altogether, there are some seventeen or eighteen Englishmen on the staff of the School and Hospital.

These men in their respective spheres are doing excellent work and the institution has every right to be proud of having them on its staff. The Director and Professors are permanent officials. The English lecturers were appointed for three years only, but provided the research work and teaching done by them have been valuable and promising, it would be a pity for the Egyptian Government to lose their services.

It is clearly impossible for Egypt to supply the men at present to occupy the chief research and teaching appointments in Science and in Medicine. A country of 15 millions of inhabitants and with only a small fraction of the population educated cannot find the men for these posts. Compare America or Britain with their 100 million and 40 million inhabitants respectively of educated people. Even in these countries it is sometimes not easy to select the right men for appointments in Science and Medicine. How can it be possible to do so at present in Egypt, unless indeed the Egyptians give up their ambition of possessing world-famous schools in these subjects? The English teachers should be increased pari passu with the increase in the number of students. The appointment of Research Professors as will be presently recommended will possibly solve the question.

3. The Language used as a Medium of Instruction

One of the results of the natural desire for political autonomy on the part of the educated Egyptians has been a desire to use Arabic as the medium of instruction more largely than has hitherto been the practice. It has been already pointed out that the relative amount of instruction in the schools in Arabic has been increased from about 20% to about 80% and I am told that the Egyptian now entering the School of Medicine is not so well equipped educationally as he was when relatively more instruction was given in English in the primary and secondary schools.

If instruction is given in Arabic in the School of Medicine it is obvious that the School will cease to benefit by the first-hand instruction by members of the English Staff. Englishmen who have been considered good enough to be appointed to well paid Professorships and Lectureships at the School of Medicine are properly regarded as authorities in their own special subject or subjects. They can only acquire sufficient facility in the use of Arabic for teaching purposes if they devote a large amount of time to learning the language and thereby cease to give as much time to teaching,

organisation and research which they otherwise would give. If the members of the staff are to be Professors in the real sense and not merely teachers, they must teach in a language, which is generally accepted as a language of Science. Arabic is not recognised as such. It is certain that if Arabic is to be used as a general medium of instruction by the English Professors, not only will the quality of teaching become vastly inferior but it will certainly be found that no research will be done. In emphasizing this, it should also be borne in mind that while the Professors at the School are regarded as distinctly able men out of Egypt, their position, perhaps on account of the organisation of the Ministry of Education in Egypt seems to be only that of a secondary teacher. Nominally they have to give an account at the beginning of each year as to the amount of teaching and the hours spent in their department. With such regulations men of a professorial standing feel that they are not rated at their real value by the Government and Ministry they are serving.

I am informed that a striking example of the non-success of the teaching of science in Arabic is to be observed at the School of Agriculture. At this Institution any lecture given in English has to be repeated in Arabic. The students naturally pay little or no attention to the English Lecturer since they will have the lecture again in Arabic. It appears certain that the quality of the work at the School of Agriculture has deteriorated since Arabic was introduced as the medium of instruction. The students have had to be supplied with translations of English text books and as shown above a great deal of time is lost during the period of training of the students.

It is to be feared that the introduction of teaching in Arabic in the School of Medicine may result in a similar state of affairs to what has arisen at the School of Agriculture.

It is, of course, obvious that any science can be taught in any colloquial language, since a colloquial language can adapt words to itself, which are current, all the world over. Until Egyptians have so far progressed as scientists, so as to be able to write original scientific works in a recognised Arabic it will be a most unfortunate thing if they deprive themselves of rapidly advancing in the sciences by cutting themselves off from scientific literature. The exclusive or almost exclusive use of Arabic in the School entails this. The School will tend to become a mere local teaching place of which none outside Egypt will take any cognisance. It cannot become a centre of research and will inevitably decline into a merely parochial institution.

The natural desire for political autonomy ought to show itself in a wide outlook. The position and reputation of Egypt gives it a unique position. In early times men of learning flocked to Egypt for instruction in science and there is no reason why modern Egypt should not become a centre of learning for the whole of the countries bordering on the Mediterranean. Even for its own needs, Egypt needs to take advantage of all scientific progress and discoveries but if she now decides to make exclusive use of Arabic she will lose that first-hand acquaintance with science and scientists, which at present are at her disposal.

It has been suggested that the Egyptian Government should take in hand at once the translating of recognised scientific works into Arabic. Even if it was possible, and it certainly is not, by the time such translations were made they would in very many cases be out of date. The time spent on such work would be totally wasted and not only would the time be wasted but no advance in knowledge would be achieved. By

adopting such a procedure, the Egyptian would never be an originator: at the best he might become an efficient translator and retailer of second-hand knowledge.

The desire for knowledge in Egypt at the present time, with which I am in deepest sympathy, is akin to the almost fanatical demand for universal knowledge in Baghdad in the eighth century. Baghdad was then the greatest and most splendid of all cities. Arabic Medicine was a blend of Greek elements with the oriental, and in the century mentioned Arabic Medical Art reached a height unsurpassed in Europe during the Middle Ages. There was, however, no output of original work in Surgery, but translations of all important works were undertaken including those of Galen and of Paulus of Aegina. The works of Paulus were at least 100 years old and those of Galen many centuries old. I cannot believe that Egypt will copy the hopeless customs of Baghdad in Science and Medicine. The advantage of the use of English in the present era of the world's history is that the output of new knowledge in this language is enormous, as America is included as well as all the Nations of the British Empire.

It was only when Egypt, after centuries of teaching and learning under a Greek dynasty, happened to be conquered again by a people who spoke Arabic and had made Arabic the language of international intercourse from Cordova to the Indies, that the Egyptians adopted the language of their Arab conquerors in order to keep in touch with the learned as well as with the Commercial world. But now the Arabic language is no longer a medium of international intercourse in any branch of modern scientific thought.

The real reason why the Alexandrian Schools became world famous is that the teaching was in Greek (not in the language of Egypt) and Greek was in the third century B.C. the common language of the Mediterranean nations and indeed of the whole then civilised world. The lesson to be learnt does not require elaboration.

4 The training of Egyptian Medical Men in England

The present system of sending Egyptian students to England for their medical education is attended with serious defects. The high type of medical education afforded in Egypt really makes this unnecessary even now and when further progress is made it ought not to be in the least necessary. By converting the School at Cairo more and more into a centre of research with Research Professors the Egyptians will have a School which will compare favourably with other medical schools.

What, however, will be always desirable will be to send very carefully selected trained medical men to England, not so much for general training, but for definite appointments for a specified period in well known hospitals and medical schools; the idea being to supply Cairo continuously with the experience of other non-Egyptian Schools and Hospitals and this will tend to bring fresh ideas back to Egypt. Provided the right type of carefully trained Egyptians are sent for this purpose there is not reason to believe that such an arrangement would not be accepted by institutions in this country. Naturally some financial arrangement should have to be made in connection with payment for such resident Egyptians, as Hospitals in this country are not state aided but depend on charity and small endowments for their maintenance.

The ideal at which to aim is the sending of Egyptians already carefully trained, not only by having completed their actual medical training, but also by having held some junior appointment in the Kasr-el-Aini School or Hospital to an appointment in England. As a member of an English hospital resident staff the Egyptian will live on the hospital premises and so learn to appreciate the ideas and ideals of a British resident Medical Staff. This arrangement is recommended more especially for those Egyptians who seek to remain in the service of the Government and particularly for those whose ambition it is to hold full-time offices in the School or Hospital.

5 A General Medical Council in Egypt

It is urgent that Egypt should possess a Council such as exists in the United Kingdom with disciplinary powers to check unqualified practice and to protect the Egyptian public. When such a scheme is carried out it will redound to the credit of the Government.

At present 1050 Egyptians and 1710 Foreigners are practising in Egypt.

Of the Egyptians, 722 have been locally qualified to practise medicine. A great many Egyptian Doctors are in Government service hence the number of Egyptian doctors available for general practice among the people is lamentably few.

Of the Foreigners about one half are qualified in Athens, Beyrout and Constantinople. Many foreigners practise in Egypt on diplomas which would not admit of their practising medicine in their own country.

It is obvious that no person should be allowed to practise medicine in Egypt without first passing an examination in the Cairo School of Medicine equivalent to the final qualifying examination which Egyptian Medical Students are required to pass.

An exception might be made in the extent of the examination in the case of men desirous of practising medicine in Egypt who possess a degree in Medicine from certain famous Universities such as Paris, London or Edinburgh but all those who desire to practise in Egypt should be obliged to pass an Egyptian examination.

6 Criminal Law (protection of young girls) Act

A visit to the Gynaecological department of the Cairo Hospital reveals terrible injuries inflicted on mere children and there is no law at present to punish these offences. It is to be hoped that Egyptian public opinion will demand that a law shall be passed inflicting heavy penalties for these horrible offences as also for the procuring of abortion, rape, Sodomy and such like crimes. It is infamous that the present state of affairs is allowed to continue.

7 The Hospital and Medical School of Utopia

“The main functions of a University (and a Medical School should be an integral part of a University) are four in number. The more important are instruction and research, the less important – examination and the bestowal of degrees. The essence of good education is not the mere acquisition of facts, but the training of the mind. The very

word education implies a drawing out rather than a putting in; and the recognition of this truth is vital for Teachers and Taught alike. The true professor is always learning from his own researches, from the students whom he teaches and from his colleagues; scientist from theologian, historian from lawyer, philosopher from scientist and vice versa. He lives in a Society of learned people, in which much is taken as known, whilst each contributes, from his own standpoint, fresh building stones for the house of Knowledge. In such an atmosphere the pupils become imbued with the wish to find out for themselves, and thus high traditions are handed down from generation to generation. No one can be a really successful professor who is not a life long student and investigator. His Lectures and teaching need constant revision, and should reflect his own mental growth. His researches illuminate his teaching, and his teaching has a like effect upon his researches. So the teacher who has a radio-active mind, and moves naturally upon a higher plane of thought, beckons his pupils up to his level, and reveals to them untold possibilities in subjects which in other hands are dull and uninspiring. He stimulates them to investigate for themselves and directs their early footsteps on the path of research. The Teachers and students are trustees of a great tradition. To the successors of the present falls the task of carrying on the work and in taking a share in shaping the history and thought of future generations. Such is their responsibility and such their privilege. They must not rest content to hand down their inheritance unimpaired, like the talent wrapped in a napkin, but must seek to leave to those who come after a wider knowledge and a still nobler civilisation”.

Such were the words used by the present Regius Professor of Medicine in the University of Oxford (Sir Archibald Garrod) in an address delivered in the Aula Magna of the Malta University in 1917. How can these lessons be applied to the Kasrel-Aini Hospital and Medical School? Great traditions exist in Egypt. The story of the world famous school of Alexandria has been already referred to. In the ideal hospital every member of the staff is studying some problems in Medicine, Surgery or Pathology, and every such problem demands for its solution the assistance and active participation of the Research professors in the Medical School. The Research professors in the Medical School are even eager to collaborate with their colleagues of the Hospital: e.g. a Physician or Surgeon may be endeavouring to solve the question of the intimate pathology of malignant disease and will learn from the professors of bacteriology and biology all that is at present known of the life history of the lowest forms of vegetable and animal life. Another member of the Staff may enquire of the Research Professor of Chemistry whether it is possible to obtain some modification of an organic drug which he has been using for the treatment of disease: and forthwith the knowledge and skill of the Chemical laboratory will be concentrated on the solution of this problem in Clinical Medicine. The realisation of the vital importance of the relation between Chemistry and Medicine makes the appointment of a Research professor in Chemistry highly necessary. The day has passed when chemistry as far as medicine is concerned can be relegated to the position of a preliminary subject the examination in which the student tried to pass with the least possible knowledge. The study of chemical compounds in physiological processes, the use of chemical compounds in the treatment of parasitic disease, the discovery of new anaesthetics and antiseptics, the discovery of new stains, new drugs and innumerable other problems makes it highly important that in a modern Medical School there should be a member of the Staff who is capable of aiding the study and advancement of chemistry by research.

Another member of the Staff may be studying the union of divided nerves and will seek and obtain from the Research professors in histology and physiology a knowledge of the newest and most reliable staining methods of axis cylinders and sheaths of Schwann. And yet another member of the Staff may be engaged on a research on the healing of wounds by the application of new dressings or by the aid of the microscope; or he may be interested in blood transfusion, a subject which is as yet in its infancy; and in all these problems the Research professors in Chemistry, Histology and Physiology will have much valuable information to impart, and may be the research professors may learn too from the clinical worker in the hospital.

Thus the members of the staff of the hospital are ever seeking to probe the secrets of Nature in collaboration with their colleagues, the Research professors of the Medical School. These investigations, however, will be only a small part of the labours of a Research Professor. His time is in part given to teaching and in part to original research either alone or in conjunction with his assistants and pupils. The whole atmosphere of each laboratory breathes research. The students

