THE

Journal of the American Medical Association.

EDITED UNDER THE DIRECTION OF THE BOARD OF TRUSTEES.

PUBLISHED WEEKLY.

VOL. XII.

CHICAGO, JUNE 8, 1889.

No. 23.

ORIGINAL ARTICLES.

MEDICAL EDUCATION, AND THE LAWS REGULATING THE PRACTICE OF MEDICINE IN TURKEY.

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While the present cry for higher medical education is going on, it may be profitable to consider what is being done in that line in other countries. The condition of medicine in England, France and Germany is well known to most of us; but we are comparatively ignorant of what is being done in Turkey, a country containing an area of about 1,700,000 square miles, and having some 45,000,000 inhabitants.

Its medical practitioners are derived from both native and foreign schools, the latter being represented by both Europeans and Americans. All persons holding foreign diplomas must present them at Constantinople to their respective consulates; where, if from reputable colleges, they are viséd by the minister. They must then present themselves at the Imperial Medical School, and pass a colloquium in French or Turkish, or through an interpreter, before three or more of the professors, satisfying them that they are physicians, and the rightful owners of the diplomas.

The colloquium is short but thorough, and one is treated with the greatest respect. No distinction is shown between American and European graduates, though this is the only place in Europe where such is the case. The short and imperfect courses of many of our medical colleges are only too well known abroad, and as a consequence of this, the average American M.D. has little or no standing with European physicians. The American dentist, on the contrary, stands at the head of his profession all over Europe. The colloquium costs about \$35, and a permit is given which authorizes its holder to practice medicine in all parts of the Turkish Dominions.

More is required of Turkish subjects who return from America with medical diplomas, and they are obliged to pass as rigid an examination as the students of the Imperial School. In some cases a year or more must be spent in study before

they can pass. The justice of this distinction will be readily seen when we reflect for a moment on the requirements of the respective schools. Legally, no one can practice medicine in Turkey without a diploma or permit from Constantinople; but there, as in most countries, we find more or less bribery, and in many out of the way places the law is disregarded.

In the whole Turkish Empire there are only five institutions in which there is any teaching of medicine, and in only two of these are diplomas given.

The Imperial Medical school of Constantinople was founded in 1833 by the Sultan Mahmoud. It has a six years course, an average class of 450, and, since its foundation, has had some 1,400 graduates. The faculty consists of twenty professors, at the head of which is Dr. Marco Pasha, one well fitted for the important position he holds.

The Cairo School of Medicine is several years older than that of Constantinople, having been founded in 1827, under the reign of Mohammed Ali, at Abu-Zabel, from which place it was removed to Cairo. It has a preparatory course of one year, and a medical course of five years of eight months each. Its classes vary in size from 160 to 200, and its graduates average yearly about twenty. There is a Director, Dr. Issa Pasha Handy, and twenty professors connected with the Cairo School. Its diplomas can be used only in Egyptian territory and, should its graduates wish to practice in any other part of the Turkish Empire, they must first pass a colloquium at Constantinople and obtain a permit as in the case of graduates of foreign colleges.

The Syrian Protestant College at Beirut established a medical department twenty-two years ago, since which time it has graduated 105 students. There are five professors and a President, and its course is four years. The Government permits it to give only a certificate to its graduates stating that they have followed the regular course and have successfully passed their examinations. This, when presented at Constantinople, entitles its holder to an examination at the Imperial Medical College, after passing which he receives his diploma.

There are two other institutions which have tried, but in vain, to get some recognition for

their medical departments from the Government. They are the Central Turkey College at Aintab, and the Jesuit College at Beirut—both, like the Syrian Protestant College, missionary institutions.

All efforts aimed at the Mohammedan religion are aimed at the Turkish Government, hence she justly guards her country against all missionary institutions, but especially medical colleges, for the influence of the medical missionary is greater than any other.

The standard of medical education is set by the Constantinople School, and, as that has a six years course, all of the other colleges have practically the same, the discrepancy in time being made up for in the requirements for matriculation, so a description of one college will do for all.

Through the kindness of Drs. Grant-Bey and Issa Pasha Handy, of Cairo, I have succeeded in getting an accurate account of the Cairo School, so I will confine my remarks to this. A minute description of it by Dr. Grant-Bey will be found in the Arabic medical journal *Ush-Shifa* for 1888.

This school was founded by Dr. Clot, a Frenchman—afterwards the famous Clot-Bey. After him, the position of Director was held successively by Perron, Chaffey-Bey, Griesinger and others. It was in Griesinger's time and at Cairo that Bilharz discovered the parasite bearing his name. At first, the lectures were delivered in French and translated into Arabic for the students, who studied the French language at the same time. The European professors have been gradually supplanted by natives, till now only one remains. At the same time text-books were being written or translated into Arabic, so that at present all teaching is done in that language. Since British influence has been so great in Egypt, a professor of English has been appointed; and each medical student, in addition to his own language, must have a knowledge of either English or French. The building for the School of Medicine is quite new, with all modern conveniences, and attached to this is, 1, a Museum of Pathological Anatomy; 2, Bacteriological Laboratory; 3, Laboratory of Practical Chemistry; 4, Laboratory for Microscopy; 5, Museum of Zoology and Comparative Anatomy; 6, Museum of Mineralogy and Geology; and 7, Collection of Materia Medica.

Near the medical building is a large hospital with an average of 400 patients, the clinics of which students of the second, third and fourth years are required to attend. Those of the fifth year are attached to the Hospital of qasr-el-Ainy, as externes and internes, while preparing for their final examinations.

In connection with the medical school is a school of pharmacy and a school of midwifery; the latter, however, because of social and religious prejudices, is lacking in practical training. The course for each of these schools requires four years for its completion.

All applicants for matriculation must be 16 years of age, and present certificates as to moral character and preliminary training, and they must pass oral and written examinations in Arabic, English or French, history, geography, arithmetic, cosmography, geometry, algebra, physics, chemistry and natural history.

Physics. This is studied in the preparatory year, 96 hours being devoted to didactic, and 192 hours to laboratory work. Chemistry is taught during the preparatory and first years, 96 hours being devoted each year to theoretical and practical work.

Natural history extends through the preparatory and first years, 96 hours being devoted each year to theoretical and practical work.

Physiology is taught the first and second years, during the first there being 96 hours of didactic, and 64 hours of practical work; and during the second year 96 hours of didactic and 192 hours of practical work. Micrography is also studied during the first and second years, there being 64 hours of didactic and 128 hours of practical work each year.

Anatomy extends through the first and second years, there being 96 hours of didactic and 192 hours of practical work each year. Each student is also required to dissect an entire human corpse his first, and the same his second year.

Pathological anatomy is studied during the third year, there being 128 hours of didactic and practical work.

Internal pathology is taught the third and fourth years, 96 hours being devoted each year to the subject, each student being instructed practically in the various modes of diagnosis, and the holding of autopsies. Surgery is taught during the third and fourth years, 96 hours being devoted each year to its study; the third year being chiefly didactic, and the fourth clinical surgery.

Operative surgery is taught the third year, there being 96 hours devoted to its theory and 64 hours to its practice. Each student must perform the operations on the cadaver and on the mannikin.

Materia medica is taught during the third year, 96 hours being devoted to the subject.

Obstetrics is taught during the fourth year, 96 hours being devoted to the didactical part and demonstrations on the mannikin. When cases occur in the hospital the students are required to be present.

Ophthalmology. Ninety-six hours are devoted to this during the fourth year, and are composed of lectures and demonstrations, most of the practical work being done at the hospital clinics.

Hygiene is also studied during the fourth year, having ninety-six hours devoted to it.

Legal medicine is studied the fifth year, 96 hours being spent in theoretical and practical work.

Pharmacology is also studied the fifth year, 96 hours being devoted to didactic and 192 hours to

practical work, the students having to assist in the pharmaceutical course. As yet, no chairs have been created for gynecology and pediatrics; the one being included under surgery, and the other under internal pathology.

Examinations are held at the end of each year on all that has been studied, and four final examinations are held at stated periods. These examinations are oral, written and practical; the student being required to examine and diagnose, in the presence of the examiners, two cases of internal disease, two cases of diseases of the eye, and two specimens of pathological anatomy with the microscope. Should he answer less than two-thirds of all the questions, or should he get zero on any one subject, he will be rejected.

The Board of Examiners for admission to the study of medicine is composed of the professors of the College, with four others appointed by the Minister of Public Instruction.

For the yearly examinations a Board of Examiners is chosen by the Government Medical Department and the Minister of Public Instruction, who act conjointly with the professors of the College. These examiners are chosen from medical men in the employ of the Government and private practitioners, all of whom have equal rights in voting, which insures a rigid and impartial examination.

Does not a system like this, in a country which labors under as many disadvantages as Turkey, put to shame many of our medical institutions in America?

TEMPERAMENT.

Read before the Denver Medical Association, and Arapahoe County Medical Society.

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What is it? To most of us it is a certain though ill-defined factor to be reckoned with in our dealings mental or physical with our fellow man.

In our efforts to exert an influence over one another, in religion, in politics, in trade, in education, and in disease, we all feel that this nebulous something has to be taken into account.

It appears as the resultant of various forces in the individual, and gives distinction and point to the character, in short, individuality to the individual. It is shown in the bone, in the outline, the motion, the thought, and the temper. The name implies that it is the tempering and mixing of different characteristics or qualities together, rather would it seem to be the resultant produced from the convergence of several forces and tendencies in the individual.

The ancient writers upon our art endeavored to explain these different underlying forces as due to certain humours, the history and description of their views is too well known for me to recapit-

ulate them here. We moderns have accepted and must still accept much of their nomenclature, but we have rejected their explanations of the causes of the several temperaments, without seriously concerning ourselves with finding new ones. A recent writer in *The Medical Record* (August 4, 1888), in reviewing two essays of Hellurg, upon temperament, says, "Physicians learn, consciously or unconsciously, to recognize temperamental differences, and to suit both manner and medicine to the fact." He further goes on to remark that the best definition has been given by Muller, who essentially describes temperament as "The reaction of the individual to his environment." In the same article Hellurg's tabular definition of temperament is presented, which is founded on the view that it is the varying strength of the reception of an impression and of the reaction of the individual to it, that distinguishes the temperament.

HELLURG'S TABLE.

TEMPERAMENT.	RECEPTION.	REACTION.
Choleric.	Strong.	Strong.
Sanguineous.	Strong.	Feeble.
Melancholic.	Feeble.	Strong.
Lymphatic.	Feeble.	Feeble.

Darwin Hudson (Johnson's Encyclopædia) defines temperament "As a mixture or tempering of the essential elements of the body, whose excess or variable quantity determines the chief characteristics of mind or physique."

What are the essential elements of the body? In the various definitions of temperament that are to be found there is always a reference to some such undefined factors as being at the foundation of the problem of temperament. Before we can build up any reasonable scheme of temperament we must clear off the wrappings and expose the root of the matter, in short we must explain what is meant by the essential elements of the body.

What is the essential quality of living matter? its power of renewal, that is, nutrition. When a portion of elementary living matter, which we term protoplasm, becomes separate and individual, as in an amœba, what is the essential quality of its individuality? It is its capacity to receive an impression from and its power to react to its environment. This quality is exercised through nerve force. It is true that we cannot detect nerve structure, as we know it, in the dawning life of the individual, but though the localized and visible machinery, which we term nerve tissue, is not apparent, the real essential element of nerve force is undoubtedly diffused through the the general mass of the individualized protoplasm, conferring on it the capacity to receive impressions, at least in an elementary manner.

The first reaction of the separate piece of protoplasm to the reception of an impression received from its environment would appear to be the formation of a cell wall, whereby it reacts to external