

THE GRADUATE DEGREE IN OBSTETRICS AND GYNECOLOGY.*

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A LARGE percentage of the members of this society are teachers in medical schools and therefore interested in educational problems, so perhaps it will not be out of place for us to pause for a moment in our discussion of the woes of womankind, to consider some of the fundamental principles underlying the proper preparation for the practice of our specialty, for its advancement, for its standardization and for its perpetuation upon a sound basis.

We do not present this so-called "Minnesota Plan" as the only solution of these problems, for we look upon it chiefly as a hopeful experiment put forward with the determination to give it a fair trial and with a desire to provoke constructive discussion and criticism and also with the hope that it will lead to the trial of this or some other method of standardized graduate education of specialists.

The rapid growth of specialization with the entry of men who are inadequately prepared to practice as specialists, presents educational

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problems not unlike those afforded a few years ago by the overcrowding of the medical profession by poorly equipped men turned out by low-grade proprietary schools and diploma mills.

In some ways the problem is even more difficult in the case of the specialties.

To practice medicine some sort of legal certification is necessary while in the specialties we not only have specialists by education, training and experience, but specialists by desire, "nerve", and announcement.

To improve the average of medical practice it was, of course, self-evident that the standards of education must be raised, which was more or less of a slow process and was attacked from many angles; first by creating sentiment in the profession, by discussion among medical educators and by societies similar to this; also by a few medical schools increasing their preliminary and time requirements. At about the same time a few states established legal certification of practitioners. Later the American Medical Association by its classification of medical schools caused the elimination of many of the weaker institutions, and the Carnegie Foundation for the Advancement of Teaching lent aid by its exhaustive survey, so that finally the sentiment which had started by a little discussion, grew by the efforts of all these agencies until it became crystallized into a fixed purpose for the entire profession.

I hope that the discussion which is now beginning as to the specialties may have equally as powerful forces behind it and grow till there is a concerted movement to raise the standards of special practice to a level that will be a credit to the profession and a safeguard to the public, which now has no way of distinguishing the well-trained man from the incompetent, self-announced specialist.

This same process of raising standards must be gone through within the specialties, for the attractiveness of devoting one's efforts to a limited field and the allurements of supposed financial rewards, have led too many men without proper preparation to pose as specialists. This, if allowed to continue, will bring every branch of special practice into disrepute. More thorough preparation is the only solution.

One of the prime causes for the organization of the American College of Surgeons was the recognition of this fact.

The trend toward specialism is unavoidable and logical, for no man can hope to master the whole wide field of medicine; therefore the natural tendency of men who can be content only with mastery leads inevitably to specialization in the fullest meaning of the term,

but unfortunately and also inevitably, the success of these masters attracts men to the specialties who are actuated more by the desire for material rewards than by ambition for mastery and they seek by short courses of a few weeks or months a superficial knowledge and then pose as full-fledged specialists. "A little knowledge is a dangerous thing."

Now that the principle of specialism has been recognized, systematic advanced training under proper educational auspices is necessary; offering not only sufficient clinical facilities, but an equal chance for higher education in all of the allied sciences, with adequate opportunities for and stimulation of investigation. This, according to our conception, can best be found in the atmosphere of the great Universities where the graduate school acts as a coordinating force between the various departments.

The medical school cannot accomplish as much alone as it can in cooperation with other divisions of the University.

Clinical experience alone is not enough to make the great leaders in the specialties.

Medicine is becoming more and more scientific and increasingly dependent upon certain fundamental sciences, and in the specialties, which should mean higher education, the advanced study of these sciences is needed as much as the advanced clinical study—indeed, the latter cannot be realized to the full without it. This is particularly true of investigators.

The university is the place for such broad training. Out of such considerations has grown the "Minnesota Plan" or perhaps it were better if we called it the "Minnesota Experiment," which is new, but new only in its application to medicine. For it simply applies the principles governing university graduate work in any other branch of advanced learning to the clinical subjects and makes them actually a part of the graduate school of the University, with the same entrance, time, language, residence, examination and thesis requirements and leading to the same earned degree of Ph. D. or D. Sc. (in Obstetrics and Gynecology or whatever branch the work has covered).

The decision to adopt this plan at the University of Minnesota was made in 1914 accompanied by the following declaration of purpose:

"In an age of specialization and of the development of graduate work in all fields and phases of the sciences, letters, and arts, such an educational experiment needs no elaborate justification. In a subject like medicine, intimately connected with established fields of

research such as biology, chemistry, anatomy, physiology, pathology and bacteriology, the possibilities of real scientific results and of the training of scientifically minded and equipped specialists, investigators and teachers are as great as in any subject and of as vital importance.

“The possibilities of such work hitherto have suffered less from neglect than they have from the lack of organization, standardization, and certification by the educational institutions who have found it possible and advisable to put such applied subjects as agriculture, education, engineering, and commerce upon the basis of scientific investigation, and have freely recognized the accomplishments of trained students by the granting of higher earned degrees. In medicine, in the United States, the specialist in practice and the trained investigator have come to us either as a development from extended practice narrowing to a particular field; by periods, long or short, of foreign study; by what has been called post-graduate or polyclinic medical courses; or by the simple and convenient method of self-proclamation. Taken as a whole, the results of such processes can hardly be called satisfactory, nor do they supply any sure protection to the public or any open avenue for the specialist to the public’s confidence. And medical education, if it is to advance must at least be able to supplement a faculty of skilled practitioners with men trained to carry forward the frontiers of medical science.

“The objects of this graduate work in medicine are accordingly the training for medical practice of fully equipped and properly certified specialists and of investigators and teachers of medicine.”

STANDARDS AND REQUIREMENTS.

“In entering upon this work the best methods for securing results and safeguarding scientific standards have, it would seem, already been indicated by the graduate work developed here and elsewhere in other pure and applied sciences. The proper development of any experiment in graduate work in medicine would depend upon real standards of admission, qualified teachers supplied with adequate laboratory, clinical and library equipment, and rigid tests in course and examinations in residence, together with evidence of the power or productive research on the part of the students as evidenced in a thesis.

“In doing this work the University of Minnesota is not seeking to multiply the opportunities for securing simple technical training through practitioners’ courses. The graduate work is definitely intended to make the three years’ work a training for the well-prepared and serious-minded student who wants to be a scientist, working in some special field of medicine or surgery. Entrance upon the work and continuance in it, as well as the holding of scholarships or fellowships in the Medical School or the Mayo Foundation, will be strictly conditioned upon evidence of power and growth along scientific lines. The value of technical or mechanical skill as a practitioner or operator has its place, but will be subordinated to and measured by the power and product of the brain that guides the hand. From the standpoint of both the University and the

prospective student it is highly important that this distinction in purpose be kept clearly in mind."

Students desiring to take up graduate work in medicine do not enter the medical school, but register with the dean of the graduate school.

In order to live up to its higher ideals, the number of fellowships in each branch of medicine is limited to the number which the existing clinical facilities warrant: two each in surgery, internal medicine, obstetrics and gynecology, ophthalmology and otolaryngology, mental and nervous diseases and pediatrics. In addition to these there are fifty fellowships offered by the Mayo Foundation also a part of the graduate school of the University of Minnesota. Each fellow receives a stipend of \$500 the first year, \$750 the second and \$1000 the third year and must devote his entire time to graduate work and in order that he may become a trained teacher, does a limited amount of teaching.

REQUIREMENTS FOR ADVANCED DEGREES IN MEDICINE.

"1. Entrance upon work for the advanced degree of doctor of philosophy (Ph.D.) in the clinical departments of medicine is limited to those who have: (a) The bachelor's degree in arts or science, or the equivalent; (b) the degree of doctor of medicine from acceptable institutions (*i.e.*, those in Class "A" of the American Medical Association); and (c) one year's experience as an interne in an approved hospital or as an assistant in a laboratory in an acceptable medical school."

"2. *Residence.* For the doctor's degree (Ph.D. or D.Sc.) at least three full years of successful graduate study are required."

"3. *Language requirements.* A reading knowledge of French and German must be certified by the professors in charge of these languages at least one year before the doctor's degree is conferred, and before admission to the preliminary examination."

The Masters Degree is also given for three years' work without the foreign language requirement.

"4. *Minor.* With the approval of his advisor and the Dean of the graduate school, each student upon entrance selects a minor, which must be logically related to his major subject and must be completed before the end of the second year. The minor is preferably a laboratory subject in some other department, and should amount to not less than one-sixth of the total work for the degree. At least one-fourth of the work offered for the degree in a clinical subject should consist of graduate work in the fundamental laboratory branches, which will serve as a basis for the proposed clinical specialization. The final examination in the minor for the doctor's degree is included in the preliminary examination."

"5. *Major.* The major is that department in which the student desires to specialize. Together with the thesis, it should occupy at least two-thirds of the total work for the degree."

"*Thesis.* Each candidate for an advanced degree must submit a thesis which must embody results of research forming a real contribution to knowledge."

The candidate must also pass exhaustive written and oral examinations and defend his thesis before the graduate faculty.

REQUIRED GRADUATE COURSES IN OBSTETRICS AND GYNECOLOGY.

The degree conferred is Ph.D. or D.Sc. (in Obstetrics and Gynecology).

Of the courses in other departments open to graduate medical students the following are especially recommended for those desiring to specialize in obstetrics and gynecology:

Advanced Anatomy: gross and histological, of the female generative organs; Fetal Anatomy: dissection of fetus and new-born; Implantation and Placentation; Advanced Physiologic Chemistry; Gynecological Pathology; Experimental Pharmacology; Other courses in fundamental or clinical subjects may be selected.

The following graduate courses are offered in the department of Obstetrics and Gynecology:

Advanced Pathology of the Female Generative Organs. Required of first- or second-year fellows in obstetrics and gynecology.

Prerequisites; pathology, or equivalent.

Clinical Obstetrics and Gynecology. A course in diagnosis and treatment, with special study of selected cases. Clinic in the outpatient department of the University Hospital, N.W.F. throughout the year. Required of first-year fellows, and may be elected by second-year fellows.

Clinical Obstetrics and Gynecology. Required of second-year fellows, and may be elected by first-year fellows.

Advanced Obstetrics and Gynecology. Includes service in the University Hospital, affording ample opportunity for experience in diagnosis, care and treatment (operative and nonoperative) of patients. Special facilities offered for study of problems and cases of unusual interest. Required of first-year fellows. Another course, similar to previous course but more advanced, both in clinical and research aspects of the subjects, so as to be adapted to the increased training and experience, is required of second-year fellows. Similar courses but more advanced, are required of third-year fellows. Clinical and laboratory research upon problems in obstetrics and gynecology are required of third-year fellows who must complete a satisfactory thesis during the year. This is elective for second-year fellows or other properly qualified graduate students.

In closing permit me to say that we have no delusions that this is the one and only solution of this problem, but we do believe that certain dangers confront us under the present lack of system and that the education of specialists must be systematized, elevated and standardized perhaps along these lines of established pedagogical principles or perhaps by discovering new ones.