

latter observation, I may say that in trying to demonstrate it to visitors, the first objection is apt to be, "but I don't see any band." When, after some coaching, the faint hazy band is seen, the next assertion is usually that there is no difference in its intensity in different spectra; and it is hopeless to expect a verification of the delicate quantitative measurement, unless the would-be observer can acquire the requisite skill. It is important that the spectrograms of the water-vapor band shall be secured when the water vapor in the *total* terrestrial air column is in smallest quantity. A low dew-point at the earth's surface does not guarantee this condition, which, in general, is almost never present in summer. For this reason the spectroscopic data should be obtained in winter.

FRANK W. VERY

WESTWOOD, MASS.,
October 1, 1909

QUOTATIONS

THE HARVARD MEDICAL SCHOOL AND HARVARD COLLEGE

THE modern tendency to align medicine with the other professions as a graduate topic is a sound as well as an irresistible tendency. But we think that some authorities have fallen into a logical error in attempting to buckle end-to-end, in the required training of a physician, the present college curriculum, and the medical curriculum as it grew up in pre-university days. The courses provided by medical schools comprise many which afford a high type of culture looked at from any standard. He would be exceedingly narrow who should deny that many of the courses which are indispensable ingredients of a medical education are also essentially academic, and worthy components of anybody's education. We go so far as to regard practically all the studies of the first year and a half of the Harvard Medical School as in posse, if not in esse, studies of an academic rank, as cultural studies. In brief, we desire to see them, while maintaining their indispensable rôle in medical education, open to all persons who

have any hygienic aims or any anthropological interests.

We would not "let down the bars" to all who might care to wander about in medicine unguided. We should throw proper restrictions about these courses, such as are thrown about all other advanced courses by the faculty of arts and sciences. But we should offer, to be taken and counted toward the bachelor's degree under proper precautions, all these courses. Let us admit to them any persons who wish to study the fundamental facts of health and disease amongst all the other economic, sociological or anthropological facts which to-day make up the proper study of mankind.

By this device we should destroy forthwith the familiar bugbear of "counting twice" certain studies, under the "combined A.B. system," toward both A.B. and M.D. For we regard the diagnostic and therapeutic courses of the medical school as the essentially medical courses, and the other so-called fundamental courses as not merely medical, but in a broad sense biological. We consequently see no objection to including such courses in work for a bachelor's degree, though we foresee hesitation on the part of some of those who grew up when the medical school was virtually independent of the university, to acknowledge the sources of some of their own culture.

We deny categorically the danger of undue specialization in this field and have above called attention to some random examples of greater specialization by persons who later won their doctorates in other fields.

We insist that our plans, if carried out, would encourage academic freedom and would be in line with all that is good in the elective system. In fact, so harmonious are these ideas with the university system as it otherwise stands that we can lay claim to no originality whatever in the advocacy of our plans. In short, we ask for nothing more than a logical application to medical studies of principles which have long successfully governed the graduate school of arts and sciences.

In this event, some men would receive the

degree of doctor of medicine after about six years of university residence, to which, however, there must be added at least a year of hospital work, and these men, like many doctors of philosophy, would have a rather narrow education. Such an education is, however, less narrow than that of many Harvard doctors of philosophy, under our present system. Others would devote eight or even nine years to their university careers, and their training would be correspondingly broader. Surely there is room at the Harvard Medical School for these different classes of students. But, in any event, the six-year men can be excluded only by an act which will inevitably cut us off from an important and rapidly growing group of American institutions, the great middle western and western state universities. We may not need the numbers thus lost; surely we should not lose their influence, if we are to be national and not local in scope.

As we believe, the greatest of all the needs of the Harvard Medical School is free, and, so far as possible, untrammelled intercourse with every other department of Harvard and with every other American university. No small changes are necessary if our medical education is to be made thus elastic, but surely it can not injure Harvard College to broaden the elective pamphlet by the introduction of suitable courses, nor can it hurt the Harvard Medical School to broaden its scheme of admission, to bring itself into relation with American universities in general, and into correspondence with the Harvard Graduate School, if this be done without diminishing the requirements for the degree of doctor of medicine.

These results may be accomplished by the following arrangements:

1. Count towards the A.B. suitable courses in medical sciences.
2. Admit unconditionally to the medical school all holders of a respectable bachelor's degree.
3. Grant the M.D. (a) after not less than a fixed minimum of residence; (b) upon evidence of theoretical and practical attainment in the medical sciences (including the present admission re-

- quirements) and in the clinical branches.
4. Establish a simple administrative mechanism for the degree of M.D., modelled after the present mechanism for the Ph.D.
5. Execute the above arrangements in the broadest spirit, to establish and preserve academic freedom, as exemplified in the greatest variety of preparation, of medical course, and of finished product.
6. Relax the present rigid organization of the medical school curriculum and lay stress upon the quality of our doctorate rather than the means of its attainment.
7. In all ways encourage the better students. Permit them to advance at their own rate and in their chosen paths.—*The Harvard Bulletin*.

SCIENTIFIC BOOKS

Life and Letters of Peter and Susan Lesley.

Edited by their daughter, MARY LESLEY AMES. In two volumes. Pp. ix + 526, 562, New York, G. P. Putnam's Sons.

The founders of American geology are only names to most of the living. Not one remains of those who were engaged on the surveys of 1836 to 1841 and only one survives of those who shared in the Pacific Railroad surveys. Tradition relates that many of the early geologists were mighty men; the record of their work and of their warfare has been transmitted to us, but, for the most part, their personality is unknown. Obituary notices, presented in societies, usually discuss only the value of the subject's scientific work and leave the reader anxious to learn something of the man. No such defect is present in these volumes, for here is revealed Professor Lesley¹ as he knew himself and as his friends knew him.

Peter Lesley's father, third of the name, was born in Philadelphia, son of a revolutionary soldier, who, coming from Scotland, had established himself in that city as cabinet-maker. Just as Peter third was about to enter the university, his father died and the young man was compelled to take the father's business in order to support the family. In

¹ Professor Lesley was always dissatisfied with his name and when he became of age he placed the "Jr." as a prefix instead of suffix; thenceforward he was known as J. P. Lesley.