UNIVERSITY AND EDUCATIONAL NOTES

BY the will of Lillie Hitchcock Coit, of San Francisco, the University of California receives the residue of her estate, which will probably amount to $300,000, for the support of the lecture foundation established by her father, Charles M. Hitchcock, in 1872. It is directed that the money be used to increase the endowment of the Hitchcock chair, and that it hereafter be known as the Charles M. and Martha T. Hitchcock Chair, in honor of her father and mother.

A GIFT of £20,000 has been made to the University of Edinburgh by Dr. Thomas Cowan, a Leith shipowner. This gift is in connection with Cowan House, a residence founded by him to be a social center for male students of British extraction. His desire is that the residence should attract young men of intellectual force or other personal characteristics who are likely to have a useful influence on their fellow-students.

DR. SIDNEY BLISS, associate professor of biological chemistry at McGill University, has resigned to accept the chair of biochemistry in the school of medicine of Tulane University of Louisiana, effective September 1.

DR. FRANKLIN C. PASCHAL, professor of psychology and associate dean of the college of arts and sciences of Vanderbilt University, has been appointed dean of the college.

DR. REGINALD D. MANWELL, head of the department of biology in West Virginia Wesleyan College, has been appointed instructor in the department of protozoology of the school of hygiene and public health of the Johns Hopkins University.

PROFESSOR ALLEN MAWER has been appointed provost of University College, London, as from January 1, 1930, in succession to Sir Gregory Foster.

A. W. ASHBY has been elected professor of agricultural economics in the University College of Wales, Aberystwyth.

M. TRAVERS, professor in the faculty of sciences of Marseilles, has been elected professor of industrial chemistry in the University of Nancy.

DISCUSSION

A NOTE ON THE ASSOCIATION OF DISEASES[1]

IT is a question whether any more complicated relations than those of "more" and "less" can ever be really proved by the use of statistical methods alone and unaided, and indeed in not a few cases there is some doubt inhering in a statistical conclusion that A is more than B or C is less than D. Perhaps in the long run it will appear that the chief usefulness of the statistical technique in the methodology of science is the not unimportant one of suggesting problems and lines of attack upon problems which must finally be solved, if they ever are solved, by the application of the methods of experiment and observation, or a close and integrated correlation of these methods with the statistical to reach a common end. It is of interest to note that this is essentially the position taken by Dr. C. A. Gill[2] in regard to the proper place of the statistical method in epidemiological research, in which it has generally been thought to be almost the necessarily preeminent if not exclusive method.

These remarks are occasioned by the consideration of the wider problems which are being opened out by a recent statistical study of the relation between cancer and tuberculosis.[3] It has long been a well-known objective fact of clinical experience that these two diseases are but rarely found together at the same time in florid activity in the same living person. The same objective result has been found in the statistical study of large collections of autopsy records, not alone by the present writer, but by a number of predecessors in this field of investigation. Furthermore, general vital statistics, with perhaps less precision and reliability, lead to the same objective finding. The correctness of this purely empirical objective result has apparently not been questioned by any serious student of the matter.

The difficulty arises, as is so often the case in statistical matters, in the interpretation of the objective findings. Considering generally the association of any two diseases, the objective findings seem bound to fall into one or another of the following three categories, *viz.*, (1) The two diseases are found to be significantly *more* frequently associated together in the same person at the same time than would be expected from the product of the simple probabilities of the occurrence of each alone; (2) The two diseases are found to be associated together in the same person at the same time to *the same* degree of frequency, within the limits of errors of sampling, as would be expected from the product of the simple probabilities

[1] From the Institute for Biological Research of the Johns Hopkins University.

[2] C. A. Gill, "The Genesis of Epidemics and the Natural History of Disease." An introduction to the science of epidemiology based upon the study of epidemics of malaria, influenza and plague. New York (William Wood and Company). 1928. pp. xxvi + 550. See particularly pp. 18–24.

[3] R. Pearl, "Cancer and Tuberculosis," *Amer. Jour. Hyg.*, 9: 97–159, 1929.