

sities; but she can, by attempting to do so, lose her distinctive position and become illiberal and stupid. Let Harvard abandon the ambition to be the biggest college—or the second or sixth biggest college—and be content to remain the biggest influence in the college life of America. On the day after she had turned her face in this direction, there would be an improvement in spirit in every university in the country. The senseless rivalry to secure students would be, in some degree, relaxed and a new standard of ambition would be introduced. The large sums of money which Harvard is now raising and wasting to her own undoing, could be turned to other uses; and the energy of those men who toil so ceaselessly at Harvard's propaganda could be discharged where it belongs—into the business world.

I do not see any signs of such a change of front on Harvard's part, and I utter this only as a hope, and in an Emersonian spirit. But I will give one piece of practical advice upon the subject, so practical, in fact, that it sounds almost like the advice of a business man.

If you wish to have a university, you must have scholars and scientific men on the governing boards. With the exception of President Lowell there is not a scholar among "The President and Fellows of Harvard College." They are all business men, lawyers or doctors. Now doctors are, for hospital purposes, scientists and scholars; and I will wager that the Massachusetts hospitals will bear comparison with any hospitals in the world from every point of view. But if you should exclude the doctors from the boards of hospital management, as you have excluded learned men from the management of Harvard University; and if you should hand over the Massachusetts hospitals to the management of business men, as Harvard University has been handed over to the management of business men, your hospitals would soon sink below the standards of Europe. Now, learning is not safe if left exclusively in the hands of business men, just as philanthropy would not be safe if left exclusively in their

hands. Learning can be protected and transmitted only through the enthusiasm of those men to whom learning is a religion; that is to say, through scholars and the high priests of science.

JOHN JAY CHAPMAN

HISTORICAL GRAPHICS

TO THE EDITOR OF SCIENCE: Referring to the short article on "Historical Graphics," by Dr. Barus (page 272), I might say that two years ago during the summer vacation I worked out a similar historical chart for botany, and used almost exactly the same methods that Dr. Barus has. I went back to several centuries before the Christian era and brought my chart down to 1900 as he did. The chart was made on a long strip of common opaque "curtaining" and I drew lines as he did for the dates. On account of covering so many centuries I allowed but ten inches for each century and did not put in, as he has done, the half centuries. My chart extended something like twenty feet and I followed exactly the plan suggested by Dr. Barus of indicating the life of each man by a horizontal line. In my chart, however, I drew these life symbols as rectangles about two inches high and stretching right and left the proper length. Inside of this rectangle the name of the botanist was printed in capital letters. This has the advantage of avoiding any possibility of mistaking the line belonging to any particular name. After I had worked out my plan on a smaller sheet of paper it was enlarged into the chart of which I speak, and has been hanging for two years across the end of my lecture room. I keep it permanently in place, as in this way students become gradually acquainted with the general distribution of names. I am sure that Dr. Barus's plan is an admirable one, and it certainly has served a very good purpose in my lecture room.

CHARLES E. BESSEY

STATISTICS OF TELEGONY

TO THE EDITOR OF SCIENCE: The letter of Mr. O. F. Cook in your issue of August 20 is so characteristic of the attitude of certain biologists to biometry that perhaps you will spare me space for a brief commentary on it. Mr. Cook writes:

Pearson's plan of proving or disproving telegony by a statistical study of the degrees of resemblance of children to fathers rests more on mathematical ideas than on biological indications, to judge from Thompson's account of it.

I should not like to be responsible for any biologist's account of my work, and it was perfectly open to Mr. Cook, as Thompson presumably cites the locus of my memoir (*Royal Society Proc.*, Vol. 60, p. 273, 1896), to have consulted it, for he writes from Washington. However, he has not chosen to do so, and prefers to suggest that I have not done the very obvious thing to do, namely, compare maternal and paternal resemblances in the case of elder and younger children. I do not know whether a man makes himself ridiculous in the biological field when he criticizes another for not doing exactly what he has done, but I do know what we think of him in the sphere of the exact sciences!

KARL PEARSON

SCIENTIFIC BOOKS

BAILEY'S CYCLOPEDIA OF AMERICAN AGRICULTURE

THE twenty-five hundred two-column quarto pages of Bailey's "Cyclopedia of American Agriculture," recently from the press, mark a milestone in American agricultural thought. It is a compact library of scientific and usable fact and philosophy of country life in America. Volume I. passes in review the important agricultural features of the United States, her tropical possessions, Canada and Mexico, as seen by many independent observers. It deals with the interior of the farm as conditioned by its environment of soil and climate; with its development by capital and equipment into a source of profit; and with its sanitation and adornment as a place of abode. Volume II. deals with farm and field crops, their botany, their uses, their improvement by breeding, the introduction of better plants, the methods of growing and marketing crops, together with the manufacture and sale of crop products. Volume III. treats of animals, the history of the formation of breeds, the facts, philosophies and practise in animal breeding and animal feeding; the development of live stock prod-

ucts, the methods of preparing for the markets and marketing them. Volume IV. considers the more general matters of rural affairs; of the relations of the farm as a business entity to the world about, our national agricultural resources, the growth of agricultural wealth, machinery, city markets and other forces which impel the increase of agricultural production. Facts are given about land tenures; concerning labor; social, church and economic organizations, both cooperative and under the legal machinery of the state. Education for country life is dwelt upon, as also governmental aid by means of research institutions, and through police control as of fertilizers, feed stuffs, animal diseases and plant diseases.

To this encyclopedia more than a thousand technical agriculturists, general scientists and economists contributed articles or revised the work of others; and the text is illuminated with more than twenty-five hundred illustrations. The primary arrangement of the subject matter under a logical topical classification instead of the ordinary alphabetic arrangement of cyclopedia makes the book more readable and less a mere reference book. These books, at five dollars per volume, will in a way compete with correspondence courses in agriculture. The person who will read intelligently these four books will have absorbed a large part of the best knowledge of American agriculture, and he will find that henceforth he will read agricultural periodicals and technical bulletins and books on agriculture and country life with more discernment—and the farm boy who will read through the more interesting and vital parts of these volumes will enter upon the work of the agricultural school and agricultural college with an advantageous viewpoint not possessed by most of his fellow students. Model farm homes which have a group of boys in their teens will no doubt be the chief markets for these four books. These volumes, together with the bulletins and reports from departments of agriculture and experiment stations, form a splendid basis upon which to start the agricultural side of the farm family library.

These volumes offer the broadest and best general single exposition of the output of our