

number of criminals would be 42.4 per cent. less; of feeble-minded 20.9 per cent. less; of tuberculous 19.6 per cent. less. These increases and decreases in the different classes offset each other, so that for all classes of inadequates together the number from the 1890 European-born population is merely 0.9 per cent. greater than from the 1910 population. There appears, then, to be no basis in Laughlin's studies for the statement numbered (3) quoted above from the report of the immigration committee.

H. S. JENNINGS

THE JOHNS HOPKINS UNIVERSITY

THE POLICY OF THE SIGMA XI IN REGARD TO STATE COLLEGES

IN a recent number of *SCIENCE* (October 7, 1923) the writer made the statement that "the policy of the Sigma Xi has been to refuse the granting of chapters to state colleges." The statement was made with the knowledge that only two state colleges have been granted chapters of the Sigma Xi and upon the assumption that other state colleges had petitioned for chapters and been denied. The inference follows that state colleges, due to their nature or class or on account of a prejudice, have less chance of being granted a chapter of the Sigma Xi than do state universities. The truth of the statement as made has been questioned by some and affirmed by others. The detailed information necessary for the formation of a definite opinion regarding the policy of the Sigma Xi is not available. However, certain available facts serve to indicate the policy of the Sigma Xi and are herewith set forth.

The president and secretary of the Sigma Xi, through personal communications, state that it is not the policy of the Sigma Xi to discriminate against any class of institutions, that all petitions for chapters receive the same serious investigation and consideration irrespective of the nature or class of the institution.

There is nothing in the constitution or appendices to the constitution of the Sigma Xi to indicate a prejudice against state colleges. The policy of the Sigma Xi, as indicated by the constitution, is that a chapter may be established at any educational or research institution in which scientific research is cultivated and promoted, but that great care should be observed in establishing chapters and that the aims of the Sigma Xi will best be obtained by a strictly conservative policy. Obtaining a chapter requires the approval of the executive committee and a three fourths vote of the convention. It is obvious that when an action is determined by voting no constitution can predetermine the action.

Only two of the forty chapters of the Sigma Xi

are held by state colleges. This fact has been advanced by some as evidence that the policy of the Sigma Xi is unfavorable to state colleges. It has been advanced by others as conclusive evidence that the Sigma Xi does not discriminate against state colleges, that the policy of the Sigma Xi is unfavorable to state colleges only to the extent of requiring research standards that the state colleges do not have.

We are justified in assuming that the executive committee is impartial in considering applications for chapters. But the fact remains that state colleges, with but two exceptions, have not been granted chapters. Why have not more state colleges been granted chapters of the Sigma Xi? Have they failed to petition for chapters, or have they failed by virtue of their function or otherwise to meet the requirements? The correct answers to these questions are worthy of consideration but can not be given by the writer.

The State College of Washington has never petitioned for a chapter of the Sigma Xi. I believe the reason has been that chapters, with one or two exceptions, were not being established in other state colleges and there was no basis for determining in advance what the result of such a petition would be. The State College has formed a research group known as the Research Council. This has been effective in stimulating research.

If the state colleges can not meet the requirements set for the granting of chapters of the Sigma Xi, wherein do they fail? Only the executive committee can answer this question. They do not fail because of their function which includes both instruction and research. The object of the Sigma Xi is to encourage original investigation. The requirements for membership set by the Sigma Xi deal with research. A full statement setting forth wherein state college and other educational institutions fail in research attitude, facilities or production will be of inestimable value.

Those institutions which can not meet the requirements set by the Sigma Xi need an active research organization more than those institutions in which research has been developed to the highest degree. The former need aid and encouragement. Will research be furthered more by granting them membership in the Sigma Xi now or by holding up before them the promise of membership when they have fulfilled certain requirements? The Sigma Xi has wisely given an affirmative answer to the latter question. The research men in those institutions which have been denied chapters of the Sigma Xi and in those institutions which have not applied for chapters should form one or more active organizations. Such institutions need and there is no reason for their being without a scientific society of such nature

and standing as to effectively stimulate research. Production of research is the important thing, not the acquisition of a chapter of the Sigma Xi. Some of the most advanced institutions in regard to research, such as Harvard, Johns Hopkins and Princeton, do not have chapters of the Sigma Xi. We are justified in assuming that they have developed effective substitutes.

The existence of a research organization may be the deciding factor when application is made for a chapter of the Sigma Xi. If a number of Sigma Xi members are present these can form a Sigma Xi Club. "Such clubs have all the powers of chapters except that of electing to membership and furnish a simple and effective means of testing the environment to determine whether it is adapted to the establishment of a chapter of the society." In the opinion of the writer Sigma Xi Clubs do not satisfactorily meet the needs of the situation in educational institutions. If it is advisable in the interests of research for the Sigma Xi to offer the reward of a chapter to the institutions which measure up to certain standards it is equally desirable that the research organizations in colleges offer the reward of election to membership to those individuals who have made achievements in research.

VICTOR BURKE

PULLMAN, WASHINGTON

SIGMA XI has no policy in regard to state colleges. It has no policy in regard to state universities, privately endowed universities, technical schools, or any other group of institutions. Its one object is the promotion of research, and in its work covering nearly four decades it has tried to maintain the same unbiased attitude as does any *real* scientist toward the investigation in which he is engaged.

Election to membership is based on scientific achievement, actual or potential, and on that only. Were *every* student pursuing scientific studies elected to membership the society would soon become inert and purposeless. In making elections, the line is drawn at such a point as will, in the judgment of the society, result in the greatest possible contribution to the objects of the society.

The granting of a charter likewise is based on the scientific achievement, actual or *potential*, of the petitioning institution, *and on that only*. Were each institution of higher education in the country granted a charter at present, the society would be unable to maintain its high standards either as regards ideals or accomplishments. The line must be drawn somewhere, but in drawing the line there has *never been* the suggestion that any class of institutions should be excluded. The chapter roll of the society is as cosmopolitan as is its membership.

I repeat: Sigma Xi has no policy in regard to state colleges.

F. K. RICHTMYER,
President

QUOTATIONS

THE AMERICAN CHEMICAL SOCIETY AND THE AMERICAN ASSOCIATION

THE American Association for the Advancement of Science held its seventy-eighth meeting, celebrating the seventy-fifth anniversary of the association, at Cincinnati. The local sections of the American Chemical Society of that region cooperated with Section C, having been encouraged to do so by a vote of the council at the Milwaukee meeting. There are among our members many who regret that circumstances have made it advisable for the American Chemical Society to hold its meetings independently of the American Association for the Advancement of Science, and who have felt that more should be done to assist in the work of Section C than has been possible in late years.

At Cincinnati it was fully demonstrated that the intersectional meeting plan could be put into operation with Section C to mutual advantage. The result was not only a program of unusual merit, but an attendance which must have been gratifying to those responsible for the arrangement. The papers presented covered a wide range of subjects. The attendance was good at all the sessions, the discussion interesting, and on the whole the experiment was a success. We commend the plan to those local sections where future meetings of the American Association for the Advancement of Science will be held and assure them that it is possible to attract to these meetings many of our leading chemists.—*Industrial and Engineering Chemistry*.

SCIENTIFIC BOOKS

Bibliographical History of Electricity and Magnetism. By PAUL F. MOTTELAY. London. Charles Griffin & Company, Limited, 1922, pp. xix, 673.

THE history of electrical science falls somewhat naturally into three chapters. The first deals with electrostatics and magnetism, beginning in 1600 with the appearance of Dr. Gilbert's "De Magnete" and ending in 1800 when Volta's cell was reported to the Royal Society of London; the second period covers the rapid development of the Voltaic cell and the science of electrolysis, which took place during the first quarter of the nineteenth century; the third begins with the discovery of electromagnetism—1820 and 1831—and extends to the present. The volume under review deals mainly with the first two of these chap-