

Professor A. A. Breneman, chairman of the section, presented his opening address, which was, in the main, an account of the history of organization among chemists in America, with remarks upon the present status of chemistry as a profession. He described the origin of the American Chemical Society and the Chemists' Club and urged the importance of maintaining a high standard of education among chemists.

Professor Winslow, of the biological department of the Massachusetts Institute of Technology, spoke 'On the Disposal of City Sewage.' Professor Winslow presented the prominent features of the development of sewage treatment in a clear and comprehensible manner, showing numerous slides to illustrate the various types of sewage plants. He indicated the research work now in progress at the Massachusetts Institute of Technology sewage experiment station and finally spoke of the latest developments in the purification of sewage, noting especially the trickling system.

The subject was supplemented by remarks from Professor Pellew on an interesting sewage problem in White Plains and by Dr. Soper, who spoke of the coming need of purifying sewage before dumping it into New York Bay.

C. M. JOYCE,
Secretary.

DISCUSSION AND CORRESPONDENCE.

PRINCIPLES WHICH GOVERN THE UNITED STATES GEOLOGICAL SURVEY IN ITS RELATIONS WITH OTHER GEOLOGICAL SURVEYS AND WORK- ING GEOLOGISTS.

TO THE EDITOR OF SCIENCE: Certain questions raised by the correspondence published by Professor Branner in SCIENCE for October 26 are, as he says, of general interest; and, in view of the manner in which they are there presented, require a statement of the principles which govern the United States Geological Survey in its relations with other geological surveys and working geologists.

There is among scientists in general a rule of courtesy that denies to others the privilege of investigation in a direction which one has made his own by reason of his contributions

to knowledge along that line. The rule is variously construed in different countries and by different men, but it is no part of my purpose to minimize its force. It has been recognized by the national survey since the days of Director King, and is now effective in relations with individuals and state surveys. It is, however, necessarily controlled by the progress of the general survey and the development of general plans, which sometimes require that work shall be done by the national organization notwithstanding meritorious individual claims. Moreover, professional courtesy on the part of a public official is subject to limitations imposed by his obligation to Congress and to the people to render prompt and efficient service.

A long experience, including relations with nearly all the working geologists of the country, has clearly demonstrated that men whose first obligation is to a university can not work as efficiently for the national survey as can the geologists constantly in its employ, and recognition of this fact has led in recent years to a reduction of the proportional amount of work allotted to teachers of geology, who can give but a share of their time to it.

These considerations governed the national survey in the matter of the Arkansas coal fields. Not only professional courtesy but also personal regard prompted the offer of co-operation made to Dr. Branner under date of January 31, 1906, the purpose of which was to secure to him the publication of his results and the credit due him for his service to the state, as well as to avoid unnecessary duplication of field work. The obligation to execute the surveys with that promptness and efficiency which could follow only from undivided attention required that his desire to finish the work should be disregarded.

It appears from Dr. Branner's latest letter that he still regards the survey of a coal field worth many millions of dollars and capable of serving several millions of people as his personal affair. This bureau is directed on broader lines. He is led by his personal view of the question to misconstrue not only the correspondence which has passed, but also the administrative policy of the national sur-

vey. The insinuation that the proposal to pay for the Arkansas reports could have had an improper motive may be set aside as unworthy of his own standing and mine. But I deny his charge that the survey is an undemocratic organization which abuses its power to the disadvantage of state surveys or of individual geologists. It encourages the organization of state surveys and seeks to cooperate with them in all practicable ways. It endeavors to maintain cordial cooperative relations with all working and teaching geologists, and welcomes all practical suggestions which may lead to a closer touch with them. That its attitude in these relations is necessarily controlled by the obligations of a national bureau to the people has already been said.

The last quarter of a century has been one of extraordinary development in geology. The leaders in this progress have been members of the United States Survey, and by virtue of their services it has had a dominant influence in the development of methods and of knowledge. To serve on its staff, in whatever capacity he is qualified by experience to fill, is no discredit to any geologist, nor is it a reflection on any geologist, however able and honored, that the work which he did a decade or two ago should require revision and should be revised according to the latest standards of topographic and geologic skill by the specially trained members of the national survey's permanent staff.

CHARLES D. WALCOTT.

A NEW VARIETY OF HONORARY PH.D.

WHAT constitutes an acceptable thesis for a Ph.D. degree is a problem which at some time has engaged the attention probably of every department and surely of every graduate faculty in our real universities. Of course it matters little to those institutions which still continue, in defiance of the best opinion and practise both here and abroad to grant the degree *honoris causa* or as a reward for the completion of a set time or of a specific series of courses. But it was a matter of astonishment to learn that graduate schools with higher ideals are given to accepting as theses

publications which have no evident relation to themselves, if indeed these papers reflect in any way the influence of the degree-granting institution. Within the past two years and at two different universities of good standing in the country, I have asked by chance what the work of a newly introduced doctor had been and was shown in each case a voluminous government document. Careful examination not only demonstrated that the publication was everywhere attributed to the direction and support of the particular division, the name of which appeared prominently printed on the cover and title pages, but also failed to disclose anywhere in the text the most obscure reference to the institution which had crowned the writer with the coveted laurel. Perhaps it is wrong to question the procedure, but the student had not been actually in residence for more than a brief period 'because you know,' the professor in charge naïvely remarked, 'he could not find the material or the literature for that work here, and then, too, the bureau paid all the expenses of the work.' One could not help wondering what part in the work the aforesaid professor had played when he had evidently not even assigned the topic for investigation.

But the climax appeared in a communication which one of my own colleagues received the other day. A long-time student and good friend of his had left his work for the doctorate partly finished to take a government position in the national capital, and after some time there wrote regarding his still unfinished thesis, "Unless some arrangements can be made by which the university will accept, as has been done in recent instances, and as is done by other universities, an official publication as fulfilling the thesis requirements, I shall have to abandon the plan of taking my degree from _____ and try another institution." The cordial relations existing between the two parties preclude any thought that an intellectual hold-up was attempted; it was merely the frank statement of the facts as the younger man in his official intercourse had found them. If the plan is recognized as feasible in official circles, as this and other circumstantial evidence would