a group of friends, who started a movement to establish a hospital for advanced study and investigation.

AT a recent meeting of the British Textile Institute, at Bradford, it was announced that the aim of the promoters was to obtain a financial backing of £50,000. Donations amounting to close on £7,000 were acknowledged. The aims of the institute are to extend the scope of the institute are "to extend the scope of the technology of the textile trades, to establish and maintain lectureships, to encourage invention and discovery, to promote the standardization of tests, and to provide the essential *liaison* between the business and the scientific mind."

THE total number of students of medicine enrolled in the five universities of Switzerland in the summer semester of 1918 was 1,725. They were distributed as follows: Bâle, 220 (174 Swiss, of whom 15 were women, and 46 foreign, of whom 4 were women); Berne, 385 (242 Swiss, of whom 29 were women, and 143 foreign, of whom 16 were women); Geneva, 381 (163 Swiss, of whom 16 were women, and 218 foreign, of whom 58 were women); Lausanne, 225 (159 Swiss, of whom 13 were women, and 66 foreign, of whom 16 were women); Zurich, 504 (350 Swiss, of whom 56 were women, and 154 foreign, of whom 16 were women).

PROFESSOR JAMES THERON ROOD has resigned as professor of electrical engineering of Lafayette College, to take up the professorship of railway electrical engineering in the department of transportation at the University of Illinois.

MR. M. CANNON SNEED, formerly assistant professor of chemistry at the University of Cincinnati, has been appointed associate professor and head of the division of general and inorganic chemistry at the University of Minnesota.

DR. SHIRO TASHIRO has been made an assistant professor in the department of physiological chemistry of the University of Chicago.

DR. F. D. MURNAGHAN, of the Rice Institute, has been appointed associate in applied mathematics at Johns Hopkins University.

I. NEWTON KUGELMASS, formerly with the departments of chemistry at the College of the City of New York and Columbia University, has been appointed professor and head of the department of chemistry in Howard College in Birmingham, Alabama.

ON account of the death of Associate Professor William G. Mallory, Dr. S. R. Williams, head of the department of physics, who was spending his sabbatical year in research under the auspices of the Federal War Department has returned to Oberlin College and has resumed teaching.

DISCUSSION AND CORRESPONDENCE

INSIDIOUS SCIENTIFIC CONTROL

AN interesting letter by G. A. Miller in SCIENCE, August 2, 1918, page 117, calls attention to the necessity for the vigorous development of science at this time, and to the danger that we may win the war in the military sense, only to find ourselves dominated by German knowledge and German science, because of the fact that the Germans have continued their scientific work during the war, whereas in the United States, England, France and Italy, the activities of scientific men have been turned toward war problems, as was necessary from the great lack of preparation for war in these countries, and as was not necessary in Germany, owing precisely to the great preparations which had been made.

Much has been said and still more assumed during the past two decades in regard to the German proficiency over and above that of other peoples in all realms of science; and it has been the feeling of many teachers and of many students that the German language was more essential for scientific uses than any other, and that the German training was the one to which our graduates who were not satisfied with what they found in this country should turn. This American feeling was undoubtedly expressly fostered by the German government, and probably will again be fos-

tered by it. Any government should foster any plan that would lead to the high regard of its country in scientific matters, and especially in regard to the advanced training of the young. The French and English have been too indifferent to the advantages of having American students come to them for their doctorates. The United States can hardly hope to attract many European students in the next few years, but the institutions and the government of the United States should foster the advent to our country of large numbers of Chinese and Japanese students; their number is already considerable, but should be studiously augmented.

This sort of scientific control is subtle, and if turned to bad uses, may become insidious; but is almost certain in the case of a democratic country like ours to escape misuse, and to realize many useful objects.

Why should our scientists look to Germany and to the German language as necessary for scientific advance in this country? It seems to me that the German advances in science are not themselves alone responsible, not perhaps even a small part of the reason, for our past devotion to Germany. The fact is that any scientist must have the means himself readily to look up the literature on any scientific subject; and the fact is that the great compendiums of science, the great yearly reviews of scientific progress, are made by Germans, and published in the German language. It is impossible for a mathematician to work to advantage without being able to consult the *Jahrbuch für Mathematik*. The *Revue Semestrielle* will not alone suffice, nor is it necessary. It is impossible for a physicist to work without consulting the *Fortschritte der Physik; Science Abstracts* are not sufficient. And so it is in many other fields of science. The physicist must consult Winkelmann's "Handbuch der Physik"; there is no real English or French equivalent. The "Mathematical Encyclopedia" commenced its publication as a German compendium indispensable to the mathematician; fortunately, an improved edition was soon taken up in France.

In my opinion, whatever country takes care of the preparation and publication of the best reviews of progress in science, and of the best compendiums of scientific knowledge will inevitably be regarded by other countries as an essential for scientific development, and the language of that country will have to be taught to all young scientists. This, again, is subtle control, which may be used for good or bad, according as it is exercised for good or bad motives. That the government of Germany was alive to the possibility of this control seems patent; and that they expected their insidious control to be serviceable to them in swaying opinion in this country in their favor during this war is equally manifest from many points of view.

Are the English-speaking peoples of the world to return at the close of the war to the well-nigh complete dependence on Germany for their standard scientific reviews and handbooks, and thus make necessary the learning of the difficult German language for all young scientists?

Irrespective of how this question may be answered, the learning of the German language, like that of any foreign language, will always be valuable to scientists. I have myself, for example, been obliged to read during the last ten years German and French constantly, Italian very frequently, Dutch, Spanish, Norwegian and modern Greek occasionally, and I have regretted the fact that I could not read Russian. All linguistic attainments can be put to useful ends by any one interested in science, and all linguistic failures are from time to time an annoyance. I am, therefore, not asking whether it is desirable that young men should be able to read German. Of course it is; but I am asking whether they shall be compelled to read German, whether or not they read any other language.

The preparation of yearly reviews of the advance in science and of great compendiums of past scientific progress is a matter which requires organization, industry and cheap intellectual labor. There seems to be plenty of cheap intellectual labor in this country, and plenty of organizing ability, and probably sufficient industry in the work could be obtained. The

advantage of having such books printed in English would be much greater than that of having them printed in German because the number of English speaking people is much greater than the number of those who speak German as a native language. The regions of the world in the control of the English-speaking peoples are very extensive, and well situated to sustain a large population, so that the disparity between the number of English-speaking people and the number of German-speaking people is bound to increase rapidly. With the stimulus that this war has given to scientific and engineering work, with the emphasis that it has laid on the necessity for a country to be thoroughly developed in science and engineering, the chances are that the English-speaking peoples will give greater relative attention in the future than in the past to science and engineering. It may therefore be inferred as probable that the number of English-speaking people using reviews and handbooks will be considerably greater than the number of German-speaking people. Moreover, English is not a difficult language for a foreigner to learn to read.

In an Executive Order issued by President Wilson on May 11, 1918, the National Academy of Sciences was requested to perpetuate the National Research Council, the duties of which should be as follows:

1. In general, to stimulate research in the mathematical, physical and biological sciences, and in the application of these sciences to engineering, agriculture, medicine and other useful arts, with the object of increasing knowledge, of strengthening the national defense, and of contributing in other ways to the public welfare.

2. To survey the larger possibilities of science, to formulate comprehensive projects of research, and to develop effective means of utilizing the scientific and technical resources of the country for dealing with these projects.

3. To promote cooperation in research, at home and abroad, in order to secure concentration of effort, minimize duplication, and stimulate progress; but in all cooperative undertakings to give encouragement to individual initiative, as fundamentally important to the advancement of science.

. . . . . .

6. To gather and collate scientific and technical information at home and abroad, in cooperation with governmental and other agencies and to render such information available to duly accredited persons.

It seems to me as though the National Research Council could not adequately fulfil the duties assigned to it by the President of the United States as enumerated above without undertaking the organization of the publication of yearly reviews of the progress in science and engineering and of occasional compendiums of knowledge already acquired and digested. How otherwise can the council better stimulate research, better afford a survey of the larger possibilities of science, better promote cooperation in research, or more effectively gather and collect scientific and technical information? Moreover, by so doing the council would displace the insidious control of Germany which has been developed into a propaganda not at all flattering to our scientific value, and actually dangerous to the national defense.

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October 23, 1918

NEMATODES ON MARKETABLE FISHES

THE attention of the writer was called to the problem of attacks of nematodes on marketable fishes while on a visit to Norway during the year 1917. The visit was extended to the northern part of Norway, where the writer came in direct contact with fishermen and had the opportunity to study the problem at close range. The villagers in northern Norway are dependent upon fish to a large extent as a diet. When the writer was there, he frequently heard it remarked when purchase of fish for a meal was to be made: "Don't get one with 'kveisa.' Get fat ones." "Kveisa" is the common name given by the people to round worms found on the liver and stomach in fishes.