Only eight students will be admitted, and registration for the course will close on April 30. Lectures and demonstrations will be held in the recently built Pathological Institute of the university and students will have an opportunity to examine an extensive and representative collection of museum specimens, including pathological, osteological, anatomical and zoological material. The two weeks course will be devoted to laboratory layout, equipment, lighting, etc., glass frame technique, color preservation, museum jars, mounting of specimens, corrosion and injection, cleaning of bones, osteological preparation, cross sections, clock glass and petri dish mounting, dry mounting, gelatine, cement, records, storage and case exhibits. Students will be given an opportunity of spending an extra week in the laboratory. Inquiries should be addressed to Mr. E. L. Judah, curator of Museums, McGill University, 3755 University Street, Montreal.

AMONG the exhibits displayed on March 9 at a scientific reunion held in the board room of the British Museum of Natural History at South Kensington were, according to the London *Times,* a number of fossil fauna recovered from the site at Oldoway in Tanganyika by Mr. A. T. Hopwood, of the museum staff. The significance of the Oldoway discoveries was discussed by Mr. L. S. B. Leakey, in an article in the issue of the *Times* for March 9, and the exhibits shown at South Kensington included remains of a number of Pleistocene mammals, among them several teeth of the Dinotherium, an aberrant sideline from the family of the elephant. Hitherto this animal has been associated with the Miocene period, but it was found in the Oldoway beds with remains of the elephant itself. A fossilized elephant tooth from this deposit was exhibited yesterday for comparison, together with the mandible and palate of the *Elephas antiquus recki* found in the lowest bed, and associated by European analogies with the Middle Pleistocene period. From this lowest bed and that immediately above it there were exhibited two antelope skulls of a new type and a kudu skull complete with horns. The zoological exhibits included species of the Siphonophora, a very primitive type of animal in which evolution has not yet reached the stage of producing a body cavity; the specimens displayed included tropical, Arctic and Antarctic variations of its sac-like constitution. A new genus of scorpion collected by Mr. Bertram Thomas in Arabia attracted much attention, not merely by its unprecedentedly flattened tail, but through the occasional existence of a tibial spine such as was found in its relatives of the Silurian period and the oldest surviving genus of scorpions to-day, but not in the more recent genera. The department of botany showed specimens of the "Fungus Stone" or "Rock Mushroom," a hard mass of fungal mycelium and earth which, when watered, produces an edible fungus, causing much astonishment to naturalists from the time of Strabo to that of Pepys.

DISCUSSION

BIOLOGICAL ABSTRACTS AND THE COLLEGE

THE question of the advisability of continuing and improving *Biological Abstracts* again arises, now that we have five years' actual experience with the usefulness of the journal. To be sure it is regrettable that the *Abstracts* are not as up to date as might be wished, nor as yet completely indexed, but the undertaking is well launched, and we have the word of the editor, who said at the New Orleans meetings that it needs only a somewhat greater support to improve in those ways where they are now found wanting. In a recent issue of SCIENCE, Dr. Lillie pointed out the unique character of the publication, the fact that in its comprehensiveness (and withal, compactness) there is an immense saving in dollars to biologists, who, to get a similar service otherwise, would have to subscribe to many abstract journals, each only partially covering the field. There seems to be no question of the value of the *Abstracts* to biological research, nor of the value to society, in turn, of that research.

It must be remembered that the *Abstracts* play a part of varying significance in the work of biologists in different types of institutions, and it is the use made of the publication by those of us connected with small colleges which I wish to emphasize. The library appropriations in the colleges are uniformly smaller than those of the universities; any large number of the important journals in the field of biology is therefore quite out of the question for college budgets. Thus every aid in giving to the colleges as wide a survey as possible of what is being done in research is to be commended. *Biological Abstracts* gives such a survey in brief and gives likewise access to the material that can then be temporarily borrowed from the larger loan libraries which so generously provide service of this type. Students in my own college, for example, use *Biological Abstracts* extensively in the preparation of seminar reports and in small research problems. Further, all teachers in small institutions will agree that the *Abstracts* are invaluable aids to teaching, in keeping abreast of the times in fields in

which they do not regularly receive reprints from their colleagues.

Is the situation in the colleges to be considered significant or critical, when admittedly the greatest volume of published research in the biological sciences comes out of the universities? It can be shown, I think, that it is of vital importance. A glance at the "American Men of Science" will show that the American scientists have begun their education in two sorts of institutions, roughly classifiable into small colleges and large universities. A count shows the proportion starting in the smaller schools to be about two for every three starting in the larger ones. But a survey of the total enrolment of students found in those of the two types of schools listed in the above publication shows about four times as many for the larger institutions as for the smaller. (In the *New York Times* of November 16, last year, a list shows approximately as many students in some 600 small colleges as in the larger universities. One can conclude that not all the small colleges have contributed to the "American Men of Science.") Thus, upon consideration of the institutions which any contribution at all to make to productivity as noted in the "American Men of Science," it appears that any given college undergraduate has two and two thirds greater chance of ultimate productivity than any given university undergraduate. Furthermore, the readers of Science can think of their own early training, and that of their colleagues, to see where a large proportion of them got their first start. An analysis, too, of the present graduate students of promise in any of the universities would indicate a large number coming previously from small colleges. Obviously, if they started in a small college, it must have been there that their interest was stimulated along their chosen line before they sought advanced study in the larger university. Unless we would kill the goose that laid the golden egg, we must not overlook the small schools, even though they be relatively unproductive of important finished research. Let our colleagues in the universities with access to the complete files of the chief journals remember the close relation existing between the colleges and the graduate schools, and help us in feeding to them the student with the inquiring mind.

To take the place of the commercial and industrial concerns standing back of the *Abstracts* of our colleagues, the chemists, we shall probably have to depend always on some sort of philanthropic support outside our circle of scientific investigators and teachers. This is the more true since the number of articles to be abstracted greatly exceeds that in the field of chemistry, and this is a correspondingly greater undertaking. But a united front on the part of the biologists of the country in fully approving the continuance and the continued improvement of *Biological Abstracts,* and their tangible support of the undertaking by subscriptions, will do much. In that direction an unmistakable evidence of support has already been indicated in the well-known fact that the publication in question has more subscribers than any other technical biological journal.

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THALLIUM POISONING

Dr. Brooks' recent note in Science for January 22, 1932, page 105, is unusually interesting. Until about a year ago, I was scarcely aware that such a toxic element as thallium existed. In the *Journal of the American Medical Association,* May 30, 1931, pages 1866–1868, appeared three different articles on the toxic effects of thallium, as used in a cosmetic preparation for removing hair. In the same journal for September 19, 1931, page 851, appeared an account of two fatal cases of thallium poisoning, due to the administration of the acetate as a depilatory in scalp ringworm. The same journal contains various other notes on the toxicity of the element. On January 30, of this year, page 406, is an editorial comment on fatal human cases due to eating poisoned grain. In the issue of February 20, 1932, pages 618–620, is a very complete note on thallium poisoning from a depilatory cream. A discussion of the element, from its discovery to its dangerous therapeutic use and toxic properties, is given. Its toxicity and pathologic effects on higher animals appear to be well known.

It is quite a surprise to learn that it seems to be equally toxic for vegetation. The amount of thallium distributed in poisoned grain for destroying rodents and other forms of life is quite appalling. In its use in destroying ground squirrels, it would be interesting to know if there is any likelihood of the thallium treated grain being placed in the same situation year after year. That is, are the old burrows occupied by incoming ground squirrels? If such is the case, there would seem to be danger of causing patches of soil sterility. All in all, thallium apparently is a dangerous poison, and it would be well to restrict its use in human medicine and wholesale poisoning activities for lower forms of life, until more is known about its action and the habits of the animals against which it is used.

It is interesting to note that the *Journal of the American Medical Association* for February 27, 1932, page 741, contains a news item that the poisonous depilatory cream has been prohibited for sale in San