has been received for the last five years from the Carnegie and Rockefeller foundations, which contract has expired. The public-spirited citizens of the community and "official Augusta" contributed a similar amount to that given by the foundations, and these funds were used chiefly to inaugurate full-time departments in medicine, surgery and obstetrics.

UNIVERSITY AND EDUCATIONAL NOTES

A GIFT to the Yale library of $100,000 in memory of Albert DeSilver, '10, has been announced. The fund has been given to carry out the wish which Mrs. John Bradley Lord, of Greenwich, Conn., expressed shortly before her death in February, 1926, that a fund be established at Yale in memory of her son, Albert DeSilver. The income is to be used for the purchase and care of books and periodicals in the field of chemistry.

AN anonymous gift of £10,000 has been received by the University of Wales for the encouragement of research.

DR. A. WARREN STEARNS has been appointed dean of the medical school of Tufts College. He succeeds Dr. Stephen Rushmore, who has resigned to enter private practice.

DR. PAUL WHITELY, of the University of Chicago, has been appointed associate professor of psychology at Colgate University. Dr. Donald A. Laird, director of the laboratory of psychology, has been promoted to be professor of psychology and chairman of the department.

DR. EARLE B. MILLER, of the University of Wisconsin, has been appointed professor of mathematics and physics at Illinois College, Jacksonville.

DR. E. H. KETTLE, professor of pathology and bacteriology in the Welsh National School of Medicine, has accepted a professorship of pathology in the University of London. Dr. Bronislaw Malinowski, reader in the university, has been appointed to the university chair of anthropology, and Dr. W. H. Linnell has been appointed to a readership in pharmaceutical chemistry.

DISCUSSION AND CORRESPONDENCE

A NEW AGRICULTURAL PROFESSION

ABOUT twenty years ago the consulting agriculturist giving advice to farm owners for a consideration was almost unknown in the United States, although at that time Mr. George T. Powell, the well-known fruit grower, was one of the first pioneers in this profession. Then came various other "agricultural experts," "farm advisers," "consulting agriculturists" and "farm doctors," as they styled themselves—all more or less (principally less) competent—and most of them not staying in business very long. Soon after began the development of extension work and the county agricultural agent system paid for by federal, state and local funds. This system not only has been of great service to American agriculture but has had the effect of stimulating the farmer's desire for more information and advice especially adapted to his own particular farm conditions.

Overwhelmed as extension workers and county agents have been with constantly increasing demands for special service, it has been well-nigh impossible for them to devote any large proportion of their time to any one individual or company without offending other farm owners who felt that they were entitled to an equal amount of service. Yet it is evident that, if a farmer needs technical assistance, he must not only be given preliminary plans but also be assisted to work them out to a successful conclusion in full detail. Only one who has actually done it realizes the amount of time and work entailed in preparing a complete farm operating plan, including rotations, seed, fertilizer and spraying schedules, production and cost estimates and an operating budget. But when it comes to taking over the management of one or more farms only the professional agricultural consultant is free to devote himself to such work.

In following the development of the profession of consulting agricultural engineer, it is interesting to note the trend of state and federal agricultural agencies toward "service at cost." Thus county agent work itself has been partially supported by fees paid by the farmers themselves. Extension specialists making special inspections for farmers now have their traveling expenses paid by those whom they serve. An increasing number of agricultural bulletins is being sold instead of distributed free. Cow-testing associations formed by the agricultural colleges employ their own testers. And more recently in Illinois a group of farmers organized by the Agricultural College has hired its own salaried farm cost accountant to keep its members' books. So it is natural that the federal and state extension divisions should see in the consulting agricultural engineer a means of augmenting their own efforts with a saving of their time and appropriations. Where calls for special service are received some of these government agencies are now referring such inquiries to competent agricultural consultants. And as the demand for such professional services increases, it is believed that the agricultural colleges will help to meet it by offering special courses to train men for the profession of consulting agricultural engineer.

That this profession has at last received official recognition is evidenced by the recent action of the council of the American Society of Agricultural Engineers. Authority has been granted for the formation of a division of consulting agricultural engineers, with membership requirements for the admission of men of high professional standing and a code of ethics. This group of consulting agricultural engineers proposes to cooperate with federal and state agricultural agencies and its members are devoting themselves particularly to commercial agriculture.

STANLEY F. MORSE

NEW YORK, N. Y.

A PROBABLE ORIGIN OF PETROLEUM

THE article in your issue of July 1 in regard to tests being made by Dr. Parker D. Trask on sea-bottom muds for the presence of oils is of interest to me, as I have for many years believed that oil shales and mineral oils were the result of deposition formed, not on the sea-bottoms, but on the bottoms and shallows of brine lakes. My reasons for this belief are as follows:

Oil fields are quite frequently found contiguous to salt deposits, and the water which succeeds the oil in most wells is salt water.

In some brine lakes, such as Great Salt Lake, Utah, there is a great deal of marine life, but of very small size. In Great Salt Lake there is an abundance of very small shrimp or crayfish, and in certain of the marshes on the lake shores these small creatures seem to die in large numbers, so much so that the marshes in places give off an almost unbearable odor, much similar to the smell of drying cod fish.

The natural presumption is that the bodies of these small creatures do not decompose in the ordinary way but become pickled in the brine and are more or less permanently preserved.

Where conditions have been favorable and a mud bed formed, having the preserved remains of this small marine life imbedded in them, this mud might very readily have been changed into beds of shale carrying a large percentage of oil. Petroleum may possibly be a distillation from such shale, and being fluid may have moved about over a considerable area.

Mud banks would normally form at the mouths of rivers flowing into the brine lakes and the rivers would be continuously carrying into the lakes large quantities of organic matter, which would be acted on by the brine and deposited with the mud.

Some forms of vegetable life seem to grow freely in water containing a very high percentage of salt. Such vegetable matter probably would not decompose in the ordinary way. It seems quite possible that the difference in the composition of mineral oils from different locations may be due to the different proportions of animal to vegetable matter in the original deposition.

I have not the slightest doubt but that if Dr. Trask will test some of the muds near Salt Lake City he will find them to be rich in oil. These marshes are of considerable extent in places, and the mud might prove to be a source of oil of some commercial importance.

While brine lakes are not very numerous at the present time, in earlier geological periods they seem to have been quite numerous, and in some cases of vast extent, as is clearly indicated by the very extensive salt deposits to be found in many parts of the world.

JOHN ROGER

QUOTATIONS

THE SURVIVAL OF THE FITTEST

IN the struggle for existence that life represents, the survival of the fittest appeals to many thinkers as the outstanding ideal. They argue that it makes for strength and progress in the race if the unfit—the weaklings and the degenerates—are eliminated through their inability to meet the strenuous conditions of rigorous living. Consequently not a few persons challenge many features of the modern program for public health and preventive medicine as well as allied social schemes for human comfort on the ground that these tend to counteract and discount the advantages that selection through inherent fitness is alleged to represent. As a recent writer has expressed it, by protecting us from our enemies, the bacteria and the viruses; by removing the sources of disease; by showing us how to avoid unfavorable conditions and to find favorable ones; in short, by bringing us and our environment into harmony, the "civilizers" are promoting the survival of the unfit; they are progressively filling the human race with the weak and the degenerate, who must hand on their weakness and degeneracy to their descendants.

Such arguments can not be lightly dismissed. The modern investigations in genetics have, indeed, shown that it is quite possible to produce a population composed of the congenitally defective—"the halt, the blind, the weak, the variously deformed and degenerate." The biologist of to-day refers these possibilities back to the transmission of defective "genes," the hereditary substance carriers that determine development. In a stimulating address before the National Tuberculosis Association at Indianapolis in May, Professor Jennings,[1] of the Johns Hopkins University,

[1] Jennings, H. S.: "Public Health Progress and Race Progress. Are They Incompatible?" SCIENCE 66: 45 (July 15) 1927.