

DR. HAROLD GLENN MOULTON, president of the Brookings Institution, Washington, D. C., gave the commencement address at Goucher College, Baltimore, on June 7. He discussed the trend in economic thought during the last hundred years.

A "SOCIAL Science Luncheon" will be given in the Quebec Suite of the Chateau Laurier on Thursday, June 30, at 12 o'clock, for all sections and affiliated societies interested in the social sciences and meeting with the American Association for the Advancement of Science at Ottawa. The purpose is acquaintance and unofficial planning for the promotion of knowledge of these sciences in connection with the association. There will be brief after-dinner talks by officers of the several groups. The meeting will adjourn at 2 P. M. Members of these organizations and any who are interested may reserve plates for themselves and guests at \$1.25 each by writing to Dr. Leroy Allen, executive secretary of the National Social Science Honor Society, Pi Gamma Mu, 1414 E. 4th Ave., Winfield, Kansas. The tickets so reserved may be obtained and paid for at the door of the dining-room, but must be reserved in advance.

A GATHERING of scientific men interested in the precision manufacture of metal products, or analysis of metals, that has come to be known as the "Jena Fall Courses," will be held this year during the last week of September at the Zeiss Works in Jena, Germany. The lectures, many by well-known scientific men, will cover a wide field of subjects, such as spectrographic analysis, the design, manufacture and use of precision measuring instruments, microscopy, metallography, precision methods of gauging and their international importance, etc. The lecture halls will be held open for about four days following the meetings to give opportunity for a study of the instruments discussed at the conference.

ACCORDING to an account in *Nature* a conference on rural health for Far Eastern countries has been held by the Governor-General at Bandoeng, Java. This conference was arranged by the League of Nations Health Organization under the presidency of Dr. T. Offringa, director of the Netherlands Indies Public Health Service, with Dr. J. Rajchman, medical director of the League Health Committee, as secretary, assisted by Dr. C. L. Park, director of the Eastern Bureau of the Health Organization. The conference met in five sections, in which the following subjects were discussed: (1) health and medical services: the advantages and disadvantages of training "semi-qualified" or assistant doctors to assist the qualified medical staff, and possible alternatives; (2) rural reconstruction and collaboration of the population, with the view of improving conditions of life in rural districts, a policy favored by the government of India and other countries; (3) sanitation and sanitary engineering, including housing, water supply, latrines, refuse disposal and fly control; (4) nutrition, a subject of importance in the East, for it has been estimated that seventy-five per cent. of the population of Asiatic countries exists on a diet below the standards fixed by European science; (5) measures necessary to combat specific diseases, such as malaria, plague, tuberculosis, hookworm infection, yaws and leprosy, and mental diseases; also drug addiction.

THE presidium of the Academy of Sciences of the U.S.S.R., according to the *London Times*, has decided to create a permanent scientific base on Mount Elbrus, in the Caucasus, to be known as the Institute of Research in High Altitudes. The institute will be built at Shelter No. 9, at a height of 13,944 feet, on the site at present occupied by a small high-mountain meteorological station.

DISCUSSION

ADMINISTRATIVE SPECIES

IN a recent paper on the salmon of New England, Kendall emphasizes the difference between taxonomic and natural species. Natural species are groups that have certain natural relationships between the individual members and also certain definite (but not necessarily definable) differences from the aggregate of members of other groups. Taxonomic species are convenient groups (we might call them pigeon-holes) in which to include or file away specimens having groupings of characteristics that fall within certain limits of variability. Taxonomic species may or may not conform closely to natural ones. In theory, the two should agree exactly. Whether they do or not is largely a matter of accident and is related directly to our knowledge of the whole group of organisms to

which the various species under consideration may belong. Our increasing knowledge is reflected in the "splitting" to which the specific groups of the older systematists have been subjected. Since we lack the essential completeness of knowledge for entirely accurate definition of species, it must follow that some of our so-called species are actually parts of a single natural one. In other cases, it is just as certain that a taxonomic species will include all or parts of more than one natural species. In still other cases our empiric separations will be essentially correct. A further necessary consequence of our lack of knowledge is that, in many cases, we are not able to delimit correctly the boundaries of species and so are not able to decide whether a given specimen belongs, properly, to one or another. If we knew the complete story of

the specimen: ecological, racial, biological, genetical, etc., and could then evaluate each factor correctly, we might not only be able to determine exactly the species to which that individual should be assigned but might even say with assurance that it was of mixed origin and indicate by a fraction its inheritance from each group.

It has recently become apparent that we must add another grouping to these two kinds of species. Perhaps as good a name as any for the kind to which I refer would be "administrative species." An administrative species, then, would be an aggregation of organisms of more or less similar appearance under a single name for some specific purpose, usually, in this country, for the administration of some kind of regulatory measures. Perhaps an extreme example of administrative species would be the "wild duck" of some of our earlier game laws.

Two examples of administrative species have very recently come to my attention. In one case, which occurred in another state, I must, for obvious reasons, be rather vague in some statements. Some fish specimens were taken to a certain man for identification. They evidently belonged to a particular section of a large and popular group of game fishes. It was also evident that they pertained to one or the other of two groups, neither of which agrees very closely with a single taxonomic species but is rather a hybrid aggregation of derivatives from several taxonomic (and perhaps natural) species. The man to whom they were submitted felt that it was necessary for him to make a definite, decisive statement in the case, and did so. When he sought confirmation of his decision, he found that others, who had considerable experience with that group, did not agree with him. After some lengthy discussion he came to the conclusion that these particular fishes could not be adequately protected under one name but could under the other. Therefore, so far as he was concerned, those fishes were definitely the species that he considered could be given the protection that they obviously required. Whether he was right or wrong in all or part of his ideas does not alter the fact that this is an excellent example of an administrative species.

In the present fish and game code of Illinois, we have another example of an administrative species. The little grass pickerel, *Esox americanus*, called *Esox vermiculatus* by various authors, and the northern pike, *Esox lucius*, are grouped together under the administrative name "Pickerel." No individuals of this "species" less than sixteen inches long may be taken, regardless of the fact that the grass pickerel so rarely reaches that size that it is not likely than any fisherman will ever see one of legal length. This ruling also ignores that fact that the grass pickerel might be a

very interesting game fish if its capture were permitted. This part of the code also fails to take into account the fact that the grass pickerel is one of the most efficient destroyers of young bass, sunfish and perch in the waters of this state. The young are hatched early in the spring and are large enough to eat young bass in early summer when the latter leave their nests and scatter into the weed beds for food and protection. The grass pickerel spend their entire lives in the weed beds and must surely account for a very large part of the losses of bass and sunfish less than a year old.

There is one respect in particular in which the Illinois code of fish and game laws is highly commendable. The fish species mentioned in that code are defined by being referred to the names and descriptions published in a standard technical work on the fishes of the state.

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NAMES OF THE FOUR CULTURE ROOTS IN THE SOUTHWEST

GLADWIN¹ recognized four basic cultures in the Southwest. He called these "roots" and named them the Caddoan Root, Basket-Maker Root, Hohokam Root and Yuman Root. Although most of the archeologists who are familiar with the Southwest agree that such a four-fold division is valid, yet many have taken exception to some of Gladwin's terms.

Gladwin used Basket-Maker Root for that basic culture which grew into the Pueblo culture. Some archeologists call this the Basket-Maker-Pueblo Root, others the Pueblo Root. Kidder,² feeling that the word Basket-Maker and Pueblo brought up pictures in the mind that were not always true, suggested the term Anasazi, a Navajo name for "old people."

The word Hohokam was proposed by Russell³ for the ancient people who dwelt in the valleys of the Gila and the Salt. It is a Pima Indian name meaning "that which has perished." Huntington, 1914, applied the word to cover all the ancient people of the Southwest on the plateau as well as on the desert. Gladwin⁴ proposed that the word Hohokam be restricted to the ancient people who dwelt in the Salt and Gila Valleys in Arizona. The name is very appropriate and has been widely accepted and is in good usage.

The words Caddoan and Yuman have been criticized because they are names of Indian languages and so infer that the ancient people of the region spoke those tongues. Gladwin called one of the principal branches

¹ Winifred and Harold S. Gladwin, Medallion Papers No. XV, p. 3, 1934.

² A. V. Kidder, "The Pueblo of Pecos." Vol. 2, p. 590, New Haven, 1936.

³ Frank Russell, 26th An. Rpt. B.A.E., p. 24, 1908.

⁴ Loc. cit.