

ANTHROPOLOGY

Anthropologists Decry Racial Discrimination

AMERICA's group of scientists who specialize in study of man and who speak with authority on the world's races has gone on record to denounce sharply misuse of anthropology—science of man—by “many countries” bent on unscientific racialism.

Expressing its views in a resolution, the American Anthropological Association at its annual meeting declared:

“The terms ‘Aryan’ and ‘Semitic’ have no racial significance whatever. They simply denote linguistic families.”

The resolution also states:

“Race involves the inheritance of similar physical variations by large groups of mankind, but its psychological and cultural principles, if they exist, have not been ascertained by science.”

As a third and closing declaration the resolution said:

“Anthropology provides no scientific basis for discrimination against any people on the ground of racial inferiority, religious affiliation, or linguistic heritage.”

A Canadian scientist, Dr. Diamond Jenness of the National Museum at Ottawa, was elected president of the association for 1939.

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MEDICINE

Sulfanilamide's Action Due to Hydrogen Peroxide

HYDROGEN PEROXIDE, long a stand-by in home treatment for cuts, now appears to be the substance to which sulfanilamide, new chemical remedy for a host of diseases, owes its effect.

Studies revealing the part played by hydrogen peroxide in sulfanilamide treatment, at least in pneumonia and streptococcus infection, were reported by Drs. Arthur Locke, E. R. Main and R. R. Mellon, of the Western Pennsylvania Hospital. (*Science*, Dec. 30).

The pneumonia germ and the deadly hemolytic streptococcus both have the property of producing hydrogen peroxide, the Pittsburgh scientists point out. But both these germs are sensitive: to peroxide injury, and neither of them can prevent accumulation of the peroxide they can produce.

In order to grow, these two deadly germs depend on the enzyme, catalase, to get rid of the peroxide they produce.

Catalase, which decomposes hydrogen peroxide, is present in many plant and animal tissues. The enzyme is made inactive, however, by the chemical, hydroxylamine, and by substances related to it.

When dilute solutions of sulfanilamide are exposed to ultraviolet rays, the Pittsburgh scientists found, substances are produced which are like hydroxylamine in their anti-catalase effect. Such substances should be as easily made, they state, from sulfanilamide by chemical action of the peroxide produced by pneumonia germs and streptococci. The result would be an accumulation of anti-catalase substances and a consequent accumulation of hydrogen peroxide in amounts sufficient to check the growth of the germs.

Among the points offered in proof of this theory of how sulfanilamide works to cure disease, the three research men point out that sulfanilamide is more effective in killing the germs in spinal fluid, which has little catalase, than in “catalase-laden blood.”

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AERONAUTICS

Earth Inductor Compass For Ordinary Planes

DEVELOPMENT of an earth inductor compass of a type usable for the first time on ordinary airplanes and boats has been announced by the Washington Institute of Technology.

Though the earth inductor compass, which uses the principle of a coil rotating in the earth's magnetic field to tell direction, was first developed as long ago as 1921 and was used by Col. Charles A. Lindbergh and others in their history-making long distance flights, previous types never made the grade in regular flying.

Their former defect, inability to recover quickly enough during the execution of air maneuvers, has, however, been very nearly overcome in the new type, the Washington Institute states.

Formerly suitable only in the case of long, straight flights by heavily loaded aircraft such as Col. Lindbergh's Spirit of St. Louis on its transatlantic journey, the new compass returns to a proper reading less than half a second after pitching, rolling, banking and in bumpy air.

Advantages claimed over the ordinary magnetic compass are the fact that it does not spin wildly as does the magnetic compass; and it does not require frequent setting, as does the gyro compass.

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IN SCIENCE

PUBLIC HEALTH

Health Hazards On The White Collar Job

HEALTH hazards at work are not limited to jobs in factories, mines, quarries and the like. The white collar worker has his own set of health hazards. Among them are lack of exercise, poor eating habits, bad ventilation, bad lighting, and tension from responsibility.

These apparently take their toll. Vital statistics show that the office worker is not so healthy as machinists and tool-makers and not nearly so healthy as carpenters.

It is up to the employer to provide good working conditions for employees, whether in factories or offices, but the worker must look out after his own diet and exercise.

White collar workers do not get nearly all the exercise they need while on the job, because except for some types of saleswork they hardly move about at all.

Devoting the weekend to strenuous sports is not the way to make up for this, medical authorities agree. It is considered much better to spread the exercise out over the whole week. A short walk each morning or evening may not be much fun, but it is good for one's health.

“The diet of the office worker is very important,” Dr. John A. McDonald of the Baltimore City Health Department has recently pointed out in a discussion of white collar job health hazards. “We are apt to think that because people do not do hard physical labor they do not require much food. Whether the body is at work or at rest, it always requires food.”

“If you are a white collar worker you need nourishing food to sustain you in your mental activities and you should never go to work without a breakfast containing at least some fruit, some cereal or an egg and maybe some milk.”

A good breakfast and a light lunch is better than a skimpy breakfast and a heavy lunch, but a lettuce sandwich or a bowl of soup is not an adequate lunch. The day's heaviest meal should come after the day's work is done and the tension of the job is relaxed.

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E FIELDS

MEDICINE

Women With Cancer Seek Medical Aid Earlier

A BRIGHT spot in the cancer picture appears in a statement issued by Dr. C. C. Little, managing director of the American Society for the Control of Cancer.

Women with symptoms that may mean cancer of the breast are seeking medical aid earlier than they did five years ago. This probably means that a correspondingly greater number of lives are being saved, since between 70 and 80 per cent. of breast cancers can be cured by early diagnosis and treatment.

"It is gratifying to note," Dr. Little said, "that last year in two large hospitals in New York state, 31 per cent. and 44 per cent. of the cases of cancer of the breast were early; in a Michigan hospital, 39 per cent. were early; in an Iowa hospital, 40 per cent. were early; in an Illinois hospital, 30 per cent. were early. In each instance, this was a distinct improvement over the figures for 1933."

Medical organizations, health departments, the Women's Field Army of the American Society for the Control of Cancer and press and radio are credited with contributing to the education of people in recognizing the importance of early symptoms that may mean cancer.

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PSYCHIATRY

Mental Diseases Linked With Type of Neighborhood

PUSHING pins into a map is a fascinating activity and one that sometimes has very illuminating results.

In an "ecological" study of the city of Chicago, this sort of technique has been applied to a very new field—that of mental disease. A link was found between the neighborhood you live in and the particular type of mental disease you may later develop.

Cases of paranoid schizophrenia are dotted close in the rooming-house districts of the city, the study revealed to Dr. Robert E. L. Faris, of McGill University, and Dr. H. Warren Dunham, of the Illinois State Psychopathic Institute

and the University of Chicago, who have published their findings in the book, *Mental Disorders in Urban Areas* (University of Chicago Press).

By contrast, manic-depressive psychoses are likely to occur in areas with higher rentals although the pattern of "pins" in this case is very irregular.

Catatonic schizophrenia is most frequent in neighborhoods of foreign-born or Negro immigrants. The alcoholic psychoses are most common in rooming-house and in certain immigrant areas.

General paralysis occurs mostly in the "Hobohemia" of lodging and rooming houses and in Negro communities.

But senile psychoses and the mental illness of old age and arteriosclerosis come to hospitals from districts with the lowest percentages of home owners.

The authors have a theory to propose about the link between community and individual mental diseases.

Life itself for humans, they point out, is dependent upon close association with other humans. Little children need more than physical care. They must be taught the language and folkways of their society or mental development cannot proceed as it should. They must also receive affection and be intimate enough with someone to communicate their thoughts freely or they will become isolated and in such isolation will grow to be "queer."

In Hobohemia, where men come and go as transients, where family life is rare, and where all are strangers with ways unknown and incomprehensible to each other, there the mental disease of "inaccessibility," schizophrenia, abounds.

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ZOOLOGY

"Average Animal" Honors Go To Lowly Sea Worm

IF A POLL were to be taken among scientists, to determine what is an "average animal," the distinction would fall not to man or monkey, dog or cat, but to a lowly sea worm, kin to the common angleworm but having a few more "trimmings." Such is the opinion expressed in a new book, "Animals Without Backbones," by Ralph Buchsbaum (University of Chicago Press).

Invertebrates, or backboneless animals, far outnumber the larger and more familiar backboneed forms, of which the human species is one member. The invertebrates constitute 95 per cent. of all known animal species. And the sea worm known as Nereis is close to a "typical" representative of that group.

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RADIO

Radio Amateurs Start Under New Regulations

RADIO amateurs the world over started operating on New Year's Day under new amateur radio regulations drafted at the Cairo (Egypt) Conference on radio broadcasting last year.

Least affected among the world's "hams," American operators have only to note certain changes in signals, the American Radio Relay League pointed out. Many waveband changes go into effect, but they affect operators in other countries only.

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BIOLOGY

Scientist Controls Sex Of One Type of Bullfrog

SEX can be determined as male or female at the will of the experimenter, in tadpoles of a race of bullfrogs, by the injection of hormones or gland products, Dr. William O. Puckett of Princeton University demonstrated before the American Society of Zoologists.

If his method could be extended to the human species it would be welcomed by millions of prospective parents who would like to settle the boy-or-girl question in advance. Perhaps, however, it is fortunate that it cannot be used at present—it might be misdirected to the production of a larger supply of cannon-fodder, in certain parts of this uneasy world.

So far as the bullfrogs are concerned, the method works a hundred per cent., Dr. Puckett stated. He showed sectioned specimens of the reproductive glands of very young tadpoles. They were neither male nor female, but were capable of becoming either. Normally they make the turn one way or the other at about the end of their first tadpole year, and the population works out the usual fifty-fifty ratio between the sexes.

If extract of the pituitary gland, a small organ situated near the brain, is injected into tadpoles less than a year old, their reproductive glands are rushed to maturity before their time, but the sex ratio still remains at the old half-and-half figure. But when the female hormone, theelin, or the male hormone, testosterone, is injected along with the pituitary extract, all the tadpoles develop as females or males, respectively. Cross sections of their reproductive glands leave no question as to the definiteness of the sex determination.

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