

that the action of the enzymes was to break down complex proteins into those the body could use. Now enzymes take on the new role of permitting—indeed determining—the building up of body proteins.

Sequence of Reactions

The mechanism of creating the complex proteins, said Dr. Bergmann, now appears to be a sequence of many, many reactions wherein a simple protein is turned, by specific enzymes, into a more complex protein.

The whole chain of reactions therefore goes on until finally a protein is created which does not have present the specific enzyme that can build it higher, and there the chain stops.

"Thus the specificity of an individual enzyme predetermines the molecular pattern of the protein synthesized by this enzyme. The numerical rules governing a protein molecule have their basis in the specificity of the enzyme involved," declared Dr. Bergmann. "Here we arrive, for the first time, at a physico-chemical concept of the predetermination which is an inherent attribute of many phenomena of life.

Set of Chemical Tools

"The question has frequently been discussed whether hereditary phenomena are connected with, and explained by, a transmission of individual proteins and in particular, whether the chromosomes are proteins. On the basis of the conclusion which we have reached I think you will agree that the essential substances transmitted from one generation of cells to the next, from parents to children, must be enzymes and that they have to be enzymes with the capability of synthesizing individual proteins by predetermined sequences of specific reactions."

What Dr. Bergmann is saying here—to use an analogy—is that heredity consists of passing on, from one generation to another, a set of chemical tools which permit the offspring to fashion the proteins they will encounter in life in only certain ways. These chemical tools, of course, are specific sets of enzymes.

If you, for example, have red hair it means that heredity handed on to you the enzymes which permit your body to change the food you eat into proteins that occur in red hair pigment. Dark-haired people have a different set of enzyme tools which enables them to fashion dark hair pigment out of the same foods which you both eat. Similar examples can be found in the color of

the eyes and other physical characteristics.

"Will we ever be able to copy in life the synthesis of natural proteins?" asks Dr. Bergman. "I do not know whether we shall succeed sooner or later (probably later) in synthesizing proteins without the cooperation of living cells and only with the aid of enzymes. However, I am doubtful how much a synthesis

PSYCHOLOGY

More Intelligent Men Not Always Best Citizens

AMONG humans, a certain amount of intelligence appears to be essential to good citizenship. The idiot cannot become a satisfactory member of the social group.

At the other end of the intellectual scale, the genius contributes greatly to social life. But in between these two extremes, the level of intelligence does not seem to parallel the level of socialization.

Human social organization depends upon intelligence and not upon instinct as does the social life of ants or termites, it is pointed out by a psychologist, Dr. F. L. Wells of Harvard, but, he explains, beyond that certain minimum needed to learn how to get on in the world, a higher average intelligence does not necessarily mean less crime or less anti-social conduct.

Modern technological developments have made possible the automobile, the telephone, and the airplane serving to bring men closer together. But they have also made possible the instruments of modern warfare and crime. The automobile may serve as a weapon of crime as well as a socializing influence.

Against Restraints

The individual who is mentally alert and of inventive mind is likely to chafe against the restraints of society and discover means of escaping them.

The more mentally gifted, if also possessed of a lust for power, are apt to exploit the less intelligent members of the community.

Humanity would benefit most, Dr. Wells believes, not from a raising of the average of the intelligence, but from a more equitable distribution of all human traits with fewer extremes in ability to adjust to the general pattern of life.

Men need ability to restrain and subli-

mate their emotional and animal desires. With a proper balance between natural drives, intelligence, and sublimation, great individuals and great communities can develop.

If a people were under a large-scale administration equal in competence to that of a well-run hospital, Dr. Wells declared, it should be possible to attain a harmony of individual difference, liberty, and order necessary for the mental hygiene of society.

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ARCHAEOLOGY

Indian Chiefs Protest Uncivilized Pot-Hunting

INDIAN CHIEFS don't like the robbing of Indian graves by white men. It's "uncivilized."

In a protest, drawn up in formal fashion, a group of Seneca chiefs have expressed forthright ideas on what is proper in archaeology, and what is not.

Summed up briefly, they approve of scientific excavations by trained experts, who are seeking prehistory.

They do not approve of ignorant and commercial relic hunting in their state, which happens to be New York.

The Indians themselves put it this way: "We have no objection to the scientific examinations of qualified museums known to and approved by the National Research Council or of the Society for American Archaeology, or to individual scientists who keep careful records of a type having the approval of scientific bodies. Methodical and purposeful work adds to the sum of the world's knowledge, but the grave robbery of 'pot-hunters' and relic diggers is repugnant to every person understanding