biological mechanism can influence the "organization" of matter foreign to itself and therefore may affect the "generalized" entropy.

These considerations are even more striking if the organism acts on the environment by way of its intelligence. Thought interferes with the probability of events, and, in the long run therefore, with entropy. The reason that this fact has escaped the physical analysis is that the physicist intentionally ignores organization which is not primarily organization for energy-availability and admits, further, available energy only in the sense of "available, if we care to, or are clever enough to, apply it for the performance of mechanical work." Actually such energy is available only if suitable mechanisms or intelligence intervene.

The idea of this note and projected paper is to relegate availability of energy to a place compatible with its biological and psychological significance.

I wish to thank Professor K. F. Herzfeld, of the Johns Hopkins, for his great help in the clarification and formulation of my argument and for his criticisms of the present note.

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ANTIOCH COLLEGE,
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SPECIAL CORRESPONDENCE

RESEARCH WORK OF THE MICHIGAN COLLEGE OF MINING AND TECHNOLOGY

THE departments of physics, geology and electrical engineering of the Michigan College of Mining and Technology are cooperating this summer in continuing the study of the electrical resistibility of various rock formations in the iron and copper districts of Michigan. The work is a part of the general research program of President W. O. Hotchkiss to concentrate research at the college along lines which will be of greatest assistance to the mining industries of the state.

The object of the research studies is to obtain more intimate geological information concerning the districts. This information will be of value in directing exploration in the future.

Professors James Fisher, C. George Stipe, John M. Gaffney and William Longacre and a corps of student assistants of the physics department are studying the electrical resistibility of various formations in the field. This work is being carried on in the region close to the college where conditions are fairly accurately known, but it is planned to extend the research into the iron country. Present indications are that by this method it will be possible in many locations to determine the depth of the water table without drilling. It appears that different kinds of rocks possess different properties of electrical resistivities, and so it is possible by this method to determine geological formations which are covered to a considerable extent with glacial deposits.

In coordination with the work being done by the physics department in the field, Professors Fay L. Partlo, John M. Harrington and T. C. Sermon are in Madison, Wisconsin, doing graduate work in physics for advanced degrees at the University of Wisconsin. They are carrying on research investigations in connection with the physics of rock formations in the upper peninsula which will fit in with the general geophysical research work being carried on at the college. One of the problems which they are studying is the magnetic permeability of different rocks. This study is undertaken to get scientific facts underlying the striking variation in magnetic attractions being used in mapping the geology of the various districts.

Professor C. O. Swanson, Joseph L. Adler and Vincent L. Ayres, of the geology department, are engaged in field geological studies in the iron districts. This work has been going on for the past two years and considerable new information regarding the geological structure and currents in the iron formations has been obtained.

Professor Wyllys A. Seaman, also of the geology department, is engaged in field geological studies in the Copper Country in cooperation with the State Geological Survey and the mining companies. Frank Pardee, assistant state geologist, is in charge of this work. This group of scientists cooperating with the Mohawk Mining Company recently completed a survey of the New Michigan exploration where some valuable information was obtained.

Professor George W. Swenson, head of the department of electrical engineering, is carrying on research work in the American Bell Telephone Company laboratories in New York City. His department is cooperating with the telephone company in trying to determine what causes variations in the strength of radio signals, or why radio signals come in strong sometimes and weak at other times. The Copper Country offers unusual opportunities for this study because the rock formations of this district are of such a nature that there are strong local variations in the earth's magnetic field. These same variations are being used successfully in the geographical mapping of the district.

A CORRESPONDENT