

EDUCATION

College Selection Hints

➤ MANY THOUSANDS of young students are knocking on the doors of colleges and universities to gain admittance to courses that will train them to become scientists and engineers.

The colleges have highly perfected methods of picking the students of ability and promise they wish to admit. But how does the potential student pick the college that will train him effectively?

Here are some suggested criteria for use by high school students and their parents in judging undergraduate colleges:

Are adequate courses offered in mathematics, physics, chemistry, zoology, botany and geology?

How good is the science faculty? Are the professors nationally recognized? This can be determined by checking the list of faculty and determining the number in the standard biographical volumes, *American Men of Science* and *Who's Who*. How many are in academies in which membership is a recognition of attainment? How many hold honorary degrees?

What alumni are eminent in science?

Are there separate buildings for science laboratories?

Does the university or college have current research projects and is it receiving grants from government and foundations or both?

Does the institution confer the bachelor of science degree?

Is the institution on the approved list of accrediting associations?

Some of the factors that are not important in determining the science standing of an undergraduate college include:

The success of its athletic teams in intercollegiate competition.

Its geographical location.

Its size, although it should be large enough to command a specialized science faculty.

Whether or not the institution gives graduate courses leading to advanced degrees, since there are some very adequate colleges that confine themselves to undergraduate courses.

Whether or not the college is coeducational.

Whether or not father, mother, other relatives or friends were graduated from the institution.

Science News Letter, March 1, 1958

BIOPHYSICS

Identification by EEG

➤ USE OF AN electronic computer to identify individuals by their brain wave patterns was described to the Biophysical Society meeting in Cambridge, Mass. The computer is programmed to describe numerically the complex wave forms found in electroencephalograms or EEGs.

Although it has long been recognized that each person has his own brain wave signature, a characteristic EEG pattern that appears when he is awake and resting under standard conditions, there has been no exact or quantitative way of describing it. Judgments of which characteristics of the EEG wave form change significantly from person to person have had to depend in the past on the skill of experienced EEG technicians.

Now, in the study made by a team of Massachusetts Institute of Technology scientists, the Lincoln TX-O electronic computer has been used to measure a number of the characteristics of EEG wave forms and their variability. Primary attention was paid to the behavior of "bursts of alpha activity," as they were defined by the computer program.

The MIT team reported the computer was able to identify the first 20 subjects tested on the basis of their EEG patterns. Moreover, preliminary studies show the computer is also able to distinguish between different physiological states in the same individual.

The most important application of this technique, the scientists explain, is the identification of whether an individual is in the

same or different physiological states at two different times. This will make possible better control of EEG experiments, and it may also give valuable information about the physiological effects of drugs, fatigue, and other factors that affect the functioning of the brain.

Participating in the study were B. G. Farley, L. S. Frishkopf, M. Freeman, C. Molnar and T. Weiss of Lincoln Laboratory and the Research Laboratory of Electronics, Massachusetts Institute of Technology.

Science News Letter, March 1, 1958

MEDICINE

Blood Cholesterol Level Increased Under Stress

➤ THE BLOOD'S cholesterol level is higher in persons under emotional and mental stress than it is when these same persons are engaged in their normal activities.

Cholesterol, a fat-like substance, has been charged by some medical scientists with causing atherosclerosis, a form of hardening of the arteries.

A "significant increase" in blood cholesterol was found to accompany the mental and emotional stress of examination week in a group of 44 apparently healthy male medical students. The mean value was an increase of 11% during the examination period over the value when the students were free of examinations for at least a

week before and after the samples were taken.

There is less than one in a thousand chances that this increase would occur by chance.

Those participating in the study ranged in age from 21 to 37, the mean age being 25. One individual showed a "remarkable increase" of cholesterol level on two days during the examination period, double that found during the control period.

The studies were made by Drs. P. T. Wertlake, A. A. Wilcox, M. I. Haley and J. E. Peterson of the College of Medical Evangelists, Loma Linda, Los Angeles, who report their results in *Proceedings of the Society for Experimental Biology and Medicine* (Jan.).

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