PSYCHOLOGY-EDUCATION

From Now On: Talents

The abilities of people should be assayed to fit them to their best life work. Inquiry into the nature of talent, a search for it and a wider cultivation of it are needed.

By WATSON DAVIS

Fourth in a series of glances forward in science.

➤ FITTING the life work of people to their abilities is needed if there is to be happiness in the world. One of the essential by-products of happiness in this sense is that the work of the world is done more effectively.

Since the turn of the century much attention has been given to assaying human qualities and doing something about using them. There are tests that tell whether one is likely to succeed as a clerk or an atomic scientist, as a musician or a factory worker. The famous I.Q. tests arose from the First World War. There have been studies of genius and handicapped alike. Sometimes it has seemed that more time is spent upon our retarded children than upon our civilization's superintellects.

Psychologists, psychiatrists and educators alike wrestle with the continuing opportunity for growing minds in all fields and walks of life. We have come a long way from the days of the fabled little red school house and the beating of dumbness out of human hides with a ruler.

Something new has been added to higher education in the selection of those who are to go to college. More and more it is a matter of ability—intellectual talent—rather than the dollars in dad's bank account. More and more to be a college freshman, a boy or girl has to make the intellectual grade. But more and more those who have the talent it takes get to go to college.

College entrance bureaus have their examinations, interviews and other selection methods. Scouts from our big universities roam the nation each year looking over the high school senior crop—for brains, mind you.

For nine years now the annual national Science Talent Search for the Westinghouse Scholarships has been conducted by Science Service. This is an attempt to find and do something about high school seniors who show potential research ability. Scientists of the future are developing from those picked.

Only a small fraction of the babies born can be expected to become future Einsteins, Curies and Pasteurs. Few will compose great symphonies, write classic novels, or achieve world leadership. Aptitude or talent, wherever it may be, is a precious heritage of the world.

There is some talent in each of us. The supreme ability to flavor a soup, the superb craftsmanship in a welded joint, the skill of pitching a better ball game, the patient understanding of rearing little children—these and many more.

We need to know more about ability, talent, or whatever it is called. In the future, there should be:

A. Intensive inquiry into the nature of various abilities and the way they combine to achieve results in human beings. There is promise that traits can be discovered and analyzed much as the chemist assays promising ore for its chemical elements.

B. Conduct talent searches in all fields of human endeavor, particularly for occupations for which the world has great need. We have a great continuing need for scientists, for instance. The demand for scientists may be less obvious and enticing than that for good dance band players (I am assuming that there is more of an oversupply in that important occupation).

C. Broaden our education so that everyone has a chance to test his abilities and talents as widely as possible. There is no royal road to occupational success as American democracy has so effectively demonstrated. The laborer's home nurtured a great artist, and wealthy parents are no barrier to becoming a practical engineer.

D. Cultivate the neglected corners of our world for good human growth, regardless of its color, customs or culture. Point IV should winnow for quality in the population of every nation. There is great talent in the neglected areas.

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GEOLOGY

Uranium Via Test Tube

➤ HOW to make uranium ore in a test tube was described in Washington by four government scientists.

Their work will not put prospectors out of business, however, nor solve the supply problems of the atomic age. To make synthetic uranium minerals, you need uranium to start with, they said.

Dr. L. R. Stieff, K. J. Murata, Mrs. E. A. Cisney and Miss E. V. Zworykin of the U. S. Geological Survey told the Geological Society of Washington that artificially produced ores are being used to check the discoveries of prospectors in the field.

Value of such work was underlined recently in the announcement by Secretary of Interior Oscar L. Chapman that three hitherto unknown uranium minerals had been discovered in Arizona.

The ores, found by government geochemists, were identified positively by laboratory synthesis of each of the new compounds. They were named andersonite, swartzite and bayleyite.

Canary-yellow carnotite, major uranium ore in this country, was once used by Navajo Indians as a dye. A uranium-vanadium salt of potassium, it has been made in the Geological Survey's laboratories in the pure form, the researchers said. It can thus be better studied chemically, microscopically and by X-ray and electron beams.

The process, they explained, begins with other compounds of uranium and requires "cooking" over high-temperature steam for long periods of time. Study of the resulting compounds can throw light on how they are formed by nature and help scientists look for other new ores in the field.

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ENGINEERING

Invisible Moisture Films Make Graphite a Lubricant

➤ INVISIBLE thin films of moisture are what make graphite a lubricant, Robert H. Savage, General Electric scientist, has proved.

Electric brushes or contacts made of graphite and used to feed electric current to moving parts in motors or generators on high-altitude aircraft may have their useful life increased many thousands of times as a result of new lubrication methods devised by him.

It was long thought that graphite, a solid slippery material, was a good lubricant in itself. Graphite consists of layers of atoms which can slide easily over each other. It was formerly thought that this property was inherent in the graphite alone. The new discovery is that an invisible film of moisture is required for its lubrication.

Mr. Savage tested the wear of dry graphite brushes against a revolving copper disk in a vacuum chamber. Brushes were worn as fast as an inch an hour. When a small amount of water vapor was admitted to the chamber, the wear rate was reduced to less than a thousandth as much.

For electric motors and generators working on the ground, there is generally enough moisture in the atmosphere to provide the moisture film to the graphite. But modern aircraft fly at great altitudes with such low temperatures that water vapor is absent. Mr. Savage has devised a means of shielding the parts of electrical equipment where the brushes are used, and supplying water vapor to the space around them.

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