

PSYCHOLOGY

Picking Workers by Tests

➤ A LOT of accepted ideas about tests to select workers for various occupations have been exploded in a study by Dr. Edwin E. Ghiselli, professor of psychology at the University of California.

For one thing, the result of a single test is seldom sufficient evidence for predicting whether an individual is suited for a particular kind of job. Whole batteries of tests will have to be developed if reasonable accuracy is to be achieved in personnel selection.

Dr. Ghiselli bases this conclusion on an evaluation of test scores for various occupations as compared with actual proficiency. The validity of the tests was only "moderate or low."

The psychologist also questioned the idea that intelligence tests are more effective in the "higher" than in the "lower" occupations. For example, the tests show up better in picking skilled workers than in picking salesmen.

He also found that there were wide

variations in the effectiveness of a given type of test within a single type of occupation. Intelligence tests, for example, varied over a wide range for business machine operators, in an occupation in which requirements would be expected to be rather uniform.

Psychologists have generally believed that a test has a certain degree of validity for a particular job and that variations from it are minor in nature. Dr. Ghiselli says just the reverse seems to be true: it is actually unusual when there is agreement in validity.

The psychologist studied results of testing in seven categories of occupations: clerical, sales, supervisory, protective service, skilled, semiskilled and unskilled. He obtained his data from psychological and technical reports from industry and governmental agencies. His results are published in a monograph by the University of California Press.

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CHEMISTRY

Algae for Food Explored

➤ FOOD-producing possibilities of a lower plant that can treble its bulk in 24 hours if supplied with constant illumination are being technically explored at the Stanford Research Institute, Palo Alto, Calif., Dr. J. E. Hobson, director of the Institute stated. Dr. Hobson spoke as guest of Watson Davis, director of Science Service, on the Adventures in Science program, sent out over stations of the Columbia Broadcasting System.

The plant is the one-celled alga known to botanists as *Chlorella*. It is familiar as the cause of much of the green scum that forms on cattle ponds and other bodies of still water in warm weather.

First hint of the possibilities of this humble plant was obtained by Drs. H. A. Spoehr and Harold W. Milner of the Carnegie Institution of Washington, and Dr. Jack Myers of the University of Texas. They discovered that by controlling its chemical environment they could at will cause it to produce a very high yield of either protein or fat.

The Stanford Research Institute, financed by Research Corporation, was asked to probe into the economic potentialities of *Chlorella*. One of the first things they discovered was that it could be made to grow very much more rapidly by giving it 100 times as much carbon dioxide as occurs naturally in the air. This extra supply is readily obtainable from the waste gases from brewery vats or from the combustion gases escaping up factory chimneys.

The Institute has also undertaken a study of the fat or oil piled up in *Chlorella's* tiny body when its nitrogen supply is kept short. This may prove useful in soapmaking or similar industries, thereby releasing animal or vegetable fats and oils now used there for other purposes. It is even possible that *Chlorella* oil may prove a good drying oil, which is always in demand by paint and varnish makers.

Chlorella protein, which accumulates when the plant is given an abundant supply of fixed nitrogen, is most likely to get into the human food cycle by way of livestock or poultry feed, being converted into milk, meat and eggs. There is the possibility, however, Dr. Hobson stated, that this protein may be processed into a form palatable enough for direct human consumption.

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VETERINARY MEDICINE

Cattle Stomach Lining Good For Foot-Mouth Vaccine

➤ FOOT-AND-MOUTH disease vaccine for the protection of livestock can be prepared more easily and cheaply than heretofore by culturing the virus on the lining of the rumen, or first stomach, of cattle. This new method of production has been developed by Drs. H. S. Frenkel and H. J. Frederiks at the National Veterinary Research Institute in Amsterdam.

Vaccines at present used in Mexico, South America and Europe are prepared from virus taken from the bodies of cattle infected with the disease. A recent step forward, still in the experimental stage, was the culturing of the virus on beef tongues fresh from the slaughter-house. Now the use of rumen tissue may replace that of tongue, especially since one rumen yields as much vaccine as four tongues.

Drs. Frenkel and Frederiks announce their results in a letter to the editor of the British scientific journal, *NATURE* (Aug. 6).

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INVENTION

New Auto Headlight Is Bright but Non-Glaring

➤ THE problem of getting a bright light on the road, yet not blinding other drivers with glare, is attacked in a new way by John T. Overstreet of San Antonio, Texas, who has just received U. S. patent 2,478,308 on his invention.

Just behind the front lens of his headlight Mr. Overstreet places a ring that supports a series of strips, slanted at an angle like the slats of a half-open Venetian blind, except that the strips are slightly down-curved rather than straight. Both sides of the strips are silvered.

Angles and curvature of the strips are so arranged that the greater part of the light received from the lamp, either directly or by reflection from the parabolic mirror, is thrown directly forward to place strong illumination on the road. A smaller proportion is thrown upward and sideways, to give a general, non-glaring lighting effect.

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METEOROLOGY

April Sunshine Was More Intense Than Summer Rays

➤ OLD SOL is not entirely to blame for the hot weather of the present summer. The most intense rays of the year were in April, according to a "solar radiation recorder" on top of a General Electric Laboratory building in Schenectady, N. Y.

This year's unusual heat was caused by unusual atmospheric pressure conditions, G. E. meteorologists state. These prevent the moving in of cold air masses from the north. The radiation recorder shows that the sun has not been sending an out-of-the-common quantity of heat into the area this year.

The solar radiation recorder was developed by G. E. engineers several years ago. The portion of it which is struck by the rays of the sun is a small, glass vacuum tube, inside of which is a metal strip called a thermocouple. Electrical characteristics of the strip vary with the amount of solar heat striking it.

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