PSYCHOLOGY

Armed Forces Test Valid

The armed forces qualification test, criticized as being too difficult, tests what it is designed to test. The men simply are not qualified.

➤ THE ARMED forces qualification test jumped on by Maj. Gen. Lewis B. Hershey, head of Selective Service, as flunking too many men, is doing just what it is designed to do, Army records indicate.

This test is designed to keep out of the Army those men who are so stupid or ignorant that they would do the Army more harm than the enemy itself. Difficulty of the test was planned so as to disqualify 13% of men of draft age. It is just that proportion of the population that is too low in intelligence or education to make good soldiers, Army figures indicate.

Actual rejections during the month of July for failure on the mental test amounted to 15.2%, a figure slightly higher than the expected 13%. But the drafted men sent to the Army were not representative of the whole population. Screened out were all those who had enlisted in the Navy or Air Force, all veterans, all college boys who were in the upper 50% of their classes, and all R. O. T. C. students.

Passing mark on the test was not set by the Army; it was set by Congress in the Selective Service Act of 1948, where it is provided that the Army should accept all men who make a score better than 70 on the old Army General Classification Test.

By giving the new all-services test to 12,000 men who had also taken the old GCT, an equivalent on the new test for the grade of 70 on the old one was found. This is the new cutting point.

The new test, which has been in use since Jan. 1 of this year, is the answer to a demand that all the armed forces have one single scale for measuring the talents of their men. It was prepared by experts from the personnel research section of the Army and from equivalent offices in the Navy, Air Force, Marine Corps and Coast Guard. Practically all the experts who worked on the test had seen service during World War II; the rest had been civilian employees of the Armed Forces during the war.

The test is designed to measure native intelligence, that is, the ability to learn what a soldier needs to know, and also ability to read simple instructions.

Care was taken to make the instructions in the test clear and simple to understand. Every word used was looked up on the famous Thorndike list of word difficulty, and no word was included that was above fourth grade difficulty.

Three kinds of questions are included in the test. One kind is arithmetic reasoning, none of the questions beyond eighth grade in difficulty. Some questions test knowledge of words. And then there are questions that measure ability to sense spatial relations. This is measured, for example, when a drawing shows the surface of a construction of irregular form built of blocks. The candidate is asked to count how many blocks were used to build the form. Ability to do this has been found to be a good index to ability in certain occupations such as that of automobile mechanic.

Before being used in the test, every single question was first tried out in recruiting offices throughout the country to find out its difficulty. Trials were made on two and a half times as many questions as were actually used. Those selected were found to distinguish best between good soldiers and poor soldiers.

The test as a whole was then tried out on 12,000 men who were representative of all the armed services in the last year of the war.

Whenever a man fails the mental test, he is immediately checked up on to see whether or not he is goldbricking. His work record and history of schooling, as provided by his own draft board, are examined. If it is found, for example, that he has graduated from high school, he is in the Army regardless of his score on the test. Less than one high school graduate out of a hundred should fail this test. Also if he has held a good job, that is considered as evidence that he is not deficient in intelligence, no matter what his test score.

If, however, he has a history of never being able to hold a job or to stay in school, that is considered to indicate that he would not be a good man in the Army.

Science News Letter, September 30, 1950

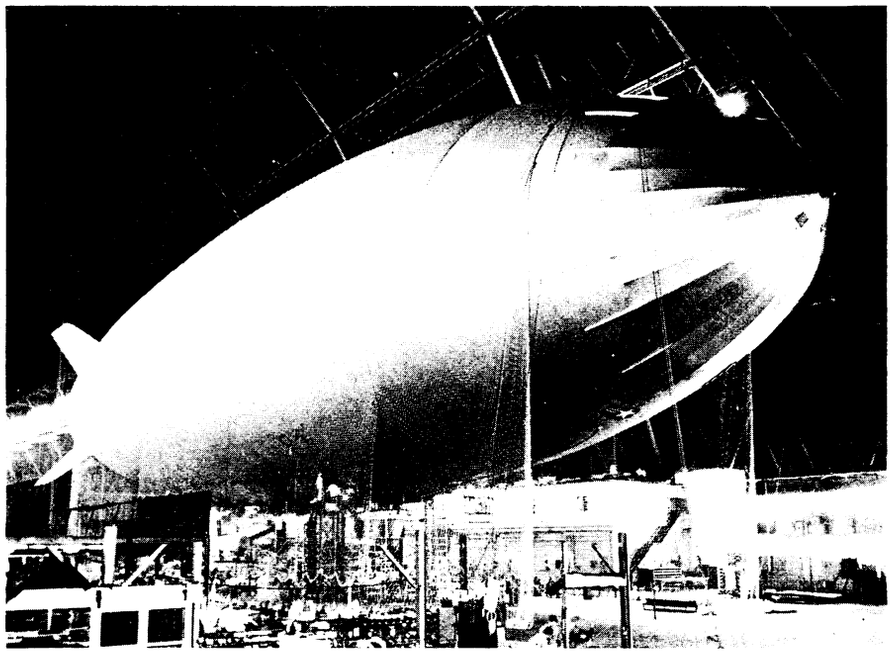
MEDICINE

Two Medical Firsts

➤ TWO medical firsts are reported from the Naval Medical Center at Bethesda, Md.

A mental patient who choked himself to death was one of the firsts reported by Drs. Morton J. Aronson and Samuel V. Thompson, of the Neuropsychiatric Section.

The other was a patient saved from death after his temperature had gone up to 106 degrees in a state of acute excitement. Extremely high temperatures are not unusual



ANTI-SUBS—The ZPN airship, newly developed for the U. S. Navy, will help to combat the submarine menace in the event of future war. The net, shrouding the huge ship, is used to hold the helium-filled envelope down while the control car and other fixtures are being attached.

in patients in catatonic excitement, when the temperature mounts rapidly and in a few minutes may go as high as 110 degrees. These cases usually die.

This patient was saved by rapid action on the part of the physicians. In addition to treatment with antibiotics, barbiturates and large doses of vitamins, he was given adrenal cortical extract. Practically continuous alcohol sponge baths were given him. Electric shock treatment was tried.

Gradually the temperature went down, the excitement subsided and blood pressure and chemistry returned to normal. The patient recovered with no memory of what he had been through.

The other patient, after repeated suicide threats, suddenly went wild on his birthday and threw himself about his room. He had to be restrained from mutilating himself. Then he stuck out his tongue and clamped his teeth down on it and held his breath. During one such spell of breath holding, his heart stopped beating.

Artificial respiration and injection of stimulants failed to restore him. He was dead.

The physicians' full report on these two patients is contained in the current AMERICAN JOURNAL OF PSYCHIATRY (Sept.).

Science News Letter, September 30, 1950

AERONAUTICS

Plane Wings without Rivets From New Forging Process

➤ RIVET-LESS wings for airplanes, constructed by a new forging process that saves cost, time and metal in the manufacture of wing panels, were revealed in Dayton, Ohio, at the Wright-Patterson Air Force Base.

The process was developed by the Air Materiel Command's Industrial Planning Division, the Lockheed Aircraft Corporation, Burbank, Calif., and the Wyman-Gordon Company, Worcester, Mass. It utilizes specially designed dies and a vertical hydraulic press to forge one-eighth inch thick integrally-stiffened wing skins, thus eliminating the need for riveted reinforcements.

With present wings, there may be up to 15,000 rivets in a wing surface. Cost of both rivets and installation is wiped out by the new forging method. There is also a great saving in the amount of aluminum required for fabrication when it is machined out of solid stock. In the old process a large percentage of the aluminum ends up as trimmings and chips which must be returned to manufacturers for reuse.

The new rivetless panels are being manufactured in the plant of the Wyman-Gordon Company. A German scientist, Karl Braeuninger, assigned to the Air Force, is in charge of the project.

Science News Letter, September 30, 1950

AGRICULTURE

Giant Fruits Aid Plant Genetic Study

➤ SCIENTISTS at Geneva, N. Y., like nothing better than to open their mail and find apples the size of grapefruit or grapes which look like small plums.

As fall's harvest season approached, Dr. John Einset of the New York State Agricultural Experiment Station sent out a call for such giant fruit, or "sports" as they are called. If you find an elephantine apple or a king-sized grape, you can aid in a long-range study of uncommon plant genetics.

Send the fruit to the Geneva station for examination, and carefully mark the tree or vine where you found it. Describe the fruit briefly and give the name and address of the grower on the postcard to the experiment station.

True apple "sports" are often twice normal size, flatter and irregular in outline. The tree on which they grow usually has thick twigs and a flat, bushy shape. Grape vines with unusual ambition sometimes turn out grapes twice the size of those on a neighboring vine. The reason is an unusual combination of the tiny bodies in the germ cells called chromosomes. These determine hereditary characteristics in plants and animals alike.

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Question Box

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ASTRONOMY

What color is the daylight sky in Mars? p. 214.

CHEMISTRY

What was the last unknown ingredient in the Stradivarius violin varnish? p. 214.

Why are candy factories dangerous? p. 217.

ENGINEERING

What kind of sawdust house will stand against a big bad wolf? p. 217.

What metal can both cool and heat houses? p. 222.

GENERAL SCIENCE

How many people understand corporation reports? p. 210.

NAVIGATION

How can store sale crowds be kept moving? p. 217.

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