

PSYCHOLOGY

Fitting Workers to War Jobs

Training Time in Critical Jobs Is Reduced by Selecting Men Already Skilled in Similar Occupations

By MARJORIE VAN DE WATER

WAR has taken men from the job of filling cream puffs in a bakery and put them to work filling shells or cartridge cases in a munitions plant.

Men can take their hands from the making of inner tubes and put those same hands and skills to work making rubber assault boats for invasion of enemy lands.

The mechanic who used to tinker with the engine of the family jalopy now adjusts the 400-horsepower engines of tanks.

Such dramatic change-overs will be made from all sorts of peacetime industries to the essential jobs of war. And it will be done at a minimum cost of time and without wastage of precious human resources, because of the careful plans already laid before Pearl Harbor by job experts of the U. S. Employment Service.

In time of peace, these experts prepared for war. Originally aimed at the world's recurring war against the great enemy, unemployment, a nine-year program of research on jobs was ready to go into immediate action when war came.

Now these job experts are able to tell the Manpower Commission just where to turn for labor trained in the peculiar skills of hand or eye or arm which are so needed for war production. Study of the jobs of war and the jobs of peace has revealed which are so closely related in terms of the human traits required that they can be grouped together in the same "job family."

A complete survey of available American manpower is being obtained through the Selective Service system. Forty million men of all ages from high school age on up to three score and five have checked a list of 189 jobs to indicate those for which they have any training or experience.

As listed on the Selective Service questionnaire, the jobs carry the names by which they are best known to the public. Actually the 189 job names include some 650 different occupations. The man who checks the term airplane

mechanic may have worked at any of eight different jobs—all of them essential to war production and all facing a shortage of workers. Some of the job names listed are general enough to cover as many as 20 different occupations.

But many of those listed are related in the same job family. The man who checks "toolmaker" is also potential raw material for a job as a diemaker or an instrument maker.

And some of the jobs listed are not important at all in America's growing war industry. They are there because the qualifications for them are so much like those for jobs that are essential.

Closest job to that of the automatic screw machine operators needed so badly in war industries is found in the textile industry. There, screw machine operators are employed under many

other different job names. You will find "textile machine operator" listed on the Selective Service occupations questionnaire.

To fill an essential job in a war industry, the first step of the government experts is to search the "family tree" of that occupation to see what related job in a non-essential peace industry employing large numbers of workers is the closest "cousin."

Often the non-essential "cousin" is so closely related that very little training is required before the men can step right into the essential war job.

Here is how the job experts, under the direction of Dr. C. L. Shartle, trace occupational families for this new sort of job genealogy.

First step was the setting up of a dictionary of "work done" verbs which would best describe the principal job of each occupation. Joining, heating, mixing, machining, rigging, measuring, spraying, designing and dyeing—these



PEACE JOB

In the morning, this young lady was using an electric screwdriver in the manufacture of toy locomotives. But Junior's train must be sidetracked for the duration. This skilled worker was "converted." See photograph on facing page.

are a few of the hundreds that will give you an idea of how they go. Then each of these is broken down into more specific tasks. Joining, for example, includes nailing, gluing, winding, welding, sewing.

After the related occupations are sorted according to the sort of work done, the next step is to sort them according to the kind of machine or tools used.

Third step is to find out the degree of accuracy required—is it a precision job or one that can be done slap-dash?

Fourth step is to find the answer to the question—what is required of the worker. Does he have to be strong, clever with his hands, have unusual eyesight, eye-hand coordination, or ability to follow complex written directions?

Fifth step is to consider the kinds of materials used in the work. To sew canvas is not quite the same as to sew silk crepe, and the surgeon who must sew up a wound has an altogether different job still.

When all this sorting has been done for the essential war job and for all the related occupations, the job expert is ready to prepare the job family tree. It appears finally in a series of tables. The

first table includes all the jobs that are practically twin brothers to the war job that must be filled.

Little or no training would be required for the man who was taken from such a closely related job and put into the war job. Then, as we go down the family tree, succeeding tables include jobs differing from the key job at first only perhaps in a single characteristic, but later in more and more. All are, however, like the key job in some way or in several ways.

The job of gage inspector is one of the bottlenecks of manpower. The demand far exceeds the available supply. Yet to become efficient in all the phases of this job would require years of experience and training—years during which the war must be won.

To short-cut the obviously impractical job of training raw recruits for this important job, the occupational experts worked out a family tree for gage inspectors including only those occupations which occur in industries that cannot continue peacetime production on account of shortages.

Four industries contribute to the first branch of most closely related occupa-

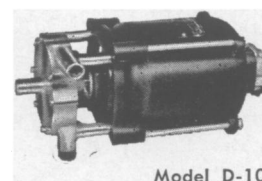
tions. These are jobs which involve precise measurements of materials, parts or assemblies, with the use of micrometers, calipers or gages and the reading of blueprints.

Stove manufacturing has a job called "atomizer specialist." Radio has what they call a "check inspector." Automobile factories employ "thickness inspectors" and "gagers." And the electric equipment industry has finishing inspectors, shaft inspectors, micrometer inspectors, circulating-process inspectors and raw material inspectors.



WAR JOB

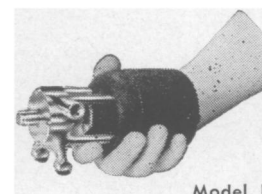
In the afternoon, the same girl pictured on the facing page was using the same tool on a war job. She was assembling parachute flare casings. These pictures are official Office for Emergency Management photographs.



Model D-10

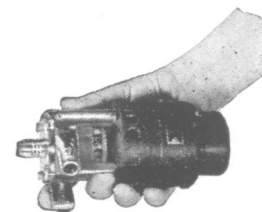
"EXACTLY THE PUMP FOR OUR JOB"

That's what a plant executive told us recently. Why? Because we didn't "just sell" a pump. From our varied line we picked the model that fit the space available, was light in weight, and gave more than the required performance.



Model E

Just let our capable engineers know your needs—they'll give you "exactly the pump" for your job. Write for complete information.



Model A

EASTERN

ENGINEERING COMPANY

70 Fox St., New Haven, Conn.

But stoves and console radios, automobiles and waffle irons are out for the duration. These workers are first line of supply now for war production.

Other occupations involve setting up or operating a precision machine for shaping metal products.

The clock and watch industry has men who can do these things—fox-lathe operators, underturners, and wheel cutters.

In a third branch of the family are the workers who test machines or mechanical assemblies for satisfactory performance. Two additional industries may be

tapped for this group. The office machine industry has a business machine inspector. There is a refrigerator tester in the refrigerating equipment industry.

Ammunition factories need workers to operate automatic and semi-automatic machines for the loading of ammunition.

Closest cousins to these jobs outside the ammunition industry were found in such widely different industries as bakeries, grain and feed mills, tobacco factories, fertilizer plants, brick and tile works, bedspring factories, ice cream factories and canneries.

Science News Letter, July 11, 1942

Many of the cyclonic disturbances that sweep down across North America originate here, or take on their characteristics after emerging as “young” storms from Siberia across the way. There are also the notorious local “williwaws”, violent windstorms in which the air currents seem to blow “every-which-way.”

The Japs chose the best of a bad lot of weather to make their onfall in the western Aleutians. Weather Bureau records show that least rain, and most of what little sunshine there is, come in June and July. After the days grow short and early fall sets in, the place gets really nasty.

Science News Letter, July 11, 1942

METEOROLOGY

Aleutian Weather Is As Bad As Navy Men Say It Is

Weather Bureau Records Show It To Be One of the Drizzliest Places on Earth With Rainfall of 71 Inches

ALLEUTIAN island weather is fully as bad as Navy men say it is, examination of published records of the U. S. Weather Bureau shows. It's the kind of thing we hear about Iceland—plus.

It must be one of the drizzliest places on earth. The observatory on Attu, one of the islands reported seized by the Japs, shows a mean annual rainfall of about 71 inches, which is not at all terrific so far as total precipitation goes. Annual rainfall along the Atlantic coast near Washington runs about 50 inches. But the total number of days on which measurable rainfall occurred was 200

out of the 365. That means an endless procession of little rains. And it doesn't count heavily cloudy days on which no rain occurred; neither does it count fogs that put no water in the rain gauge.

It never gets very cold in the Aleutians—and it never gets warm. Zero Fahrenheit has never been reported; the thermometer in winter hovers constantly near freezing point, but seldom dips below it. Summer temperatures average a trifle under 60 degrees, and rise to near 70 so seldom that such days don't figure in tabulation of averages.

While frosts have been recorded during every month except July, they are uncommon in summer. Frost-free season extends from late May until early October. This gives a growing season actually longer than that of some of the northern states, the Weather Bureau comments, adding: “However, owing to the large amount of cloudiness and the comparatively low summer temperatures, vegetation, except native grasses, makes slow growth, and gardens are not much of a success.” Orchards and forests would be even less of a success, apparently; the natural vegetation of the islands includes no tree species whatever.

The climate of the islands, however dull, is not without its exciting spells of weather. Cold water of the Bering sea on one side, warm water brought up from subtropical Pacific areas by the Japan current on the other, set up contrasts that breed all manner of storms.

PSYCHOLOGY

Protecting Children From War Fears Is Advised

SPECIFIC measures parents can take to protect their children from being badly upset by the war and its anxiety were given by Dr. Bert I. Beverly, chief of the Rush Medical School Behavior Clinic, Chicago, at the meeting of the American Academy of Pediatrics.

First, parents must remember that every child, from the baby in his cradle to the big boy or girl in high school, will be upset if his parents are. Instead of hiding their quite natural fear and worry over the war, parents should frankly tell the children of the possible dangers, as far as they are able to understand them, and should explain just what is being done for the family's safety.

Every effort should be made to keep young children with their parents. In case of fires, blackouts and bombings, Dr. Beverly says, the children feel safe only when they are very close to their parents. Identification tags to avoid the loss of parents in blackouts are advised.

“When father is away from home, in part or all of the time, mother can give the children security if there is a well thought out and organized plan whereby everyone knows what to do in case of emergency and the children are sure mother will be there to see that everything is all right,” he continued. “In the absence of both parents, children can be made to feel certain that a mother substitute knows exactly what to do and they can be close to her in case of emergency.”

Don't tell a frightened child that he is silly. Encourage his sense of responsibility by giving him something sensible and useful to do.

Science News Letter, July 11, 1942

LEARN SPANISH
THE LANGUAGE OF
TOMORROW'S BUSINESS
BY
PLAYING CARDS



It's easy to learn to speak, read and write Spanish this popular new way...and it takes only 1/2 of the time usually required to master a foreign language. Play Solitaire or play the Course with a member of your family or while you entertain friends. Prepares for the thousands of post-war opportunities that will be available to Spanish-speaking men and women when trade with our Latin-American neighbors is at its peak. Remember...2, 3 or 4 persons can learn at no extra cost. 4 decks of cards and Cloth-Bound Text Book, only \$2 postpaid.

Money back if you fail to learn.

French course... identical material... also \$2.

Emmaus, Pa.
RODALE PRESS Dept. S.N.-8

