



#### QUALIFYING FOR JOBS

*This group is taking a clerical test at the D. C. Employment Center in Washington, D. C. Tremendous amounts of "paper-work" in all industrial programs require whole armies of trained white-collar workers.*

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obtain from reading. It comes from first-hand contact.

Then when the questions had been framed, they were studied by skilled workmen and foremen who criticized them and made suggestions. Other workmen answered the questions. In this last group were men with different degrees of skill from expert to apprentice. Even workers in a different but related occupation were represented. From this sieving were saved the questions which were judged to be fair and revealing and which served to differentiate clearly the skilled workers from those unacquainted with the job.

One sort of question requires a definition, but is informally worded as a workman himself might put the question: "What do you mean by building up a lead (pronounced leed)?" The bricklayer who knows his mortar will not think that this has something to do with publicity for a movie star; he will know that it means building up a section of wall. The carpenter will know that a "shore" refers to an upright brace, not to a place to go swimming.

Another type of question asks for most common methods or the best, largest, most, least, heaviest in a process. The machinist, for example, should know, when using a straddle mill cutter, what is the smallest number of cuts necessary to mill a six-sided nut.

Questions also deal with use, procedures (what do you do to —?), location, names, purposes (of tools, machines) numbers (how many? how often?). Thus an air-compressor operator must know what to use to clean the regulator. The bricklayer must be able to tell what you do to the outside of a manhole. The asbestos worker must be able to locate where the seam is run in stitching canvas covering over pipes. The blade-grader operator should know what you call the part of the roadway extending from the edge of the pavement to the inside of the ditch. The machinist must know why you do not give the tool a rake in turning brass. And the machinist must know the number of jaws in a universal chuck.

These questions are aimed to measure only the sort of information a man picks up at work on his job. They have nothing to do with his general intelligence. They are not a direct measure of his skill. And they would be useless to show whether an untrained boy has the ability to learn a particular job.

Tests for these skills and aptitudes, however, have been developed and may be used in selection in connection with the defense program. Aptitude tests are ready for 50 occupations—tests of skills for six.

*Science News Letter, August 24, 1940*

Boulder Dam expects more than a half-million visitors this year.

#### ARCHAEOLOGY—CHEMISTRY

### Photochemistry Restores Beautiful Ancient Gloss

See Front Cover

**A** GLOSSY finish that was the pride of Persian craftsmen 2,500 years ago has been applied to a plaster cast of an ancient lion's head sculpture by a few minutes of photographic "developing" at the University of Chicago. The process was used by Herbert P. Burch of the University's famous Oriental Institute.

The Institute received from its Persepolis expedition fragmentary stone scraps of lions' heads. Pieced together, the fragments formed a magnificent snarling head in a plaster cast, the archaeologists found, but the cast was a dull, light color, instead of the original shining black of the effigy in ancient Persia.

Confronted with the problem of restoring the original gleam to the head, Mr. Burch, after some experiments, hit upon the photographic process. The plaster cast was treated with silver nitrate, applied with a brush. Then it was "exposed" like a photographic plate or film, under a strong, even light.

The "bathing" process presented a difficulty, since the surface could not be touched without spoiling the appearance, but it was necessary to slosh the cast in water. A set of clamps and a metal standard provided the necessary purchase, but it took two men to "bathe" the head.

Application of developer with a brush was a final step, and the result was a hard, glossy black, as pleasing as the stone original seen by the Persians two and one-half millenniums ago.

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