PSYCHOLOGY

Chairman: W. A. KERR, Radio Corporation of America, Camden, New Jersey

Professor H. H. Remmers was elected chairman of the section for 1944.

The urgent need in industry for a more extensive psychological program: Some case histories. C. R. HEADLEE, Indiana University.—First is considered the scientific evaluation of the prospective employee with special emphasis on tests for intelligence, mechanical ability, sensory ability, particular requirements for the job, and emotional qualities.

NEXT will be the problems of adjustment to the new job and to new associations. With this is grouped the problems arising due to the extra stress of war-time and over-time. A number of cases observed and studied during a year as night doctor in RCA's Indianapolis plant will be presented. The psychological aspects will be stressed to illustrate the need for some form of psychological attention, even if it be in disguised form.

Lastly will be presented a number of cases of personality breakdown which occurred in the industrial situation. These cases were observed and studied while working with a practicing psychiatrist but are discussed from a psychological point of view.

An attempt will be made to show that even from a purely dollars and cents standpoint large industrial plants would benefit from the establishment of more complete psychological services. No consideration of the social values will be made.

An objective study of pain using the conditioned response technique. C. R. HEADLEE, Indiana University.—A very brief introduction to the subject of pain is presented including these factors: (1) *methods* which produce pain, with examples of thermal, electric, chemical and mechanical types of experimental pain; (2) *criteria* which indicate the presence of pain in such experimental situations; and (3) *modifications* of pain by various agents.

Wolff, Hardy and Goodell have described, and have used, a very adequate method of pain production and reporting in humans. From a strictly scientific viewpoint this work cannot be as completely objective as can animal experimentation. Neither can the scope of modifications be as great, e.g., excessive dosages of drugs, cutting of nervous centers, etc.

A valid animal experimental method would open up vast new fields for such research. The objection to the bulk of the work on experimental pain in animals is that their criterion of the pain experience is too variable, not being at all subject to quantitative or detailed description.

Pain is usually assumed as occurring with a "squeek" or with "muscular spasm."

My method combines two factors. First the standard shock-shock conditioned response technique, using dogs and modified after the Pavlovian laboratories. The second factor is the physiological fact that certain areas of the body are devoid of touch and warmth sense and present pain sensation only, to wit, the cornea, the mucous membranes of the nose, and the glans penis. The experimental conditions are:

1. One trial consists of two stimuli to the dog, which is confined in the conditioning apparatus in a soundproof room.

2. The two stimuli are:
   a. The **conditioned stimulus,** or learned stimulus, being a mild shock to the glans penis. (CS nature explained below.)
   b. The **unconditioned stimulus,** or direct stimulus, comes a second later and is a make-break DC shock to the left rear leg, just above the malleolus.
   c. Both are adjusted to a standard response.

3. One trial out of ten would be run with the conditioned stimulus (to the penis), alone being presented. By this means it is possible to learn how soon the animal makes the association, and gives the unconditioned response (leg flexion) to the learned, or conditioned stimulus alone.

Certain theoretical implications relative to the correlation of this use of the conditioning technique with the S-O-R interpretation will be discussed if time permits. W. N. Kellogg and myself have published earlier on one phase of this.

Psychological Research in Industrial Music and Plant Broadcasting.[1] W. A. KERR, RCA Victor Division, Camden, New Jersey.—Outlines seven major areas of psychological fact-finding in industrial music and plant broadcasting—(1) work place preference of job applicants and factory workers with reference to music, (2) music type attitudes of industrial workers, (3) voice type attitudes of industrial workers, (4) believed effects of music, (5) actual effects of different types of music on euphoria, morale, and specific subjective feelings, (6) effects of different types of music on the productive efficiency of workers doing various kinds of jobs, and (7) non-musical broadcast material. Research done by others is cited and several original studies are reported.

Some psychological devices of the United States Employment Service for use in the servicing of war industries. DOROTHY REECE, United States Employment Service, War Manpower Commission, Indianapolis.—Some specific contributions in the field of psychology of individual differences have been made by the Occupational Research Section of the War Manpower Commission's United States Employment Service in the develop-

[1] Address of the retiring chairman of the Psychology section. Complete article has since appeared in The Journal of Psychology, **17**, 243-61 (1944).

ment of devices to supplement the interview. Such devices are of two major types, first, proficiency tests designed to measure the degree of skill or the amount of knowledge possessed by an applicant, and, second, aptitude tests designed to measure the potentialities of the applicant. The development of these devices is keyed to the needs of industry and the public employment service offices by constant analysis of the labor market, industrial problems with which the Employment Service is concerned, and the requests for assistance from employers. In the development of both of these devices, standards for the interpretation of results are based on studies of the performance of employed workers in the occupation to which the test applies.

There are two types of proficiency tests, work-sample tests and sets of oral trade questions. The aptitude tests developed cover a large number of occupations or occupational groups. Proficiency tests have made it possible to utilize labor more effectively because the level of skill of the worker was determined prior to his referral to an employer. They also have aided in determining need for additional training by ascertaining the degree to which a worker was already skilled in an occupation. They have aided in matching the qualifications of available workers and the needs of employers with a minimum of lost time and effort.

The aptitude test batteries have been useful in instances where training was expensive, training time was excessive, and in jobs in which there was a great amount of turnover due to the inability to perform the job. They have also been used to aid employers in determining to which of several beginning jobs a worker should be assigned. The accurate placement of beginning workers decreases turnover, decreases training time, and aids in placing a more successful worker on the production line sooner.

These tools have been of value in solving selection and placement problems in various war industries. However, the field of development of psychological tools to aid in the evaluation of worker's qualifications and potentialities is one which offers vast opportunities for future research.

Measurement and evaluation of supervisory quality in industry. H. H. REMMERS and QUENTIN W. FILE, Purdue University.—Although conscious for some time of the need for careful selection and placement of workers, industry has only recently become conscious of the need for the proper use of similar techniques in the selection of its supervisory personnel. This paper deals with the development of the project whose purpose is to produce a valid test of industrial supervisory ability; with the problems and methods used in developing the experimental edition of this test, "How I Supervise"; with intended validation procedures; and with information already gained through preliminary analysis of the data obtained.

Copies of all materials will be made available to those present for discussion and comment. Special consideration will be given to the project's most difficult problem, that of securing a satisfactory criterion for validating the items of the test.