

PSYCHIATRY

Preventing Mental Breaks

Relieving stress factors, a system designed to lessen psychiatric casualties in the war, would contribute to the mental health of industrial workers.

► ARMY EXPERIENCE with mental breakdowns, which it is now revealed occurred at a high rate during the fighting in North Africa and Italy, may help prevent similar breakdowns in the civilian population, Dr. John W. Appel and Dr. Gilbert W. Beebe of Philadelphia, both former Army officers, report in the *Journal of the American Medical Association* (Aug. 31).

Find the cause of unbearable stress in a situation that can be changed and change it, is the essence of the Army findings that would help civilian mental health.

Their report "was without doubt one of the most important psychiatric documents in this war," Brig. Gen. William C. Menninger, director of the neuropsychiatry consultants division, Office of the Surgeon General, states in a note pre-facing it.

The Army Chief of Staff personally sent copies of the original report to Gen. Eisenhower in Europe, to Gen. Mark Clark commanding the Fifth Army in Italy, and to Gen. MacArthur in the Pacific. Gen. Eisenhower in turn had it reproduced and distributed to the headquarters of each army, division and regiment in the European theater. It was similarly widely circulated in the Pacific theater, sometimes as "required reading" for every line and medical officer of the units.

Some of its recommendations, particularly for relieving infantrymen after a set period of combat duty, were carried out in the European theater. This was adopted as official policy by the War Department in Washington in March, 1945. Prior to V-J day plans were made for its application in the final campaign against Japan. An aggregate of 120 combat days was suggested as the limit of the period of combat duty for infantrymen, after which they were to be returned to the United States for 30 days rest and recuperation with the option of base area jobs on their return.

The basis of this recommendation and others for short-term rotation to afford a few days rest for men in forward areas, for improving morale by constant reassurance from commanders on why the

men must continue to fight, and for sending replacements in small units rather than singly, came from Dr. Appel's findings at an "exhaustion center" in Italy, at casualty clearing stations and during brief experience with infantry troops during combat.

Neuropsychiatric casualty rates ran as high as 1,200 to 1,500 per 1,000 strength per year for short periods in the North African theater.

"Psychiatric casualties are as inevitable as gunshot and shrapnel wounds in warfare," Dr. Appel and Dr. Beebe declare. It is a simple fact, they explain, that "the danger of being killed or maimed imposes a strain so great that it causes men to break down."

The measures advised for preventing the loss of manpower due to psychiatric casualties were largely changes in the infantryman's environment. Knowing that he would be relieved from combat at a set time, instead of having to go on until he was injured, killed or broke mentally, made it possible for him to fight on until that time came. Rest, food, clothing, promotions, luxury articles and the like were other items of the soldier's environment important to his mental health which could be planned or arranged to help prevent breakdown.

Wages, hours, working conditions, priority rights, promotion systems, selection procedures and incentive systems similarly have a bearing on the mental health of industrial workers, the former Army officers point out. Changes in these can be made to contribute to the mental health of the population. The success of such undertakings depends on finding the stress factors that are important causes of psychiatric disorders in the population and that can be changed.

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FOOD TECHNOLOGY

Meat "Floats Through Air" In Dehydrating Process

► MEAT HAS always been a difficult problem in the relatively new food dehydration industry, primarily because those portions that come into contact

with the metal trays or wire drums of conventional drying units are likely to be "overdone." To obviate this difficulty, William A. Noel, a U. S. Department of Agriculture engineer, has invented a meat-dehydrating machine in which the particles of ground meat are blown upward in a blast of hot air and kept dancing about in contact with nothing solid at all until the drying process is complete.

Fat, tried out in liquid form during the process, finds its way into a collecting duct at the bottom and is saved separately. When the lean part of the meat is well dehydrated, it is blown into a cyclone separator, where it is whirled down to the bottom and drawn off for packing.

U. S. patent 2,406,395, issued on this machine, has been assigned to the government.

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BIOCHEMISTRY

Levulose, Fruit Sugar, Will Aid Research

► A PILOT plant in Boulder, Colo., is producing a sugar of high sweetness that won't help the rationing situation but may reveal secrets of the human body's processes. The sugar, levulose, or fructose or fruit sugar, will be available for the first time in sufficient quantities for experimental work by scientists, Dr. Carl W. Borgmann of the University of Colorado Engineering Experiment Station reported.

A simple natural sugar with potential uses in food industries, levulose is known to be important in the human body starting in early life. Scientists have previously been handicapped by lack of this sugar in research experiments.

Operated on a grant from the Sugar Research Foundation, the pilot plant here uses an ion exchange process to obtain levulose from common sugar or beet molasses.

Dr. Borgmann said that studies are now being carried on at the Michael Reese Hospital, Chicago, to find out more about the storage of levulose in the body, its use by various organs and its effect on blood lactic acid, while Dr. I. M. Rabinowitch of the Montreal General Hospital is studying the rate of absorption of levulose in the body.

Levulose with radioactive carbon 14 may be used in future studies to follow the course of the sugar through the various body organs.

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