

GENERAL SCIENCE

Servicemen Have Changed

► THE gray lady and the other Red Cross workers are the same as they were before the War, and the services they offer are the same, but the serviceman is different.

He is younger. About half a million of those who entered the service in 1948 are under 21 years old.

There are more of them. The armed forces in 1939 numbered just over a quarter of a million. Now one and two-thirds million men are under arms.

He may be located anywhere in the world. Our peacetime army before the war was located in posts within our own borders, within easy mail or travel distance from home and in constant communication with friends and families. Now the soldier may be in Europe or in Asia, thousands of miles from home where communication is difficult and slow.

Faces change. The armed forces now have a rapid turnover in personnel. About three-quarters of a million entered the services in 1948 while nearly half a million left.

The new soldier is a civilian. The peacetime army man before the war was a regular; he was a professional soldier who looked forward to a career of military service. In the main, the young man in the armed forces today is looking forward to only a temporary stay in service. He expects to go back to his community and establish himself there in business, industry or a profession.

This makes it more important than ever before to maintain the line between the soldier and his home community—a function of the Red Cross worker.

Before or during the war, the soldier took to the Red Cross worker his problems of a wife who needed money for an emergency in the home, a sick child who needed special care, an aged mother, destitute and critically ill.

Notwithstanding all that the military establishment does for the training and welfare of its personnel, today's young soldier

needs contact with someone who can help solve his personal problems. His mother at home wants to be reassured when he fails to write to her.

Many think of Red Cross services in terms of canteens that serve coffee and sandwiches and a chocolate bar to men at the point of embarkation. But this pleasant contact is only a small part of what the Red Cross does for the service man or woman. The service to the Armed Forces is the largest single activity of the American Red Cross national organization. It includes: Consultation and guidance on personal or family problems; financial assistance in the form of loans or grants to enable a man to get home in case of death or other emergency in the family; communication between servicemen and their families and answering inquiries about the location and welfare of men who haven't been heard from at home (the Red Cross has its own telecommunication system which ties together every individual in the entire organization); information about legislation and how to obtain benefits; recreation; water safety training.

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ANTHROPOLOGY

Pueblos Forced Out by War and Not Nature

► THE mysterious abandonment of the Pubelo Indian villages, in the thirteenth century in the southwestern United States, was due to war, not drought or depletion of the forests, as previously thought.

Dr. Deric O'Bryan of the Sante Fe Laboratory of Anthropology, Sante Fe, N. Mex., has concluded that marauding tribes of other Indians, who were nomads, forced the settled Pueblos to leave, finally, the fortified villages which are now archaeological and tourist wonders.

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METEOROLOGY

Air Chemically Same 42 Miles Above Earth

► THE chemical composition of air 42 miles high is exactly the same as that near the earth scientists at the University of Durham, London, England, have found.

Using samples of air collected by V-2 rockets during two successful flights, Dr. K. F. Chackett, Prof. F. A. Paneth and E. J. Wilson analyzed the gas from 42 miles, or 70 kilometers, for argon, helium, and neon.

They found no detectible difference between air at ground-level and that in the stratosphere, they report to the journal, NATURE (July 23). For various prob-

lems in meteorology and physics, it is important to know the composition of the earth's atmosphere at all heights. Direct chemical analysis is the best method of obtaining this information.

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ENGINEERING

Water Fog Effective As Fire Extinguisher

► HIGH-PRESSURE water fog fire-extinguishing systems are effective in killing "spill fires" of gasoline on a concrete test slab, it has been determined at the Army Engineer and Development Laboratories at Fort Belvoir, Va., where recent tests have just been completed. High-pressure equipment was found to be four times as effective as low-pressure units.

Water fog, a relative new-comer to the fire-fighting field, is an improvement over the traditional water spray method, Army engineers state. Fog differs from spray in the more minute size of the droplets.

In these tests the superiority of high-pressure over low-pressure fog was established, with somewhat less notable but equally significant results, at low rates of discharge. Average extinguishment time at 15 gallons per minute was 26 seconds for 1,500 pounds pressure, and 52 seconds for 100 pounds pressure.

Using high-pressure nozzles especially constructed to deliver 35 gallons of fog per minute at 1,500 pounds per square inch pressure, fire fighters succeeded in extinguishing a series of 10 test fires in an average of nine seconds. Pressures this high, however, make handling the nozzle difficult. Subsequent tests using 500 to 1,000 pounds nozzle pressure gave average extinguishing time of 13 and 10 seconds, respectively.

Principal advantage of water fog in combating fire is that of water economy, the engineers assert. This is an important consideration in military fire-fighting equipment for use where water is scarce. Used against liquid fires, fog has the added advantage of not scattering the burning fuel.

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