

GENERAL SCIENCE

Mobile Columns Planned

Blast and fire are the most serious dangers from the atom bomb. Britain plans mobile columns stationed around but outside key target areas for rescue work.

► THE MUCH-TALKED-OF atomic radiation is one of the dangers least to be feared from the atom bomb. The most serious are blast and fire, in that order. Britain is planning "mobile columns" of a new sort to meet atomic emergencies.

Efficient warning systems, based on electronic equipment demonstrated at the Royal Aircraft Establishment, Farnborough, to NATO countries recently, would enable casualties to be cut, though they would still be substantial.

Latest ideas in civil defense against the A-bomb are emphasized in a series of films about the atom bomb recently produced for Britain's Home Office.

One clear fact that emerges from Britain's research is that widescale preparations must be made beforehand, in time of peace.

A city's telephone exchanges, for example, are normally in central positions. A bomb there would paralyze communications over a wide area and interrupt trunk lines. The answer may well be the provision of peripheral cables to bypass these exchanges.

Normal city water mains, even in peacetime, are often insufficient to deal adequately with a large fire. Britain plans to supplement them with surface lines made of the new polyethylene plastic.

Emergency kitchens would be necessary in large numbers to feed at short notice the tens of thousands of bombed-out persons.

Delicate instruments will be required to ascertain the extent of any residual radioactivity and to insure the protection of personnel by measuring the amounts to which they have been individually subject. Respirators must offer protection against all foreseeable chemical and bacteriological weapons and yet, at the same time, allow the wearer maximum freedom of movement.

In all these spheres a great deal of work has already been done. In most cases apparatus of a satisfactory design has been made and is now in production on a limited scale, compatible with the many other calls on industrial effort.

One of the most difficult problems, however, lies outside the realm of mass production. It is that of formulating sound tactics and strategy to deal with serious incidents. The position was admirably stated by Maj. Gen. Stephen Irwin, chairman of Britain's Civil Defense Joint Planning Staff, when he said:

"Atomic weapons have brought no new problems that cannot be dealt with by our scientists, firemen, wardens, and doctors.

It is only when the scale of the threat is multiplied many times, when there are more fires than our firemen can deal with, when more people are trapped than our wardens can reach, and when medical services are swamped, that things become critical."

One answer is the "mobile column," the main purpose of which would be the saving of lives. On them would rest the main responsibility for extracting casualties and releasing trapped people from the devastated area.

As presently planned, these mobile columns would each comprise 860 men and women, divided into headquarters, three rescue groups and an ambulance group, each self-contained and self-sufficient, all under a single commander but able to operate independently where necessary. Essential features of such columns are that they should be flexible and yet large enough to be individually effective.

It is estimated that Britain will need something like 300 such columns stationed around but outside key target areas with a substantial number in the various regional reserves.

As an initial experiment an Experimental Mobile Column has already been formed in Britain, chiefly from service elements, and is touring the United Kingdom, taking part



LESSER PANDA—The only old-world representative of the raccoon family, this newly arrived panda can be seen at the National Zoological Park, Washington.

in various exercises and generally putting the idea to test.

Deployment of mobile columns and fire columns, which are under separate and specialist command, is complicated by the fact that, whereas conventional explosive causes buildings to crumble about their own foundations, the sustained blast of an atomic bomb pushes buildings over sideways so that they block adjoining streets.

An area two or more miles across may thus be denied to fire engines, ambulances and rescue vehicles. The only way in or out would be by climbing over a desert of smoking rubble. In such a situation good communications are absolutely vital.

United Kingdom plans would also make extensive use of radio and a number of simple, lightweight sets, ideal for the purpose, are already being used experimentally, and even operationally, by police, fire and ambulance services, thus demonstrating other aspects of civil defense organization.

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MEDICINE

Rheumatism in Old Age Is Usually Benign Type

► OLDESTERS ALMOST always get a kind of rheumatism called hypertrophic arthritis. This is a degenerative joint disease but is not the same as rheumatoid arthritis.

The hypertrophic kind is usually progressive and irreversible, but at the same time it is non-incapacitating. For this ailment in old people, physical treatment is valuable, Dr. Harold Dinken of Denver pointed out to the American Medical Association.

Because of the chronic nature of the disorder, however, every effort must be made, Dr. Dinken said, to teach the patient or some responsible member of the family how to carry out the treatment at home. This is also important from the standpoint of economics and convenience.

"Heat is indicated for the relief of pain," he said. "In most instances, superficial techniques are adequate. Hot packs, paraffin, infrared, luminous and warm tub are included in this category. Short wave diathermy or microwaves are occasionally necessary for the production of deep heat. Their use should be restricted to office or hospital and hence are not practical in a long range treatment program.

"In many patients, the presence of arteriosclerotic obliterative vascular disease (a narrowing and closing of arteries due to hardening) precludes the use of any intense heat locally. Only the mildest heat directly over the peripheral joints should be applied.

"As a rule, a light sedative massage following the heat will add to the patient's comfort. An active exercise program attempting to maintain mobility of the involved joints should round out the treatment session. Degenerative changes in certain locations may require additional techniques."

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