

## NEW WORLD

# New Hope of Comprehensive Test Ban ?

by our Washington Correspondent

THIS year marks the tenth anniversary of the signing of the treaty banning the testing of nuclear weapons in the atmosphere. It also marks the end of a decade of intensive underground testing and a decade of discussions and research concerned with extending the partial test ban to include all methods of testing nuclear weapons. But, while the governments of the United States and the Soviet Union have repeatedly reaffirmed their commitment to "seek to achieve the discontinuance of all test explosions of nuclear weapons for all time", a commitment enshrined in the preamble to the partial test ban treaty, they have not even come close to agreeing on a formula for implementing such a comprehensive agreement.

Early next week, however, a group of some two dozen senators, led by Kennedy, Mathias, Hart, Humphrey, Muskie and Case, will introduce a resolution into the Senate calling on President Nixon to set forth a new proposal for a permanent comprehensive test ban treaty. And, in the meantime, the resolution urges the President to propose a moratorium on weapons testing, to remain in effect as long as the Soviet Union also abstains from underground testing. The resolution calls for such steps because "early achievement of total nuclear test cessation would have many beneficial consequences; creating a more favourable international arms control climate; releasing resources for domestic needs . . . and complementing the ongoing strategic arms limitation talks".

Few would disagree with those sentiments, but the critical question is no longer whether or not a comprehensive test ban is desirable but whether it can be monitored and enforced with maximum assurance that it is not being breached, and without generating false alarms. That has always been the stumbling block in the path of negotiations towards such a treaty, and it will certainly become the central point in discussions on the Senate resolution.

The Administration is, however, now undertaking a fresh and important initiative to extend the theoretical basis for ensuring that a comprehensive test ban could be adequately monitored. The initiative involves improving the capabilities of some 20 seismic recording stations in the World Wide Standard Seismographic Network (WWSSN)—a network of seismographs around the world managed at present by the

National Oceanic and Atmospheric Administration—and the installation of up to three long-period seismic arrays in locations which have yet to be firmly decided. Such an upgrading of seismic recording capabilities was in fact proposed by the United States delegation to the Committee on Disarmament in Geneva last year, and planning is proceeding along the lines set out in the US working paper presented to the committee.

Upgrading of the WWSSN stations, which will be financed by the Defense Department's Advanced Research Projects Agency (ARPA), will consist of

equipping the stations with digital recording facilities, moving some to sites where they are less affected by background "noise" signals from the weather, traffic and other factors and in some cases by installing improved instrumentation. Another development will be more efficient transfer of data from the seismic stations to a storage and analysis centre in Virginia; data from some stations will be relayed by satellite to the United States. Planning is now in the final stages and the upgradings are expected to be carried out within the next few months.

The immediate objective is to pro-

### MILITARY FITNESS

## Sickle Cell Screening

by our Washington Correspondent

A COMMITTEE working under the auspices of the National Academy of Sciences has recommended that all potential recruits for the military services should be screened for sickle cell anaemia. Those who are found to have the disease should be excluded from service, but those who are found to carry only the sickle cell trait—the recessive gene mutation which generally poses little or no hazard to the carrier—should not be excluded. The committee's report, although it applies specifically to military policy, is an important statement in the growing controversy which surrounds screening policies for sickle cell anaemia.

The National Academy of Sciences was asked to draw up recommendations for the Department of Defense last year, and the chief conclusions to emerge from the resulting study are, first, that screening for sickle cell disease and for the trait should be carried out on every recruit, regardless of race; second, that it should be one part of a battery of tests for other genetic disorders; and, third, that potential risks associated with the trait are so small that there is no need to exclude carriers from any military duty except for piloting aircraft.

Federal, state and local genetic screening programmes designed to identify those who have sickle cell disease and those who carry the sickle cell trait have generated considerable controversy for several reasons. One complaint is that, since the disease is largely found among the black population, many screening programmes re-

quire the compulsory testing of blacks but not of whites. The disease and the trait can, however, show up among whites—particularly those of Mediterranean origin—and such screening programmes have been criticized on racialist grounds. Another common complaint is that, although possession of the trait involves little or no hazard to the carrier, those who show up positive in the tests are being discriminated against, for example, in paying higher insurance premiums. Finally, it is often argued that, since the chief reason for screening for the sickle cell trait is to advise couples on the risks associated with having children, it serves little purpose to tell a child that he or she carries the trait.

Many of these considerations have been brought sharply into focus by a recent report on four military recruits who died during training at high altitudes for no apparent reason. Each was, however, subsequently found to be a carrier, and possession of the sickle cell trait has thus been implicated in their deaths. But the NAS committee found that the evidence to link possession of sickle cell trait with sudden death is entirely circumstantial. According to Dr Robert F. Murray, chairman of the committee, "it is guilt by association", and the report suggests that "there must be other, yet unknown contributory factors, not necessarily related to the sickle cell trait, that make some persons susceptible to collapse and/or sudden death". For this reason, the committee recommends that sickle cell trait carriers should be excluded only from serving as pilots, where they may be subjected to low pressure or other unusual conditions. But the committee also acknowledges that this recommendation is conservative.