R87. 101
17 SEP 1955

Age 17. 9. '55.

ATOMIC BOMB TESTS PAY GOOD DIVIDENDS

THE recent announcement by the Minister for Supply, Mr. Beale, of two series of atomic weapon tests to be held in 1956, the first at Monte Bello Islands and the second at the land site Marilinga (S.A.), emphasises again the vital importance of these weapons in the defence plans of the western world.

Atomic weapons are often thought of as being frightful or immoral and it is not always realised that the development of them has had highly beneficial effects.

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THIS sounds surprising, but the growth of the stockpile of fission and hydrogen bombs in the Western world has become a powerful deterrent to a potential aggressor.

The knowledge of the frightful vengeance which could be wreaked against him should he strike the irrevocable blow will certainly stay a hasty hand.

Appreciation of the position by Russian leaders may well be the reason for the recent more conciliatory attitude which they are showing in international affairs.

There is no doubt that, as Sir Winston Churchill said at the time, possession of stockpiles of atomic weapons by the Western Powers at the time of the Berlin blockade saved Europe from being overrun by Russian armies.

In this sense, atomic weapons can be regarded as preventing war and saving human lives, and are therefore of great benefit to humanity.

As Sir Winston Churchill put it, in language few could match, "It may well be that we shall, by a process of sublime irony, have reached a stage in this story where safety will be the sturdy child of terror and survival the twin brother of annihilation."

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WITH the tension in international matters considerably less acute than it has been for a very long time, the question has been asked "is it necessary to continue atomic weapon tests."

The short answer to this, from the political point of view, is that Western atomic capability has been the one factor offsetting the numerical military superiority of the Soviet bloc.

Until satisfactory international agreement on disarmament for weapons of all types, atomic and hydrogen included, with adequate safeguards of inspection and policing have been implemented, our very freedom and survival depends on adequate preparation.

In short, although tension has been eased and Soviet policy has a "new look," none of the fundamental problems has been solved and weapon research must go forward. Once this is conceded, it is clear that there must be weapon experiments from time to time.

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TWO main types of test are then necessary.

First, tests of weapons from the stockpile—this is required just as tennis balls or aeroplanes have to be tested and such explosions have value in that they can give experience both to military and civil defence personnel of weapon effects, so enabling defensive measures to be worked out.

The second class of tests is perhaps the more important.

The design of new weapons can be taken a considerable way in the laboratory, both by experimental and theoretical methods, but in the end a test is essential to prove the correctness (or otherwise) of the new ideas.

The difficulty arises from the fact that once the nuclear reaction starts the temperature inside the bomb rises to more than one million deg. centigrade, while the pressure rises to hundreds of thousands of atmospheres.

Now, on earth, we have no experience of such high temperatures and pressures and do not know precisely how matter behaves under such conditions.

The only way to find out with certainty is through a weapons test, and such experiments therefore must continue.

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ATTEMPTS have been made in the past, and probably will be continued in the future, to enlist opinion against the holding of weapon tests.

The suggestions are made that these are spoiling the weather or are leading to genetic changes in the world population which will result in numerous abnormalities of birth—the birth of ill-adapted individuals and "monsters."

The loud speakers are usually tuned in to the particular wave band which demands that British and American tests be halted — the Russian tests are usually exempt.

In actual fact the best observational evidence available, and the overwhelming opinion of meteorologists, is that atomic explosions occurring anywhere on earth can have no significant effect on the weather at more than a few miles from the test site.

In the matter of biological and genetic hazards, careful measurements of the level of radioactive contamination at the earth's surface due to all the nuclear bomb explosions to date is so low that it gives no cause for anxiety.

In fact, Sir John Cockcroft, director of the British Atomic Energy Research Establishment, Harwell, where detailed measurements have been made, stated to the Parliamentary and Scientific Committee of the British Houses of Parliament, that the extra contamination is roughly 1000 times less than the natural dose we all get from the cosmic radiation and from the radioactivity in the ground and in our bodies.

Actually, it it easy to calculate that for bombs of the size which are to be exploded in the forthcoming tests in Australia, it would be necessary to fire nearly half a million, all at the same time, before the radioactivity would become biologically significant, except in the immediate vicinity of the test site.

The cloud over Woomera . . . ten minutes after the test explosion this radioactive cloud was spreading out and drifting across the rising sun.

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IT will be seen, therefore, that there is no danger in Australia from these tests.

They are, in fact, carried out under highly controlled conditions, and present less hazard than those we accept normally, such as flying in an aeroplane or crossing a busy street.

However, if all-out nuclear warfare ever occurred, with many large bombs exploded all over the world in a short space of time, then the survivors of such a catastrophe, partisans and neutrals alike, might well face serious long-term genetic difficulties.

In the face of such a frightful possibility, all rational men will subscribe to the view that mankind can no longer afford to settle differences by war; atomic and hydrogen bombs have rendered war an obsolete conception.

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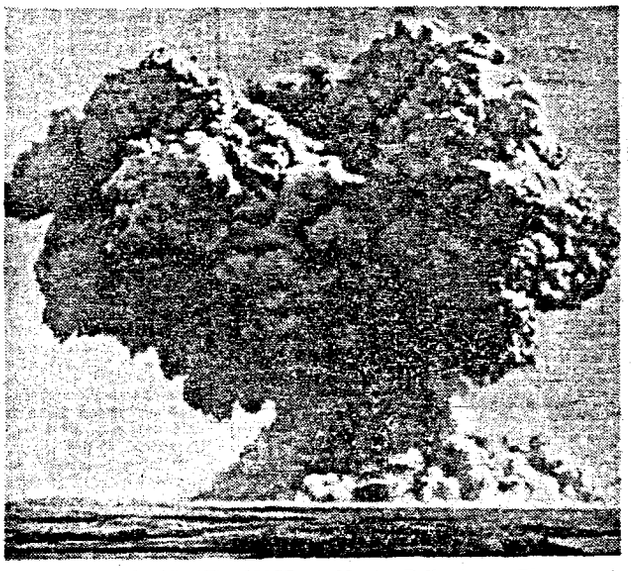

THE SEETHING CLOUD MASS at Monte Bello . . . The atomic explosion vaporised the 1450-ton frigate, H.M.S. Plym, on which it took place.

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