

World War II ended with the atomic bomb established as a weapon which stood in a class by itself. Even the earlier models used at Hiroshima and Nagasaki represented a concentration of explosive power some 5,000 to 10,000 times greater than anything which could previously be carried in a single aircraft. By reason of continuing large-scale research, principally in the United States, it is only reasonable to expect that this factor has since been increased substantially.

While these new atomic weapons have this vast power, yet they are only fully effective when used in a surprise attack on concentrated targets. It would not be efficient to use atomic bombs against an army deployed in the field or against a naval force in open battle order. They do not therefore replace conventional armaments by land and sea and the usual vehicles and mechanisms of war continue in their relative importance. Atomic bombs are not an absolute weapon in the sense that their employment by themselves could be expected to win a war. They are a formidable power for destruction which is added to other existing measures, not a new weapon which replaces something else.

The circumstances in which the effects of atomic bombs is to be most feared is when unsuspecting people are concentrated in great cities, when harbours are congested with unwarmed shipping and in manufacturing areas before measures can be taken to disperse important large industries. In consequence what we have most to dread is the secret accumulation in hostile hands of stocks of atomic bombs. Because of the vast power of the atomic weapon even a small stock is a very great menace and now that the U.S.S.R. has been able to produce a nuclear explosion, there will be ever-increasing anxiety. By this I do not mean that ability to wage atomic war follows closely on the incident of a first nuclear explosion or that our technical leadership has been overtaken but I do say that the situation is such that we must continue to bend every effort towards reaching agreement for the creation of safeguards and international controls which will give certainty to the universal enforcement of the prohibition of atomic energy for destructive purposes.

Unfortunately it seems that in the current phase of world development that every improvement in rapidity of communication and movement has served not to promote agreement and accord between nations but to accentuate differences and sharpen disputes. Time and space have largely lost their attenuating effects on the conduct of military operations and this is particularly so in regard to the surprise use of weapons of vast and concentrated power such as the atomic bomb. This is all the more reason why we must press forward patiently and persistently in the fuller organization of the United Nations.

Atomic energy is not just another military weapon. It has a dual character. On the one hand there are its potentialities for cataclysmic destruction -- on the other the almost limitless possibilities for beneficent peaceful uses through which the frontiers of knowledge may be pressed back and the vistas of human understanding widened in most remarkable fashion. These visions intrigue the imagination and everyone would be very happy to facilitate this search for new knowledge by contributing the information and the help which they may have available. But, unfortunately, as matters stand, it is not in all fields that there is freedom to give or to use information, nor can this be so because