

Black Lesson of the Atom Bomb: Its Awful Fury Kills Even Hope

The Senate special committee on atomic energy had heard both the pros and cons on atomic-energy control. Last week it heard another kind of testimony—a terrifying eyewitness account by Dr. Philip Morrison, nuclear physicist of the Los Alamos, N. M., atomic-bomb laboratory, of the bomb's effects on Hiroshima. Most newspapers overlooked Dr. Morrison in the rush of coincident testimony from the Pearl Harbor and Hurley charge inquiries. With the Big Three foreign ministers again face to face with the atomic peace (see page 44) NEWSWEEK considers Dr. Morrison's account of such transcendent importance as to justify the following textual quotations:



Dr. Morrison: The atomic bomb is a weapon of saturation. It destroys so quickly and so completely such a large area that defense is hopeless. Leadership and organization are gone. Key personnel are killed. With the fire stations wrecked and firemen burned, how control a thousand fires? With the doctors dead and the hospitals smashed, how treat a quarter of a million injured?

There is one more novelty. A Japanese official stood in the rubble and said to us: "All this from one bomb; it is unendurable." We learned what he meant. The cities of all Japan had been put to flame by the great flights of B-29s from the Marianas. But at least there was warning, and a sense of temporary safety. The thousand-bomber raids were not concealed; they even formed a pattern of action which the war-wise Japanese could count on. But every hour of every day above any Japanese city there might be one American plane. And one bomber could now destroy a city. The alert would be sounded day and night. Even if the raiders were over Fukuoka, you in Sendai, a thousand miles north, must still fear death from a single plane. This is unendurable.

The Sun Death: When the bomb is detonated in the middle of a city, it is as though a small piece of the sun has been instantly created. There is formed what we have called the ball of fire, which is a hot, glowing mass something about one-third of a mile across, with a temperature of about 4,000,000 degrees Fahrenheit in the center of it. The effects from this small sun are as you would expect. There is a sudden creation and expansion which pushes away, with terrible violence, the air that once occupied this region.

This air, shocked into motion, as we say, moves just like a blast wave from a great explosion of TNT . . . Behind the wave of pressure, which travels rapidly through the air, there come great winds, 500 to 1,000 miles per hour, winds which damage and destroy all structures.

There is not only the concentrated heat which you would expect from being close to the sun, there is also a great amount of radiation, like the radiation used by doctors, like the X-ray radiation used for the treatment of cancer. This radiation is very penetrating. There is no protection behind a foot of concrete, for example.

The damage done is not easy to realize. Houses and buildings for a mile in all directions are totally destroyed. A good deal of comment has been attracted by the ferro-concrete structures whose walls still stand. These are very strong buildings. But they too are useless. I have been in these buildings. The interior walls are down, the roofs are collapsed, the furniture battered, plumbing fixtures and heavy machinery overturned. Brick buildings, and even steel-frame buildings with brick walls, are extremely vulnerable.

Sen. Eugene D. Millikin: What is a hurricane wind?

Dr. Morrison: About 120 miles an hour.

The Bleeding Death: *Dr. Morrison, continuing:* Of these people within a thousand yards of the blast, about one in every house or two escaped death from blast or from burn. By chance these people were screened from the heat of the bomb by some object too light or too strong to kill them by falling upon them. Many literally crawled out of the wreck of their homes relatively uninjured. But they died anyway from a further effect, the effects of radium-like rays emitted in great number from the bomb at the instant of the explosion. This radiation affects the blood-forming tissues in the bone marrow, and the whole function of the blood is impaired. The blood does not coagulate but oozes in many spots through the unbroken skin, and internally seeps into the cavities of the body.

The Chairman: You mean the skin would be absolutely normal and yet the blood would be coming through?

Dr. Morrison: Yes. There might be a slight burn on the skin, but it was not essential. The white corpuscles which

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fight infection disappear. Infection prospers and the patient dies, usually two or three weeks after the exposure.

. . . Like all nuclear physicists, I have studied this disease a little. It is a hazard of our profession. With the atomic bomb, it became epidemic.

