



HIROSHIMA under the Bomb — this Japanese news-photograph, showing the storm of flame and radio-activity that swept over the city, was taken a few moments after the atom bomb fell

WHEN THE BOMB EXPLODES

WHAT happens when an atomic bomb explodes? Much information has been gathered on this question in the years since this weapon was used against Japan. Experts have looked at the damage at Hiroshima and Nagasaki and have drawn further conclusions from the experimental explosions since the war. About a year ago Sir George Thomson told BBC listeners some of the facts that could be stated about the

effects of the bomb. His talk (read by Barry Cookson) is now to be broadcast in New Zealand—in the first place from 2YA at 8.25 p.m. on Monday, March 24.

Sir George called his talk *The Effects of Atomic Weapons*. The "atomic weapons" he discussed were in fact mainly the bombs made from Uranium 235, used at Hiroshima; and Plutonium, used at Nagasaki. (He had a word to say about the possible use of a by-product of Plutonium as radio-active dust, but he doesn't think this is a very promising

weapon.) It is possible, even probable, he said, that the power of future bombs may increase, but "a great increase in power is rather unlikely, unless indeed one were to go to something entirely different such as the so-called hydrogen bomb which still seems a good way off." The "effects" he discussed were mainly the effects of atomic bombs on cities, though he prefaced what he had to say with the reminder that attack on cities is not the only way in which the bomb might be used, and if used at all it would not necessarily be

used in this way. Later he stated his own views even more strongly. "I do not," he said, replying to critics of his talk in the BBC *Listener*, "regard the indiscriminate bombing of cities as the right way to use this or any other bomb."

The talk is notable for a very simple, clear explanation of "the physics of the thing"—just what happens in an atomic bomb. Then Sir George goes on to examine the various effects of exploding a bomb fairly high in the air, as was done

at Hiroshima and Nagasaki. We are told of the ball of fire reaching a maximum radius of about 450 feet and lasting for about three seconds (the parent of the famous mushroom cloud). of the blast ("the actual pressure lasts for about a second which is an enormous time for a blast pressure"), and the suction (which lasts longer still) — and what sort of damage they're likely to do. Then comes an account of flash burns from the ball of fire ("the most far-reaching of all the effects" but for humans "the easiest to guard against"), the fire danger ("the most serious . . . the hardest to guard against"), and radio-activity (of the three main dangers, "I think . . . the least to be feared"). The sort of structures that might give protection from the bomb are examined, and the effects from bombs exploded high in the air and close to the ground, under the sea and under the ground, are compared.

Sir George Thomson, who had earlier talked to BBC Third Programme listeners about the hydrogen bomb, is an important figure in his own field. His talk is based, in part at least, on a report prepared for the U.S. Department of Defence and the U.S. Atomic Energy Commission, designed for use by people planning civil defence. His own special claims to authority include his tenure of the chair of Physics at the Imperial College of Science, the Nobel Prize for Physics in 1937 and selection in 1946-47 as scientific adviser to the British delegation at the United Nations Atomic Energy Commission. It will interest many people also to know that he is the son of the late Sir J. J. Thomson, O.M., a physicist whose research laboratory at Cambridge once attracted workers from many countries.

ST. PATRICK'S DAY

Pipe Music for the Irish

ON March 17, St. Patrick's Day, "the day for the wearing of the green," most radio stations in New Zealand will provide special programmes, and of these 2ZB's 8.45 p.m. programme of music by Harry Tohill's Irish Ceilidhe Band is probably the most unusual. The only band of its type in Wellington—possibly the only one in New Zealand—Mr. Tohill's Ceilidhe group consists of two Uilleann pipes, two fiddles and a set of drums. Like flying a helicopter or operating a one-man band, playing the Irish Uilleann bag-pipe represents a peak of human dexterity and exertion, since it demands, for normal playing, the simultaneous use of both arms, one knee, a wrist and all fingers. Each instrument consists of a chanter, tenor, baritone and bass regulators, three corresponding drones, bellows and bag. Unfortunately, 2ZB audiences will only be able to listen to the band on this occasion of its first public performance, and they will, therefore, have to forgo the diversion of watching a piper keep the bag inflated by the bellows, finger the stops on the chanter, manoeuvre the wrist to operate the three banks of keys on the regulators, and work the knee to open and close the terminal stop of the chanter. But the picture on this week's cover does at least show what the installation looks like. Back in Ireland the Uilleann pipes

are still in use at country dances, competitions and national dancing meetings, and despite the difficulty of playing them they have shown recent signs of growing popularity.

The music of Ireland is also featured in programmes from 1YA, at 8.0 p.m. on March 17; 2XA, 8.45 p.m.; 4YA, 7.45 p.m.; 1YZ, 6.45 p.m.; 3YZ, 4.12 p.m.; 4YZ, 9.35 a.m. and 5.30 p.m.; 1XH, 1.0 p.m.; and 2XN, 8.45 p.m. At 9.15 p.m. 1XN will present a programme of classical Irish themes, *Irish Suite* by Rosenthal, *Keltic Lament* by Foulds, *Celtic Symphony for Harp and String Orchestra* by Bantock. An Irish National Concert, to be held in the Christchurch Civic Theatre, will be broadcast by 3YA at 8.0 p.m. and at 9.44 p.m. 3YC will present *The Minstrel Boy*, an NZBS production commemorating the death, in 1852, of the Irish lyricist and poet, Thomas Moore. This programme, which was written by Canon A. H. Acheson, includes songs Moore added to the wealth of Irish music. The BBC feature *For St. Patrick's Day*, will be heard from 2YA at 8.15 p.m., 1YA at 10.30 a.m., 3YC at 9.30 p.m. and 4YA at 7.30 p.m. Produced in the BBC studios at Belfast, this programme includes verse and songs with accompaniment provided by a harpist and Charles Kelly's Ceilidhe Band. Another BBC feature is *Portrait*

of Aran, which will be heard from 1YC at 10.0 p.m. The recordings for *Portrait of Aran* were made by a BBC team which visited the remote island off the west coast of Ireland with the late Robert Flaherty, who made the remarkable documentary film *Man of Aran*. Interviews with local inhabitants are included, along with "ceilidhe" music and

the strange "mouth music" which the Aran people call "casadh port."

These are some of the programmes to be heard by New Zealand listeners on St. Patrick's Day when unpractised tongues will grapple again for a short while with the brogue, and every Irishman will remember afresh that other green land from which he came.



N.P.S. photograph

HARRY TOHILL (left) and his Irish Ceilidhe Band