

# OPPENHEIMER AND THE ATOM

THE voice of the most controversial figure in U.S. science—Professor J. Robert Oppenheimer—will be heard in the BBC Reith Lectures series which starts at all YC stations next week.

ONE of the great personal tragedies of this century was the decision made by a United States security board last June that J. Robert Oppenheimer, perhaps the most brilliant scientist of his generation and the man who directed the creation of the world's first atomic bomb a decade ago, should be declared a security risk and denied access to classified information. Although Oppenheimer would be able to continue as Director of the Institute for Advanced Study at Princeton, New Jersey, his career as a great public figure and scientific adviser to the Government was thus brought to an end.

A few months before this decision was made, Professor Oppenheimer visited Britain and gave the sixth annual series of Reith Lectures over the BBC's Home Service. His title was *Science and the Common Understanding*. Transcriptions of these talks have been received by the NZBS, and they will be broadcast in coming weeks from the YC stations, starting from 1YC and 3YC at 8.0 p.m. on Monday, August

(continued from previous page)

cascade down jagged cliffs in *The Force of Destiny*. *La Bohème* transports the audience to the congested, exciting sidewalk cafes of Montmartre, alive with beggars, dogs, cats, and performing artists. In *Rigoletto*, the villainous duke sings the poignant "La Donna è Mobile" while a tornado of lightning, thunder and racing clouds breaks about the sinister inn. Much of the spectacular effect is accomplished by skilled lighting from behind an outside screen which forms the stage backdrop.

Leaving aside the professional performers, Caracalla is a fascinating show in itself. In the audience one is liable to be surrounded by a local band of enthusiastic hot-bloods, downing deep draughts of wine from bottles parked under seats. When they cry "bis," in long drawn-out hisses, it's no mark of disapproval, but a demand for an encore of a beloved aria. It's especially good fun to go in the cheaper seats for "local colour," for the passion for opera in Italy is by no means confined to the highbrows. Even the humblest Italian adores his opera, and you may well sit next to an amateur Caruso who is carried away during his favourite lyric into helping out the professional hero. But let a noisy spectator break the mood of a favourite scene, and black eyes start flashing and furious shouts of disapproval soon silence the offender. You are, of course, just as likely to be beside a tourist from Invercargill or Istanbul, such a great attraction has Caracalla opera become to visitors the world over.

The tickets cost the equivalent of from 2/3, New Zealand money, for good back seats, to £1/10/- for cushioned front orchestral stalls. The programme for the rest of the 1954 summer includes such favourites as Puccini's *Turandot*, *Tosca*, and *La Bohème*, Verdi's *Rigoletto* and *Nabucco*, and Bizet's ever-popular *Carmen*.

N.Z. LISTENER, AUGUST 20, 1954.

23, from 2YC at 8.15 p.m. on Thursday, August 26, and from 4YC at 9.31 p.m. on Saturday, August 28.

In its report the security board commended Oppenheimer's deep devotion to his country and his high degree of discretion. But it also revealed that in 1949, when he was Chairman of the Atomic Energy Commission, he had "strongly opposed the development of the hydrogen bomb on moral grounds," and had said in writing that "the superbomb should never be produced." Although there were also other factors involved, this was made one of the major reasons for the board's decision, because "the security interests of the U.S. were affected."

As the man who made possible the release of the immense destructive

power of the atom bomb, Oppenheimer is in a unique position to appreciate the moral issues involved in carrying out such scientific work. More than any other person he must be aware of the dilemma of the scientist in his relations with humanity as a whole, when the products of his research have such power for general good or evil.

In his talks on *Science and the Common Understanding*, he expresses his conviction that modern science is in a large sense the concern of everyman. He deals in detail with the impact of some scientific discoveries on

the intellectual, cultural, and spiritual life of our times, beginning with a historical survey from the days of Newton. In his final talk he suggests how we can help to resolve the contemporary conflict between the great proliferation of specialised knowledge on the one hand and, on the other, the need for some community of understanding if civilisation is to endure.

His first talk, "Newton: the Path of Light," describes the effect of Newton's discoveries on the philosophical thought of succeeding centuries. The second talk, "Science as Action" Rutherford's

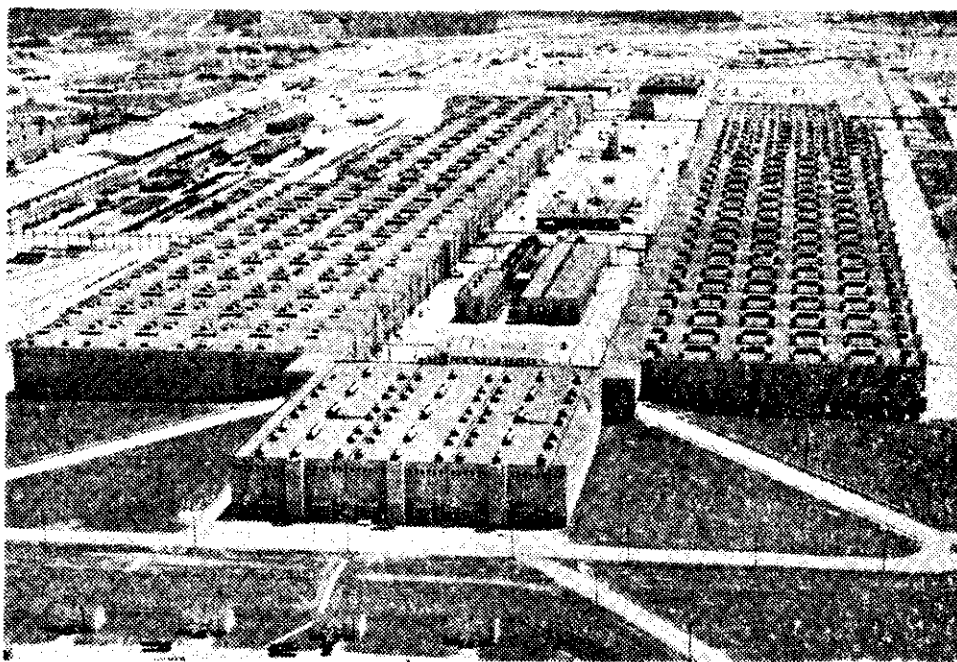
World," deals with the discovery of the properties of atomic systems. His third talk, "Science in Change," describes developments after Rutherford and Bohr put forward their ideas on atomic structure a generation ago. The subject of his fourth talk is "Atom and Void in the Third Millennium," and of his fifth, "Uncommon Sense."

In his final talk, "The Sciences and Man's Community," he moves from the subject of atomic theory to a broad view of science as a whole and what he calls "the illusion of universal knowledge," leading up to the relations of the scientist to society. Perhaps his most important statement is made in the second-to-last paragraph of this last talk:

We regard it as proper and just that the patronage of science by society is in large measure based on the increased power which knowledge gives. If we are anxious that the power so given and so obtained be used with wisdom and with love of humanity, that is an anxiety we share with almost everyone. But we also know how little of the deep new knowledge which has altered the face of the world, which has changed—and increasingly and ever more profoundly—must change—man's views of the world, resulted from a quest for practical ends or an interest in exercising the power that knowledge gives. For most of us, in most of those moments when we were most free of corruption, it has been the beauty of the world of nature and the strange and compelling harmony of its order, that has sustained, inspired and led us. That also is as it should be. And if the forms in which society provides and exercises its patronage leave these incentives strong and secure, new knowledge will never stop as long as there are men.



OPPENHEIMER and Einstein photographed at the Institute for Advanced Study at Princeton, New Jersey. The former's work as Director of the Institute is unaffected by the recent decision of the Atomic Energy Commission's Security Board



URANIUM PRODUCTION PLANT AT OAK RIDGE

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