

GENERAL SCIENCE

Scientists Hope for Oppenheimer Clearance

► THE NATION'S scientists will feel much better about doing scientific work for the Atomic Energy Commission if the five commissioners overturn a special security board's two-to-one finding against Dr. J. Robert Oppenheimer and restore his access to top secret atomic information.

They are now most appalled by the contention that Oppenheimer should have given his enthusiastic support to the hydrogen bomb program. Most scientists believe that government advisers, whether or not they are scientists, must be free to express their honest opinions without fear of attacks made later on the basis of hindsight.

Reading the 992-page transcript of testimony taken by the special security board confirms what many scientists had feared: the charges against Oppenheimer are his activities and associations of more than ten years ago, several times previously evaluated, and officially expressed opinions and recommendations concerning the H-bomb program.

Most scientists see grave consequences to this country by the injection into a security case of Oppenheimer's alleged lack of "enthusiasm" for all-out H-bomb development. They point out that a stifling of new scientific developments upon which the future security of our country must be based could result from barring Oppenheimer's access to atomic secrets on such a basis.

These scientists reason that if government advisers must be enthusiastic, advice would soon be coming only from enthusiastic "yes-men," and men of independent minds would be eliminated from government councils.

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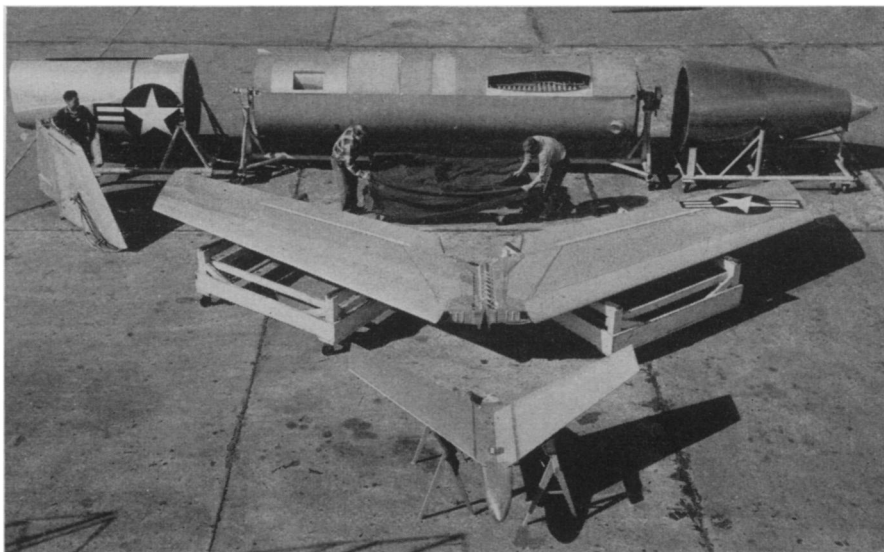
Communism Is Modern Tyranny—Oppenheimer

► "IT IS a cruel and humorless sort of pun that so powerful a present form of modern tyranny should call itself by the very name of a belief in community, by a word 'communism' which in other times evoked memories of villages and village inns and of artisans concerting their skills, and of men of learning content with anonymity."

Dr. J. Robert Oppenheimer, director of the Institute for Advanced Study and center of controversy over his AEC clearance, thus comments upon communism in the book, "Science and the Common Understanding" (see p. 410), containing lectures that he gave last year in England.

"It is true that none of us will know very much," Dr. Oppenheimer writes, "and most of us will see the end of our days without understanding in all its detail and beauty the wonders uncovered even in a single branch of a single science."

"Most of us will not even know, as a



INTERCHANGEABLE SECTIONS FOR MATADOR—This photograph shows the assemblies in which the USAF B-61 Martin Matador is now being manufactured. The seven interchangeable components are weatherproofed and crated for assembly and later use, eliminating the final assembly line operation.

member of any intimate circle, anyone who has such knowledge; but it is also true that, although we are sure not to know everything and rather likely not to know very much, we can know anything that is known to man, and may, with luck and sweat, even find out some things that have not before been known to him.

"This open access to knowledge, these unlocked doors and signs of welcome, are a mark of a freedom as fundamental as any. They give a freedom to resolve difference by converse, and, where converse does not unite, to let tolerance compose diversity. This would appear to be a freedom barely compatible with modern political tyranny. The multitude of communities, the free association for converse or for common purpose, are acts of creation. It is not merely that without them the individual is the poorer; without them a part of human life, not more nor less fundamental than the individual, is foreclosed."

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TECHNOLOGY

Zirconium Powder Gives Fourth of July Effect

See Front Cover

► NOT A Fourth of July sparkler, but a scientific experiment is the cause of the brilliant flash of light shown on the cover of this week's SCIENCE NEWS LETTER.

In a scientific experiment, Bob Anderson, a General Electric research engineer, is burning a zirconium metal powder, used in most flashbulbs to ignite the shredded aluminum foil. The flying sparks are so tiny that they are harmless to the engineer.

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AERONAUTICS

Now You Can Assemble Your Own Guided Missile

► THE B-61 Matador guided missile is now on an assemble-it-yourself basis, but you will have to join the Air Force before you can have a shot at putting this supersonic puzzle together.

Packaged for shipment in seven wooden crates, the ground-to-ground flying weapon achieves for the first time one of the aircraft industry's fondest goals: interchangeable sections.

It is no longer necessary for a complete missile to be assembled in the Glenn L. Martin plant, then wrapped in a bulky package and shipped to its destination. The interchangeable sections permit elimination of much custom tailoring. A tail section that fits a B-61 with Serial No. 1000 will also fit a missile bearing Serial No. 1274.

The easy-to-store sections can be left crated until they are needed, then assembled just before the weapon is launched.

The seven interchangeable sections of the missile are its nose, wing, center, aft tail, fin and bullet fairing stabilizer and its instrumentation.

The Matador is the first pilotless ground-to-ground missile to be sent overseas for duty. Currently the Matadors are in Germany. The first of two pilotless bomber squadrons has completed its training at the Missile Test Center at Cocoa, Fla., and now is in Europe.

Under the power of its turbojet engine, the Matador streaks along at speeds comparable to the Air Force's latest jet fighter planes. When it dives on its target, it cracks the sonic barrier.

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