

Essays in ambiguity and ambivalence

The Swift Years:

The Robert Oppenheimer Story

By Peter Michelmores

273 pp. Dodd, Mead, New York, 1969. \$6.95

The Oppenheimer Case: Security on Trial

By Philip M. Stern

591 pp. Harper & Row, New York, 1969. \$10.00

Reviewed by SANFORD A. LAKOFF

The Oppenheimer case was one of those rare, historic occasions when a trial becomes an inquiry not only into the defendant's guilt but also into society's assumptions of innocence. Not surprisingly, the case continues to be examined and debated. Peter Michelmores, an Australian journalist, has written a book about Oppenheimer and his times that falls somewhere pleasantly midway between art and dry historical study. The result is a comparatively short book that is enjoyable to read and that also contains, as a bonus, a fascinating set of photographs. Michelmores's sympathetic portrait serves as a useful balance to Nuel P. Davis's more acerbic rendering, about which Frank Oppenheimer has understandably complained (*PHYSICS TODAY*, February 1969, page 77).

Whatever argument there may be about the importance of Oppenheimer's contributions to physics, there can be no doubt that he had the gifts of a great teacher. But what manner of man was he? Davis has contended that behind the studied complexity of his seminar-style prose, Oppenheimer was essentially simpleminded. Michelmores shows convincingly that experience and reflection led Oppenheimer into inner conflicts that left him uneasy with himself and his social role. This inner tension helps account for his fascination with Indian mystic poetry and for some of the hostility he encountered among people incapable of understanding that ambiguity and ambivalence are facts of life for intellectuals.

Much of his inner conflict concerned the morality of science. Although he had been raised in Ethical

Culture to believe that evil was not inherent in the human condition, he was forced to admit that in the very achievement he and other scientists were so proud of having accomplished, "we have made an evil thing" and "tasted sin." More than once he insisted that "knowledge is a good in itself, knowledge and such power as must come with it." But he obviously had qualms about this single-minded faith in the scientific vocation when he blurted out to President Truman that he felt as though he had blood on his hands. (The man from Missouri had no patience with such "bellyaching" and told Dean Acheson never to bring that scientist around again.) In 1949, Oppenheimer chaired the General Advisory Committee of the Atomic Energy Commission that decided to recommend against a crash program to develop a thermonuclear bomb, citing moral and political as well as technical reasons in support of its position. A year and a half later, after Edward Teller and Stanislaw Ulam showed that the bomb was theoretically feasible, he withdrew all his earlier objections, explaining afterward that "when you see something that is technically sweet, you go ahead and do it and you argue about what to do about it only after you have had your technical success."

Sometimes, Oppenheimer's ambivalence seemed to betray almost a Freudian urge to self-destruction. Although he was, by all accounts, a man of extraordinarily persuasive power (as he proved when he charmed even the House UnAmerican Activities Committee), in his security hearing he sometimes appeared totally at a loss to defend himself. It was as though he craved the prosecutor's every trap and was anxious to acknowledge that he had been—as he said in answer to a critical question—"an idiot," even when he might have instead given a reasonable account of his actions. Michelmores's hagiographic attitude leads him to avoid this and other equally troubling aspects of Oppenheimer's contradictory character. He notes, for example, that Oppenheimer was



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J. ROBERT OPPENHEIMER at California Institute of Technology in 1935 with P.A.M. Dirac (left) and Robert Millikan. (From *The Swift Years*.)

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"never polite to fools" (page 162), but fails to add that sometimes Oppenheimer *made* fools of those who disagreed with him. Nor is this a minor matter. Some of those who Oppenheimer alienated by this behavior became his bitter enemies and eventually helped pull him off his pedestal. Like a character in a Greek tragedy, Oppenheimer was to some extent a victim of his own hubris. Nor was this his only tragic flaw. To those who admire Oppenheimer for his humanity and his integrity, it must indeed be embarrassing (as Philip Stern points out) to learn that when he was asked by a security officer if he would be willing to use his contacts to "get information about who is and who isn't a member of the [Communist] party," Oppenheimer indicated that he might be agreeable, provided he did not have to put his reports in writing.

Micheltmore commits an unpardonable sin—at the very least of omission—when he claims that Oppenheimer actually did Haakon Chevalier a service by implicating him as an intermediary in an espionage probe. As a result, Micheltmore claims, Chevalier was "freed . . . to concentrate on his writing and teaching, which he did happily and with some success until the war's end" (page 97). The reader might surmise that Chevalier had no cause to complain. In fact, however, Chevalier has written that because Oppenheimer made a "fantastic lie" out of the incident, he was denied a university promotion recommended by his department, refused a US passport, harassed by witch-hunting committees and the press, and in general oppressed by a "series of frustrations," always because of some mysterious reason that only became fully clear to him when the transcript of the Oppenheimer hearings became public (*Oppenheimer*. By H. Chevalier. Braziller, New York, 1965).

It is possible that Chevalier might have encountered these difficulties in any case because of his radical beliefs and associations, but this is no excuse for glossing over the harm Oppen-

heimer may have done his friend or for crediting him with an act of benevolence.

Stern, whose account is based upon a prodigious job of research, points out that the evidence is inconclusive with respect to Oppenheimer's motives in the celebrated incident. Was he trying, as he claimed, to protect the innocent Chevalier, while calling the attention of the security people to a man who might well have been involved in an espionage attempt, the chemist George Eltenton? (If so, why did he wait eight months before reporting the incident?) Was he trying to protect someone other than Chevalier—his brother, perhaps (as General Groves suspected)? Or was he hoping to get the security investigators off his own trail by appearing to be cooperative and diverting their attention from the project itself?

Stern is commendably alive to the puzzles in Oppenheimer's character and conduct, even though his book is more a study of the Oppenheimer case than of Oppenheimer himself. Stern's major concern is with the "security system"—the way in which the government supposedly protects itself against subversion and espionage from within. Although the glaring deficiencies and injustices of this system were exposed more fully in the Oppenheimer case than in any other, Stern notes, the system continues to function unaltered despite this exposure. To examine the Oppenheimer case is therefore not simply to relive an embarrassing chapter in American history, but to ponder the real possi-

bility of its recurrence. Suppose the debate over the ABM were to result in a decision to concentrate on negotiating arms control agreements with the Russians while imposing a unilateral moratorium on our own research. Suppose further that the Russians were afterward found to have used negotiations as a smokescreen for a major technological advance of some sort. Might not the scenario of the Oppenheimer case be repeated, with the ABM replacing the hydrogen bomb, and the scientists opposed to the ABM taking Oppenheimer's place in the dock? The security system, Stern points out, remains a potent weapon with which to silence or punish dissenters.

The main reason the system is so vulnerable to political abuse is because it involves quasi-judicial procedures in which the defendant is deprived of many of the procedural safeguards that would protect him in an ordinary trial. Ordinary trials, Stern points out, are governed by the "blank pad" rule. The court can only consider evidence brought forward in the course of the proceedings. The evidence must be introduced in accordance with established canons and is subject to challenge by the defense. In the Oppenheimer case, members of the AEC Personnel Security Board, which conducted the inquiry and produced the initial finding, spent a week prior to the start of the hearings immersing themselves in the thick AEC dossier on Oppenheimer.

No less prejudicial was the Board's elastic definition of the criteria to be

used in determining who is or is not a "security risk." In addition to such standards as character, discretion, associations and political activities, the Board chose to consider as valid criteria the soundness of Oppenheimer's policy advice and the attitude he displayed toward government directives. From this misbegotten beginning arose the incredible finding that Oppenheimer was to be considered a security risk, because, in addition to defects of character and associations with unreliable people, he might have been more "enthusiastic" about the crash program to develop the hydrogen bomb.

This consideration was rejected when the case went, on appeal, to the AEC Commissioners, who apparently thought better of the inherent inappropriateness of such a standard and of its potentially dangerous consequences. As Stern points out, however, if Oppenheimer's advice regarding the crash program had been ruled irrelevant at the outset, many of the witnesses opposed to him would not have been called to testify, and the case would have turned upon older evidence that had been considered and reconsidered before and had always been found insufficient to warrant removal of clearance.

It might be argued, against Stern's brief for the inherent inadequacies of the security system, that the flexibility of the proceedings and even of the criteria offer a better basis for the protection of the right of the accused than a legal proceeding, where the provisions of statutory law must be strictly enforced. There can be no doubt that if Oppenheimer had confessed in court, as he did in the hearings, to having withheld information from the security officers and having lied to them, he would have been convicted of a felony. By contrast, as Stern points out, the AEC clearance criteria controlling the inquiry specifically left room for the exercise of common sense by those sitting in judgment.

The trouble with this argument is that the security system is more susceptible to political influence than the judicial system. Oppenheimer's clearance would not have been suspended in the first place if the Air Force and its allies had not been anxious to curb Oppenheimer's influence and if the Eisenhower administration had not been anxious to head off an investigation by Senator Joseph McCarthy. It

would have been simpler and less risky with respect to relations with other scientists for the AEC not to avail itself of Oppenheimer's services. The Board's decision was obviously influenced by the loyalty-security hysteria of the times, and it was sustained by the AEC largely because the majority of the Commissioners were less liberal in their political attitudes than those who had cleared him before, as well as less willing to ignore his politics on grounds of his importance to national security.

Indeed, this consideration points to the one criticism that can fairly be addressed to Stern's book. As an indictment of the security system, it is certainly powerful and persuasive. In taking the Oppenheimer case, however, as an example of the ordinary workings of the system, it does a certain violence to history. The Oppenheimer affair was hardly a typical security case.

To a significant extent, the Oppenheimer case arose because at this awkward stage in the evolving relationship between science and government, scientists were still peculiarly vulnerable to political attack. In the court of public opinion, they were subject either to adulation or grave suspicion but rarely to understanding. They had as yet no institutional access to the Executive (as they have now through the Office of the Special Assistant for Science and Technology) and no well developed relationship with Congress, except through the Joint Committee on Atomic Energy. The fact that scientific expertise is more important to national security than the protection of scientific "secrets" was scarcely understood by politicians, let alone by their constituents. Nor was it understood that scientific advice would be needed in every area of public policy or that scientists, by venting their disagreements over policy, would actually make an indispensable contribution to responsible and democratic politics. We need not assume that such lessons have been fully learned to recognize that the Oppenheimer case was an expression of the confusion and tension that attend great historical changes. This does not diminish the injustice done to Oppenheimer. Like Socrates and Galileo and lesser men like John T. Scopes, he was very much a martyr to the cause of reason. His trial, like theirs, should make us proud of his humanity and ashamed of the "defects of character"

in our own society that could have permitted him to be condemned.

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Molecular Spectroscopy With Neutrons

By Henri Boutin, Sidney Yip
266 pp. MIT Press, Cambridge, Mass., 1969. \$10.00

Molecular Spectroscopy With Neutrons is a small book dealing with the applications of neutron scattering to the study of a variety of systems: simple liquids, hydrogen-bonded solids, polymers and others. The authors' stated aim is to correlate neutron spectroscopy with optical spectroscopy, and to use this combination to interpret molecular behavior. In a sense the book, as written, is a mixture of research monograph, extended review article and elementary text.

It is organized so that after an introductory section each of the topics mentioned is later treated separately. Each section has references to the research literature, presumably to guide the reader to more detailed treatments and to identify the sources of ideas, measurements and techniques. Do the authors achieve their goal of providing information to "... those who work with neutrons as a tool in molecular research as well as to those spectroscopists and workers in related fields..."? Despite the utility inherent in collecting information on a variety of subjects, it is my opinion that they do not succeed.

The basic theory is described in more detail, and with at least equal clarity, in other books (for example, G. Bacon in *Neutron Diffraction*), and although the collected reviews are useful, they do not provide sufficient information to more than indicate some of the literature that should be examined. Also the description of experimental techniques is so abbreviated that it is useless.

It might be argued that a book citing contemporary literature must serve some useful purpose. To this I