

Nuclear Disaster in the Urals

NUCLEAR DISASTER IN THE URALS. By Zhores A. Medvedev. Translated by George Saunders. Norton. 214 pp. \$12.95

By WALTER C. PATTERSON

ZHORES MEDVEDEV understands better than most the meaning of scientific integrity. As a leading Soviet geneticist he wrote a book about Stalin's scientific charlatan, T. D. Lysenko; the publication led to Medvedev's imprisonment in a psychiatric hospital, and the subsequent withdrawal of his Soviet citizenship. Since 1973 Medvedev has lived in exile in London. In November 1976 he contributed to the British magazine *New Scientist* an invited article about Soviet dissident scientists. The article mentioned that one reason for the tension between Soviet scientists and their government was a "tragic catastrophe" in the Urals region in 1958, an "enormous explosion" at a storage site for nuclear waste, which "poured radioactive dust and materials high up into the sky," affecting tens of thousands of people and killing hundreds.

A few days after the article appeared, a reporter asked Sir John Hill, chairman of the United Kingdom Atomic Energy Authority, for his comments. Sir John responded that the story of such a nuclear accident was "rubbish," "pure science fiction," and "a figment of the imagination." Sir John's comments were widely quoted in British and foreign media. Medvedev was dumfounded. To vindicate himself Medvedev undertook a personal investigation of the Urals accident. *Nuclear Disaster in the Urals* is his report. It is matter-of-fact, understated and utterly convincing; and it grips the reader like an intellectual thriller, building inexorably to a haunting conclusion.

Medvedev begins by recounting the reactions to his original article. He "had no idea that western experts were uninformed" about the Urals accident; but his passing comment about it elicited a fusillade of denials and exegeses from newspapers and intelligence authorities in several countries.

Medvedev points out that intelligence agencies, preoccupied with "secret" information, "are often unable to make thoroughgoing and effective use of information open to the public." He thereupon declares his intention "to give these analysts and experts a small lesson in scientific detective work." As a "small lesson" it is a tour-de-force.

In 1958 an old professor of Medvedev invited him to work at one of the secret installations set up following the accident to study the effects of radioactivity on the region. But Medvedev would have had to submit to comprehensive censorship, including a ban on publication, and he refused. However, he knew the names of former associates who did involve themselves in studies of radiobiology in the area of the accident. Those names subsequently vanished from scientific publications until the late '60s, when censorship eased enough to permit publication of scientific research papers based on investigations after the accident. Such papers had to disguise or obscure the basis for the work, and refer always to "experimental" radioactive contamination of waterways, land, animals, birds and plants in unspecified locations. Medvedev sought out these papers, identifying their "omissions, distortions, falsifications and anomalies" compared with orthodox radioecological papers; he then fitted together the evidence from the distorted papers into a mosaic from which the full extent of the disaster could be plausibly inferred.

Medvedev demonstrates that the levels and distribution of contamination, especially by strontium-90, in bodies of water, land areas and samples of animals, are far greater than any responsible scientist would—indeed, could—investigate experimentally. Medvedev compiles persuasive evidence that the unstated location for these investigations was the region near the secret Chelyabinsk-40 nuclear installation—a conclusion reinforcing the eyewitness account from Professor Lev Tumerman, whose letter to the *Jerusalem Post* in December 1976 focussed additional interest on the issue.

Perhaps the most startling information in this cumulatively awesome collation concerns reports of an "experiment" involving radiation exposure so intense that it killed entire stands of mature trees, and killed younger trees in only three years. The effect was worse "on the windward side" of the forest. An "experiment"? As usual, not even such basic data as the location of the "experiment" was given. This

investigation was reported during radioecology sessions at the Geneva conference on peaceful uses of atomic energy in 1971. The reports of such a study might have been expected to invite major questions on methods and general principles; but about these papers not a single question was asked. Medvedev notes, without comment, that the chairman of the session was Sir John Hill.

Medvedev also includes commentary on a number of CIA reports and discussions which have since come to light; facsimiles are included in the book. Medvedev points out that they exhibit many internal inconsistencies and contradictions, when they are not "sanitized" into uselessness. Nevertheless such CIA material continues to play a part in efforts by the international nuclear community to discredit Medvedev. After Medvedev's visit to the Los Alamos laboratory, its director, Harold Agnew, and long-time nuclear proponent Edward Teller discounted Medvedev's findings and challenged him to produce "concrete evidence about the alleged disaster." Teller in particular can hardly be unaware of Medvedev's circumstances, as a Soviet exile; and it remains unclear what sort of evidence such critics would consider "concrete." Stanley Auerbach and his colleagues at Oak Ridge have also published a report taking issue with Medvedev's deductions.

Medvedev has long since shed any illusions about scientific integrity in the Soviet Union. He is now entitled to harbor similar doubts about the West, at least when it comes to potential nuclear embarrassments. Those with open minds should read *Nuclear Disaster in the Urals* and draw their own conclusions. □

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