

LETTERS

Soviet Civil Defense

Deborah Shapley's article "Soviet civil defense: Insiders argue whether strategic balance is shaken" (News and Comment, 10 Dec. 1976, p. 1141) provides information that should prove useful to scientists and others concerned with the strategic significance of realistic civil defense preparations.

Her description of the Soviet civil defense installations is quite comprehensive. The only relevant point that we found lacking is the instruction of the people in civil defense measures. Every schoolchild has 3 years' instruction in the effects of nuclear weapons and in the civil defense measures to minimize them. A total of about 135 hours is devoted to the subject. There is similar instruction in factories, and hundreds of thousands of handbooks on civil defense are published and distributed.

Another factor, mentioned by Shapley but in our view underemphasized, is the plan for evacuation. If this is carried out and followed by a set of demands resulting in a confrontation, the bargaining position of our country would be miserable. The Soviet Union could threaten to destroy half of the U.S. population; we could destroy only a small fraction of theirs. The Soviet losses would be well below those suffered in World War II. Such a threat, "nuclear blackmail," is the danger many of us fear most. The first of the above numbers is confirmed in the published part of the *Ponast II* study (1). Soviet losses are estimated to be between 2¾ and 4½ percent in their civil defense handbooks, but some of the U.S. estimates, though still quite low, are considerably higher. The estimate of one of us (E.P.W.) agrees with the Soviet estimate.

To discover the "motives behind Soviet population defense" one should read what Soviet leaders have clearly and repeatedly told their own people. One key to the understanding of these motives is Lenin's often quoted dictum: "The primary productive factor of all of humanity is the laboring man, the worker. If he survives, we can save everything and restore everything—but we shall perish if we are not able to save him" (2). Of course, if they can push us by threats into repeated concessions, just as Hitler pushed Czechoslovakia, there would be no need to rebuild their factories. The Soviets, like the majority of mankind, always have believed that a primary responsibility of any nation's government is making preparations to save the lives of its citizens if war oc-

curs. Soviet military and civilian leaders have always rejected the concepts of "mutual assured destruction," a strategic theory based on the United States and the Soviet Union leaving their populations vulnerable. One of the Soviet responses to U.S. threats, first of "massive retaliation" and then of "assured destruction," is their comprehensive preparations to survive even an all-out war.

Let us observe, finally, that we cannot quite understand Panofsky's and Garwin's fear, quoted in the article, that a U.S. civil defense effort would alarm the Soviet leaders and would be destabilizing. If the Soviet civil defense does not alarm them and is not destabilizing, why would our emulation of some of these measures be alarming and destabilizing? Did Khrushchev not say, "Don't be afraid. If I offer my embrace, you will not refuse it"?

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References

1. *Ponast II* (briefing prepared by the Defense Civil Preparedness Agency, Washington, D.C., 1975; based on a classified interagency study sponsored by the Joint Chiefs of Staff, Studies Analysis and Gaming Agency, Washington, D.C., 1973).
2. V. I. Lenin, *Collected Works*, vol. 38, p. 359, as quoted in the comprehensive Soviet handbook *Civil Defense* (Publishing House for Higher Education, Moscow, ed. 2, 1974).

TVA's Record

I should like to compliment Deborah Shapley on her article (News and Comment, 19 Nov. 1976, p. 814) concerning the Tennessee Valley Authority (TVA). The case against TVA is convincingly delineated from the early days when it "arrived" to tame the rampaging rivers, advise the farmers on better agricultural methods, and, yes, as a by-product, to produce the electrical energy hitherto absent in the Tennessee Valley.

Over the course of its development, TVA has performed a comprehensive service to the citizens of this poverty-shackled valley that private utility companies were reluctant to offer. Utility planners worth their keep could not survive for long by suggesting that large capital expenditures be directed toward a rural, backward region where the median income was less than half that of the rest of the country. However, Congress accepted the socioeconomic challenge and created TVA. Yet because it is the largest utility in the nation, TVA de-

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