LETTERS

Human Cloning

Paul R. Gross (Letters, 14 Apr., p. 126) appears to have overlooked an important qualification in his assertion that "there is . . . no possibility that a *literal* copy of the donor individual can be produced by the insertion of a somatic nucleus into recipient cytoplasm of a conveniently available egg." He argues that the influence of the "maternal" messenger RNA present in the ovum prior to insertion of the donor nucleus would influence the development of the embryo, thereby precluding the creation of an identical copy.

But what if the donor of the somatic nucleus were the same person as the source of the ovum? Here, the "maternal" messenger RNA would be transcribed from a nucleus virtually identical with the one to be inserted. It would seem then, that the potential for cloning identical copies is limited merely to those donors among us capable of producing ova.

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Science: The Bad Image

In "The media: The image of the scientist is bad" (Research News, 7 Apr., p. 37), Thomas H. Maugh II provides a useful report of the AAAS symposium on the public's view of science. The symposium panelists seem to have emphasized several factors that are less important than the one big reason for public suspicion.

The suggestion by Ben Bova, editor of *Analog*, that people fear science because it makes changes is not easily supported. Change is what the media and the public most eagerly seek—in everything from education to race relations to marriage customs. Bova goes on to say that misperception is possible because most Americans have never met anything closer to a scientist than a high school science teacher; yet most of us look on high school science teachers with regard and affection. Maugh mentions the view that what is wrong with "Star Wars" is dogfights in space that defy Newton's laws of motion. Whatever its technical errors, "Star Wars" gives a horrifying picture of where science may be taking us, and it has been received as a modern morality play.

The symposium panelists are not reported to have discussed the association of science with war. Something like one-quarter of American scientists, and not the least able, are engaged in military applications of science. An even larger part of Soviet science is devoted to weapons development. The two groups of scientists support one another without necessarily wishing to: American defense gets its budget, and hence its ability to command the services of scientists, by pointing to the Soviet threat; and the Soviet military are no less agile in using the American threat to impress their budget-making authorities and public.

The AAAS panelists agreed that we should protest to the media when scientific inaccuracies are presented, just as women and minority groups have done when they were misrepresented. But these groups had their strength in an appeal to American values relating to justice and equity. Science raises more complex questions. Those of us who see science as making possible a good life for all ought to be engaged in trying to turn it from the path of destruction to which so large a part of its effort is now committed.

To correct minor errors of presentation and fact is valuable, but we ought not to be so obtuse as to miss the major message that the media are carrying.

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Japanese Wartime Nuclear Effort: A Cover-Up?

Deborah Shapley's article on Japan's wartime bomb projects (News and Comment, 13 Jan., p. 152) and letters on this article by Charles Weiner (17 Feb., p. 728), Norio Hayakawa, and others (24 March, p. 1286) are of considerable interest to me. I first developed an interest in Japan's wartime nuclear research as a friend and classmate of Yoshio Nishina's son, Kojiro, at North Carolina State University, and later maintained my interest in this topic as a dosimetry consultant to the Radiation Effects Research Foundation, formerly the Atomic Bomb Casualty Commission, in Japan.

The article is somewhat surprising, as excellent English-language accounts of Japan's wartime nuclear weapon projects have been available for some time. These are contained in a 1970 book, *Imperial Tragedy*, by Thomas J. Coffey (*1*), and a 1972 book, *The Day Man Lost*, by the Pacific War Research Society (*2*). In the foreword to *The Day Man Lost*, John Toland, the noted author of *The Rising Sun* (*3*) and other books on World War II, writes: "Nowhere else can one find details of Japan's nuclear experiments. The considerable efforts of Dr. Nishina and his assistants will probably come as a surprise even to the well informed." These two books agree, in general, with facts on Japan's wartime bomb projects given by Shapley, but her article implies a cover-up of these projects by the Japanese.

The appearance of a Japanese cover-up is probably due to U.S. security related to nuclear fission and nuclear weapons. In his 1946 book *Hiroshima* (*4*), John Hersey states: "General MacArthur's headquarters systematically censored all mention of the bomb in Japanese scientific publications. . . . Long before the American public had been told, most of the scientists and lots of non-scientists in Japan knew . . . that a uranium bomb had exploded at Hiroshima and a more powerful one, of plutonium, in Nagasaki. They also knew that theoretically one ten times as powerful—or twenty—could be developed." And, "The scientists had these and other details which remained subject to security in the United States printed and mimeographed and bound into little books."

Many of these were published after the occupation ended in 1952 by the Japan Science Promotion Society in a *Collection of Investigative Reports on the Atomic Bomb Disaster* (*5*), and other reports subject to prior censorship were published in Japan about the same time. Also, historical accounts of Japan's wartime bomb projects were available in the United States and Japan almost simultaneously. Shapley notes that her documentation is from two authoritative Japanese histories—the first published in 1970 and the second published in 1973.

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4. J. Hersey, *Hiroshima* (Random House, New York, 1946).
5. Japan Science Council, *Collection of Investigative Reports on the Atomic Bomb Disaster* (Japan Science Promotion Society, Tokyo, 1953).
6. Research sponsored by the Division of Biomedical and Environmental Research, Department of Energy, under contract W-7405-eng-26 with the Union Carbide Corporation.