Army Surgeon General recused the use of the military's medical staff for any offensive research and development.[1]

Since that time, the United States unilaterally renounced biological weapons in 1969, a move that undoubtedly accelerated international arms control efforts and lead to the signing of the Biological and Toxin Weapons Convention in 1972. Other efforts in the medical community have been made to heighten the awareness of the potential for misuse of microbiological techniques. Ethical guidelines for work in defense against the use of biological weapons have been published,[2] and such work is not prohibited by the convention.

Regrettably, even with such pronouncements, history shows that scientists and physicians have been willing participants in offensive biological weapons research and development (unpublished data). They have done so for a variety of personal and political reasons that run the gamut from frank criminal activity to actions rationalized as patriotic. In the final assessment, Tokuda's comment about the most basic ethical principle, primum non nocere, represents both the first and last line of defense against proliferation and use of biological weapons. It is with both despair and hope that we note these words that define our profession do not always govern the hearts and minds of those in it.

Robert F. Kadlec, MD
US Department of Defense
Washington, DC

Alan P. Zelicoff, MD
Sandia National Laboratories
Albuquerque, NM

1. Brothy L, Miles WD, Cochrane RC. *United States Army in World War II: The Technical Service—The Chemical Warfare Service: From Laboratory to Field.* Washington, DC: Dept of US Army; 1959:105-111.
2. Orient J. Chemical and biological warfare: should defenses be researched and deployed? *JAMA.* 1989;262:644-648.

Propaganda Value of Allegations of Biological Warfare in the Korean War

To the Editor.—In their article describing historical perspectives of biological warfare, Dr Christopher and colleagues[1] cite an article by Van Courtland Moon[2] and my article[3] and remark that biological warfare in Korea was propaganda, "regardless of veracity" of the allegations. Van Courtland Moon has underscored that no outside investigator was admitted to Korea, and the real motives for refusal of admission were not known. In my article, the allegations of biological warfare are disputed, and I presented information from 2 reporters, Tibor Meray from Hungary and Lucjan Pracki from Poland, who were in Korea in 1952.

Both journalists were in Korea as witnesses for the Korean government, and they had no knowledge about microbiology or epidemiology. However, their reports are clear to those familiar with microbiology. The allegations regarding biological warfare undoubtedly were fraudulent, and, based on new information, I concluded that biological warfare in Korea did not occur.[4]

Information about Meray, besides his publications, is contained in the book by Clews.[5] The book by Pracki[6] includes 9 reports of biological warfare published originally in the Polish journal *Zolnierz Wolnosci* (*Soldier of Freedom*). These reports are available in the Library of Congress. The report about the cholera incident in Pyongyang, Korea, was published in Warsaw on March 25, 1952.[4]

Mary Rolicka, PhD
New York, NY

1. Christopher GW, Cieslak TJ, Pavlin JA, Eitzen EM. Biological warfare: a historical perspective. *JAMA.* 1997;278:412-417.
2. Van Courtland Moon JE. The Korean War case. *Ann N Y Acad Sci.* 1992;666:53-83.
3. Rolicka M. New studies disputing allegations of bacteriological warfare during the Korean War. *Mil Med.* 1995;160:97-100.
4. Rolicka M. Forgotten episode of the 'forgotten war.' Available at: http//www.geocities.com/Athens/Olympus/2753. Accessed November 14, 1997.
5. Clews J. *Communist Propaganda Techniques.* London, England: Methuen; 1964.
6. Pracki L. *Military Correspondent Reports From Korea.* Warsaw: Polish Ministry of National Defense; 1953.

In Reply.—The information presented by Dr Rolicka in her article[1] and the additional information provided in her letter refute the alleged waging of biological warfare by the United States during the Korean War beyond any reasonable doubt. Rolicka's article discusses that "many specific examples of black propaganda were discovered that contained false information and lies discrediting the United States. The mechanism of lies, which convinced the Korean population that bacteriological warfare was going on and that the only way not to become victims of the United States' inhuman cruelty was to fight, are shown in this article."[1] Our article agrees that this episode demonstrated the propaganda value of false allegations of biological warfare. The phrase "regardless of veracity," as used in our article, was not intended to imply that the allegations of biological warfare had any credibility.

LTC George W. Christopher, USAF, MC
US Army Medical Research Institute
of Infectious Diseases
Fort Detrick, Md

The opinions stated herein are those of the author and are not to be construed as the official position of the US Army, the US Air Force, the US Department of Defense, or the US government.

1. Rolicka M. New studies disputing allegations of bacteriological warfare during the Korean War. *Mil Med.* 1995;160:97-100.

Biological Warfare and the 'Hiroshima' Issue of *JAMA*

To the Editor.—One interesting sidebar to the biological warfare story was not mentioned in the Editorial by Dr Lederberg.[1] At the same time that the United States participated in the Biological and Toxin Weapons Convention of 1972, President Nixon and Congress were shaping the "War on Cancer," which was signed into law in December 1972. This concatenation provided the Department of Health, Education, and Welfare with the unique opportunity of petitioning the White House to permit, for the first time, the National Institutes of Health to expand beyond its Bethesda campus by opening the laboratories at Fort Detrick to cancer research by the National Cancer Institute.

Using the "swords to plowshares" argument, we persuaded the administration to do just that. Indeed, our first step was not only to open (the formerly top secret) Fort Detrick to public view, but we invited the Russian Minister of Health, Dr Boris Petrovsky, to lead the public tour on August 3, 1972.

Merlin K. Du Val, MD
Phoenix, Ariz

1. Lederberg J. Infectious disease and biological weapons: prophylaxis and mitigation. *JAMA.* 1997;278:435-436.

To the Editor.—Based on the Biological Agents as Weapons issue of *JAMA*,[1] it appears that American medicine had been sold to the Pentagon in a most bizarre presentation of the problems of chemical and biological warfare. Checking the issue date, August 6, 1997, I found, to my total disbelief, that I was reading an anticommemorative to Hiroshima—the wholesale massacre of civilians in Hiroshima and Nagasaki on August 6 and 9, 1945, respectively.

The entire issue assiduously avoids Hiroshima and the choice of date surely seems intentional. From the Editorial by Dr Lederberg[1] to the articles from the Defense Department and several military physicians, the focus on the usual "terrorists" and "rogue State" leaders like Mr Hussein as a great threat to unleash biological and chemical weapons on civilian populations is disingenuous and covers a hidden agenda. Standing alone, Lederberg's article appears credible, but, just as he cites the "strange bedfellows" the United States chose to side with in the Cold War, he forgets to look at the bedfellows he is ushering into our medical bedroom—ie, the overall gestalt of this entire issue of THE JOURNAL is dominated by the military and its assumptions.

Even issues such as the rights of gays to be in the military or the protection of women soldiers from harassment and sexual abuse pale in comparison to the chemical and biological warfare conspiracies that have been promulgated by this democratic government against its own citizens—Gulf War veterans, atomic veterans, the people of St George, Utah, the secret bacteriological warfare fogging experiments against the population of the San Francisco Bay area, and the nonconsensual exposure of patients with cancer to radiation by the Defense Department. These episodes are not the rantings of conspiracy theorists but are the public record and are virtually always collaborated by physicians.

For these victims, the adage that time heals is not working. The victims of St George die off and disappear, yet the demands for vindication, compensation, and candor grow louder and the government stands exposed as nothing less than callously inhumane and steadfastly cynical and undemocratic. Now in commemoration of 130 000 Japanese noncombatants, who were dead, wounded, and writhing in pain with radiation sickness, comes not just the usual silence, but a plea for cooperation with the military against the scourge of biological and chemical terrorism.

Today, we are ill-prepared to respond to dangers presented by the most highly organized and cynical governments (including our own, not just Mr Hussein's). How can there be a technical or military solution to this problem? What is required is a much deeper look into where we are now, how we have arrived at this moment, and into what future we intend that our species shall go. We may not have much time left to recognize the impact on the human spirit when medicine remembers one of the worst crimes against humanity, and one for which we share some collective responsibility, by urging that physicians attend to the need to cooperate in military preparedness.

Marc Sapir, MD, MPH
Center for Elders Independence Inc
Oakland, Calif

1. Lederberg J. Infectious disease and biological weapons: prophylaxis and mitigation. *JAMA*. 1997;278:435-436.

These letters were shown to Dr Lederberg, who declined to reply.—ED.

In Reply.—In 1983, *JAMA* began publishing an annual issue the first week of August to commemorate the bombing of Hiroshima for the specific purpose of preventing nuclear war. For many years, these annual issues focused on nuclear warfare, preventing the proliferation and use of nuclear weapons, and the biology of radiation exposure. Following the collapse of the Soviet Union and the end of the Cold War, other war-related threats to public health became major concerns: civil wars and conflicts with civilians, not combatants, comprising the casualties; massive populations of refugees and displaced persons; terrorism; and state-sponsored human torture. These coupled with a reemergence of chemical and biological agents as real tools of war served as the impetus to broaden the editorial focus of the annual Hiroshima issue. The 1997 issue was devoted to the threat of biological warfare, which like nuclear warfare uses a weapon of mass destruction to harm or kill civilians.

Dr Sapir asks: where are we now, how have we arrived at this moment, and into what future do we intend to go? The biological warfare issue of *JAMA* addresses each of these questions. For example, articles written by physicians, scientists, historians, and policy experts describe the historical role of the US military and government in covert biological weapons development, our current underdeveloped detection and response capabilities in the event of a biological or chemical weapons attack, and acts of biological terrorism that have actually occurred during the last decade in the United States and Japan. A review article delineates the major biological agents most likely to be used in such attacks with a practical emphasis on clinical diagnosis and management. The message for the future is clear—it is time for openness, shared responsibility, and collaborative planning among physicians and other health professionals, scientists, national and local government agencies, and the military to develop effective detection and response capabilities, as well as prevention strategies, to protect society from all weapons of mass destruction.

Annette Flanagin, RN, MA
Associate Senior Editor, *JAMA*
George D. Lundberg, MD
Editor, *JAMA*

Pulmonary Function in Space

To the Editor.—The article entitled "Pulmonary Function in Space" by Dr West and colleagues[1] promised full coverage of this area of research. The authors stated, "A few previous studies of lung function in microgravity were performed by means of parabolic flights in high-performance aircraft." Because I am involved in Soviet-Russian aerospace research, I was surprised by this statement. The author's reference list contains no references to research from the Russian space program. A MEDLINE search since 1970 for titles including *lungs/respiration* and *space/kosmos/immersion* and originating from the USSR or Russia or published in Russian yielded 65 relevant articles. I am not suggesting that the article by West et al is biased without presentation of Russian research; the authors stated that they only reviewed Spacelab experiments. However, the article has references to textbooks from 1964 and 1968, as well as to numerous publications by West et al since 1972—all of which were published long before the Spacelab. There is no doubt that valuable Spacelab experiments are based on the previous data. However, both Russian space research and US space research are the keystone of this experience.

The article by West et al is a good example of language and cultural barriers, perhaps with some old-fashioned politics, all of which give the impression of self-sufficiency, but lead to incomplete identification of available information. There is another similar example in this research area. The English version of the Soviet-Russian journal *Aviakosmicheskaia i Ecologicheskaia Meditsina* (*Aerospace and Environmental Medicine*, formerly *Kosmicheskaia Biologiya i Aviakosmicheskaya Meditsina*) is translated and published in the United States. However, this translation is almost unknown in the US aerospace community. I checked the libraries of 2 major aviation research institutes—the Civil Aeromedical Institute, Oklahoma City, Okla, and the Naval Operational Institute, Pensacola, Fla (formerly the Naval Aerospace Medical Institute)—and neither had a copy of this publication. Librarians and most scientists have no idea about the existence of this translation. Perhaps West et al missed Soviet-Russian publications because they did not know that most relevant Russian publications are available in English.

However, for the sake of balance, I must note that Russian authors tend to ignore US publications, as well as other foreign publications. Not long ago, reviewers of manuscripts submitted to journals (as well as reviewers of dissertations) calculated the percentage of references to Soviet publications. Researchers who cited more international sources than Russian sources were blamed for "ignoring" Soviet science. In fact, most Russian journals still list Russian references first, followed by citations from other languages. This mutual ignorance is not a good habit for a field as complex as science. It is not in good taste and is not fruitful.

V. Vlassov, MD
Saratov State Medical University
Saratov, Russia

1. West JB, Elliott AR, Guy HJ, Prisk GK. Pulmonary function in space. *JAMA*. 1997;277:1957-1961.

In Reply.—Dr Vlassov is correct when he states that a MEDLINE search using headings such as *lungs/respiration*