

# THE CHRISTIAN SCIENCE MONITOR

"First the blade, then the ear,  then the full grain in the ear"

## Opinion and commentary

### Turning off the gas

By Dr. Matthew S. Meselson

Matthew S. Meselson, Professor of Biology at Harvard University, has served as consultant to the U.S. Arms Control and Disarmament Agency since 1963. He was one of the leaders among a loose coalition of scientists who helped persuade President Nixon to review American biologic weapons policy and eventually ban the production and stockpiling of "germ warfare" weapons in September of 1969. Last month Soviet party leader Leonid Brezhnev announced that Moscow was willing to follow suit. Professor Meselson here discusses factors in the Vietnam war — including Communist forces' ability to use the same disabling gases earlier used by U.S. strategists — which may change White House policy on ratifying the 1925 protocol against gas warfare.

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Recently, the Senate held hearings on possible ratification of the 1925 Geneva protocol. This is the treaty which prohibits the use in war of "... asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices." The protocol has been ratified by most of the nations of the world, including all major countries except the United States. It was submitted to the Senate in one of several widely praised White House moves to strengthen the barriers against chemical and biological warfare.

However, ratification of the protocol has hit a snag. The problem arises from the fact that when the administration took office, United States forces in Vietnam were already using certain types of chemical weapons. Starting in 1962, chemical herbicides have been sprayed over millions of acres in order to remove vegetation and to destroy food crops. And, from small beginnings in 1965, the use of riot gas escalated to become by far the largest combat use of gas since World War I.

As with many treaties, the Geneva protocol may be interpreted either broadly or narrowly. Faced with considerable criticism of chemical operations in Vietnam, the previous administration enunciated a narrow interpretation, one that would allow riot gas or herbicides. In spite of some misgivings, the present administration has gone along with that approach by submitting the protocol to the Senate making specific exemptions for these weapons. This places the United States squarely in opposition to the preponderant international view that the protocol prohibits all antipersonnel and antiplant chemical warfare.

The most recent indication of the views of other nations was a resolution at the United Nations in December, 1969, when 80 nations voted against our position and only two voted with us. Although there were 36 nations abstaining, nearly all of them were our close allies, politely registering their reluctance to accept the U.S. viewpoint.

Not surprisingly, the question of interpretation dominated the recently concluded Senate hearings, with several key members of the Foreign Relations Committee strongly in favor of U.S. ratification without special exemptions for riot gas and herbicides. Thus, it appears that the protocol is not likely to be approved by the Senate until the problem of interpretation can be settled.

Fortunately, the administration has left itself an important degree of flexibility. One course that is open would be to let the status of riot gas and herbicides be decided by the International Court of Justice at The Hague. There is also an opportunity for a more direct solution. On the recommendation of Ambassador Bunker and General Abrams, herbicide operations in Vietnam are being rapidly phased out and reportedly will end completely this spring. Similarly, the use of riot gas has fallen to a small fraction of what it once was. In large part this is because the gas has become ineffective as the other side has learned defensive tactics and acquired large supplies of gas masks. Thus, before election fever overtakes us, the President might be persuaded to broaden the U.S. interpretation of the protocol.

When we shift our attention from the receding events of the past in Vietnam we see that our future interest is clearly on the side of building the strongest possible barriers against chemical warfare. This view was most forcefully put before the Senate by McGeorge Bundy, former national security adviser to Presidents Kennedy and Johnson and a participant in the initial decisions to use chemical weapons in Vietnam. Mr. Bundy told the Foreign Relations Committee that the basic question at issue is "... the safety of American lives in the future and indeed the safety of the human race itself."

Because they are relatively cheap and are capable of being disseminated over large areas, chemical and biological weapons could bring about a major increase in the level of death and devastation in wars of all kinds. However, the greatest hazard of letting the moral and psychological barriers against chemical and biological warfare erode may be that this would open a radical new dimension of expanding knowledge and technology for military exploitation.

We are in the midst of a revolution in biochemistry and molecular biology, leading to the most detailed and subtle knowledge of the living process. Inevitably, this will allow man to manipulate and control living things, including himself, in ways that cannot now be spelled out. Of course, pure science is neutral, in the sense that its discoveries can be used for good and for ill. But it seems only prudent to take great care not to generate interest and momentum toward the military application of this knowledge. If the other nations of the world are willing not to use chemical warfare in any form, the United States should be more than willing to go along.