There are also the related questions of where these chemical weapons are currently and where they have been deployed in the past. The Soviets and their allies continuously deny that they exist anywhere but in the Soviet Union itself. We have, however, reasonably good evidence that they have also been in other Warsaw Pact countries. Furthermore, some of the countries who stood up in the Conference on Disarmament in Geneva and swore up and down that they have no chemical weapons are found on the list of those countries suspected, on pretty good evidence, of possessing or attempting to possess chemical weapons. This is a bit of a problem.

Although I cannot dwell on the legal aspects of it at all, I would like to discuss for a moment the Biological Weapons Convention. If some people think that chemical weapons are a moral issue, they must think so even more about biological, bacteriological, and toxin weapons, or toxins of biological origin as they are sometimes called. In 1972, the world did manage to agree to a convention that said that no country could stockpile, use, produce, transfer, or in any way possess biological agents. Yet in 1979, the evidence is convincing that the Soviet Union was engaged in such activities in violation of that Convention in Sverdlovsk. We have evidence of other such activities in other parts of that country. Recently, C.I.A. Director William Webster indicated that as many as 10 countries are pursuing both traditional and more sophisticated biological weapons. The verification problem is enormous as these activities require such relatively small quantities in a multitude of laboratories and universities. I found out recently that even General Motors has a biological laboratory. This is a widespread phenomenon. We no longer extract from cadavers the hormone to treat dwarfism, we simply reproduce it in a laboratory. We can also duplicate snake venom. It is truly frightening how high the toxicity levels and how small the lethal doses are for many of the more sinister things we can now produce. Yet the same technology promises enormous benefits for mankind in medicine and the treatment of disease. There simply does not seem to be a way to deal effectively with issues of noncompliance.

The government has a responsibility to deal with the root causes rather than just with the tools of warfare. We have been, in my opinion, relatively successful in this endeavor. When I went to Madrid in 1981 to review human rights with the Soviet Union, which is one of the basic issues on our bilateral agenda, we had a file of the names of refusniks and others refused their human rights that was almost unending. The file on Anatoly Scharansky was by itself the size of a very large book. All of these people are now free, and the list of names is now quite small. Similar progress has been made on some of the other issues on our agenda, especially regional issues. There are no longer Soviet troops in Afghanistan. There has been some movement made in Angola. There have been promises of something happening in Cambodia. We are working with the Soviets on Nicaragua and Central America. Recently in Geneva, we agreed to add global issues to our bilateral agenda: disease, terrorism, and drugs. This progress helps to build the confidence necessary to do away with the threat of chemical and biological weapons use. It seems to me to be the appropriate way of addressing issues that are legally and technically very difficult to address.

**Remarks by Torsten Stein**

The Federal Republic of Germany (FRG) is the only state in the world that has not only renounced in a legally binding manner initial use of chemical weapons, but has

---

*Professor, Max Planck Institute for Comparative Public and International Law, Heidelberg, Federal Republic of Germany.
also undertaken not to manufacture (or possess or proliferate) in (or from) its territory any chemical weapons (as well as nuclear or biological weapons). The Federal Republic of Germany is the only state that has accepted—under the modified Brussels Treaty—regular on-site inspections of its chemical industry by the Armaments Control Agency of the Western European Union.

Until the fall of 1988, it was believed that the only problem the Federal Republic of Germany had with chemical weapons was the fact that the United States, within the framework of NATO, has based quite a number of rather old and maybe not overly reliable chemical weapons on German territory. The storage sites are kept as secret as are transports from one of these sites to another, and there was great concern among the population living in the areas in question, finally leading to a constitutional complaint before the Federal Constitutional Court. The Court, however, rejected this complaint on October 29, 1987, ruling that the presence of U.S. chemical weapons on FRG territory is legal under the 1954 Convention on the Presence of Foreign Forces in the Federal Republic, under the NATO Status of Forces Agreement and under the Supplementary Agreement, ruling also that all reasonable precautions are being taken to protect the population, and that international law, and in particular the laws of war, do neither prohibit the possession of such weapons nor their use by way of reprisal. Parenthetically it may be added that in none of the scenarios for worldwide NATO Command Post exercises that I have seen on active duty—and I have not missed one since 1968—were chemical weapons ever used by NATO; NATO in these scenarios rather decided to go nuclear after initial use of chemical weapons by the other side. This has been reported by almost all weekly magazines around the world, so it is not classified information.

Since last fall we know that the Federal Republic of Germany has quite a different problem with chemical weapons—the Imhausen affair. I ask you to accept that I am not prepared to comment on the way in which this affair was handled by the German Government, other than to say that they misjudged the sound of the name “Khadafi” on this side of the Atlantic. But I am prepared to furnish some information about what the export control regulations were at the time and what has in the meantime been done to tighten these controls.

There are, to start with, a couple of fundamental differences between export regulations in the Federal Republic and the United States. To engage in export, as in any other domestic economic activity, is in Germany an individual right, and the basic philosophy of the Foreign Trade and Payments Act is liberalism, the freedom of trade; article 1 of that Act states that trade of any kind with foreign countries is free unless limited under that very Act or under the relevant regulation. Germany is an export-oriented country—every third job is dependent on exports. In the United States, export is prohibited unless legalized by way of an export license. Export control and export restrictions in Germany have to be authorized by the law, the just-mentioned Act, and any restrictive action may be challenged in the administrative courts. That is why, in the Imhausen affair, German authorities insisted (and had to insist) on information that could be used in court. Non-U.S. enterprises on the other hand, which reexport U.S. products and unwittingly or unwittingly violate U.S. export control regulations, often complain that it seems to be a rather discretionary decision whether they will end up on the “Black List,” thus losing all export privileges and access to the U.S. market, and that there is no possibility for them to challenge that decision before a court of law.

Despite the fundamental liberalism in export matters in Germany, there have always been restrictions. The Foreign Trade and Payments Regulation provides a long

[Available at https://www.cambridge.org/core/terms.]

[https://doi.org/10.1017/S0272503700076461]
list of products (Export List) that may not be exported without prior authorization. That list—which basically gives effect to the COCOM List—comprises weapons, ammunition, and other armament supplies, including toxic substances designed for military use, protective gear, electronic equipment, material for nuclear purposes, and other products of strategic importance, mostly computers and their parts. The necessity for prior export authorization includes parts of products that are named in that list, although the product as such is not, and special parts of products that are listed, although the special part is not. Authorization is required for passing on blueprints or any other information not generally accessible concerning the technology of all products covered by the list, if the receiving end is located in a Communist country or—in the case of transit trade—in the Republic of South Africa.

After there had been indications in 1984 that German enterprises might have participated in building a plant for chemical weapons in Iraq, the Export List was supplemented by a part D, subjecting to prior export authorization all installations and parts of, or equipment for, these installations that might be used for research on, or manufacturing and testing of, organophosphate combinations, LOST, or other highly toxic combinations. As far as I can see, Germany is the only country in the world applying these restrictions; such installations would be “general license items” in the United States. On November 15, 1984, the Federal Government of Germany ordered that all export license requests for Libya, which concerned items under the newly introduced part D of the Export List had to be submitted to the government itself.

As far as we know today, Imhausen did send engineers to Libya, and did delivery a data processor, know-how, technical data, and blueprints for a pharmaceutical factory to Hong Kong. All of these items were most likely rerouted to Libya. The processor was shipped in 1984, prior to the amendment of the Export List, which prescribes an export license for chemical installations. The export of know-how for chemical installations to Libya was possible without an export license (limitations apply only to Eastern bloc countries). The participation of German engineers in the construction of production facilities for chemical weapons was not proscribed by law. So it is probably correct to say that Imhausen did not violate the law as it stood at the time. Other German enterprises supplied as subcontractors the engineering for electric installations and pipesystems; the destination was Hong Kong. Others are said to have exported certain basic raw materials to Libya which can be used for whatever chemical product, including chemical weapons.

At the end of the day it became quite clear that the legal instruments for export control were insufficient to prevent the export of sensitive goods and technologies to Third World countries, where they might be used for military purposes. The principle of voluntary self-restraint, applied over the years by the export industry in order to maintain liberalism as the fundamental principle of export, apparently is not enough.

On the other hand, it is quite clear that export restrictions on products and technologies that might be used for civil as well as military purposes can only be effective and acceptable if they are coordinated among at least the OECD countries. It is still remembered in Germany that, when Germany joined the U.S. pipe embargo against the Soviet Union in the sixties, some of FRG’s European allies were all too happy to step in and do the business.

Much will depend on whether, for example, the so-called Australian initiative (12 member states of the European Communities, Norway, Switzerland, the United States, Canada, Japan, Australia, and New Zealand) will succeed in reaching an agreement on which sensitive or dangerous chemical substances will jointly be subjected to export control. Right now, prior authorization is provided for 9 substances; 35 others
are the subject matter of voluntary self-restraint by the chemical industry; 8 of the latter are restricted in the United States; the European Communities member states decided only a couple of weeks ago to put them on the restricted items list as well.

The law is going to be changed in Germany as far as export control and the participation of German experts in the production of chemical weapons abroad is concerned. These changes, currently within a speedy legislative process that U.S. export sanctions would only slow down, will in some respect exceed international standards: (1) export control, that is, prior authorization, will be extended to know-how, technical data, blueprints, and any other information not generally accessible, wherever gained, unless the export is going to an OECD country; and (2) any direct or indirect participation of German nationals in the production of chemical or biological weapons, including aiding and abetting, will become a criminal offense, punishable by up to 15 years of imprisonment. The Trading With Arms Control Act will be amended accordingly. Germany may have been rightly criticized for a certain leniency in the past; these new rules go beyond the international standard.

But let us not fool ourselves: there is no such thing as an absolutely perfect export control, at least not in countries with 15 million export deliveries every year. There is no absolute guarantee that criminals will not find a way around whatever export control. We have learned the lesson that arms may even be traded to the enemy from the inner circles of government without that government knowing about it. The only way to prevent chemical warfare at any time and in any part of the world is an international agreement that takes up the example of the 1972 Convention on the Prohibition of the Development, Production, and Stockpiling of Biological and Toxin Weapons. As long as some states have chemical weapons, others will want them.

**CHEMICAL WEAPONS: DESIGNING OPERABLE SYSTEMS FOR ENFORCING RESTRAINT**

*by W. Michael Reisman*

Discussions about designing systems to restrain what is referred to generically as chemical warfare—the use of chemicals, particularly in gas or vaporous form, against an adversary—have been infected by a number of myths. One of them is that chemical warfare weapons are ineffective. If that were really the case, there would be little problem. But the intensive use of the weapon in the relatively short time period since its perfection and the continued interest it inspires in military specialists should belie this particular myth. No weapon is effective in all contexts, against all adversaries, and for all objectives. Recent history unfortunately shows that chemical weapons are effective in certain arenas and, in particular, in those asymmetrical situations in which one party does not have them and/or the risk of the other responding in kind is minimal or tolerable.

A second myth is that chemical weapons are uniquely nasty and barbaric weapons, whether because of their inherent lack of a capacity to discriminate between civilians and soldiers or because of the pain and suffering they cause their victims. Chemical weapons may have been uniquely nasty and barbaric in 1925. It is arguable whether they still are, when compared to carpet-bombing or fire-bombing of cities or even intensive use of artillery. Nuclear weapons, whether tactical or strategic, score notoriously low when tested by the traditional criteria of international lawfulness, even without taking account of their longer-term environmental consequences.

*Wesley M. Hohfield Professor of Jurisprudence, Yale Law School.*