CHAPTER 7

Biological Weapons in Non-Soviet Warsaw Pact Countries

LAJOS RÓZSA
KATHRYN NIXDORFF

In 1944 Allied bombers destroyed Hungary's advanced biowarfare institute in Budapest. However, the staff survived and after the war expressed a willingness to serve the new Hungarian Communist regime. Yet it appears that the new regime declined. Why did a cruel Communist dictatorship pass up this opportunity to augment its power? Were the other non-Soviet Warsaw Pact countries also free of biological weapons (BW)? Or did they participate in the Soviet BW program? This chapter aims to answer these questions.

Traditionally, Central Europe contained an array of nations exhibiting a diversity of ethnic origins, languages, and religious denominations. Ethnic tensions, traditional in this part of the world, easily develop into international military conflicts here, and, indeed, both world wars originated from this region.

At the close of World War II Poland, Czechoslovakia, Hungary, Romania, Bulgaria, and the eastern part of Germany were occupied by the Soviet Army. The Soviets manipulated political life to ensure that Communist regimes assumed the power. Communists took power in Yugoslavia and Albania as well. In 1955 Poland, Czechoslovakia, Hungary, Romania, Bulgaria, Albania, and, in 1956, the German Democratic Republic (GDR) signed the Warsaw Pact Treaty (WP), and thus formally became allies of the USSR. Attempts to leave this alliance provoked brutal reprisals by the Soviet Union, as in Budapest in 1956 and in Prague in 1968. Thus, these diverse nation states found themselves in a quite uniform historical situation. Their religious and cultural differences, including their ethnic ten-

sions, went into hibernation. Their governments, and the outside world as well, viewed them as a monolithic "Soviet bloc."

Hungary

The first known BW program in the region was in Hungary.[1] In 1936 the Hungarian Highest Defense Council authorized the Headquarters of the Hungarian Royal Defense Forces to establish a BW R&D project in 1936. This decision was said to be a response to reconnaissance information indicating that neighboring states had already started similar activities. A team including a medical bacteriologist, a veterinary parasitologist, a chemical engineer, and two laboratory technicians was organized and led by Colonel Dezso Bartos, a medical bacteriologist/epidemiologist. All employees were unmarried males who lived within the institute.

The institute was properly named the Health Control Station of the Hungarian Royal Defense Forces, and it was situated in an artillery equipment warehouse in Budapest. Surrounded by a high rampart equipped with a wire fence, it housed eight microbiological and one chemical laboratories, a library, an animal house, and storage. Research started in August 1938. The project involved explicitly offensive goals. Colonel Bartos viewed military personnel, civilian populations, agricultural crops, and livestock as potentially vulnerable targets of biowarfare. His team investigated three types of biological attack: by means of bombs and artillery shells, by means of secret agents working behind the front lines, and by contamination of territory before a strategic retreat.

The Hungarians developed and field-tested a number of technologies to be applied in such situations. Glass bombs ranging from 1 to 50 kilograms were used to produce wet and dry aerosols. Studies were focused on the influence of meteorological conditions and on the effective number of germs per unit area. *Bacillus anthracis* (anthrax), *Clostridium perfringens* (gangrene), *Salmonella paratyphi* (diarrheal disease), and *Shigella dysenteriae* (dysentery) were cultured as biological agents.

They also tested the viability of pathogens transmitted by infected projectiles from pistols and guns. Pathogens could survive the heat and mechanical shock of firing, causing infections through bullet wounds. Attempts were made to increase the virulence of *Salmonella paratyphi* by serial passage in laboratory animals.

They also invented a remarkably simple method to store inactive bacteria under field conditions without any loss of viability or virulence. This breakthrough enabled them to develop ways of manufacturing chocolate, toothpaste, and other domestic items contaminated with virulent pathogens. Although most research was intended to produce an offensive arsenal, elaborate plans to develop biological defense capabilities were also formulated.

The Hungarians attempted to establish relations with German and Italian military medical institutes working in similar fields. However, they never succeeded in finding an appropriate German connection, apparently because such an organization did not exist in Germany.[2] An important consequence of these efforts was that Professor Kliewe, a German microbiologist who visited Budapest in 1944, could give detailed information about the work carried out there when he was later interrogated as a prisoner of war by US officials.[3]

The Italian connection was more fruitful. A similar but larger research program was led by Lieutenant Colonel Professor Raitano at a military hospital in Rome. Scientists of the two institutes paid visits to each other and exchanged information. This is the only available information about the pre-1945 Italian biowarfare program; otherwise that project still remains unknown to history.

The Health Control Station was destroyed on 4 April 1944, when the Allied forces bombed Budapest heavily. The offensive biowarfare R&D project had reached the highest scientific standards of those days, but it was eliminated before it could reach the large-scale manufacturing phase.

At the end of the war many soldiers and civilians were simply caught in the streets and transported to the Soviet Union for a "little work," that is, for forced labor lasting several years. Colonel Bartos, who was among them, probably kept his BW career secret during his stay in the Gulag. However, soon after getting home he wrote a report on the BW program to the Hungarian minister of defense.[4] His report provided detailed information about the activities carried out at the former Health Control Station. He suggested that in the Cold War it would be most advisable for the Communist leadership to revitalize the project.

However, his proposal was apparently not accepted, and Bartos practiced medicine in Budapest until his death in the 1970s. We do not know

who made this decision and what the reasons were behind it. Probably the Soviet Union did not permit any major WMD program to be carried out in a satellite state, and it seems likely that the Hungarian Communist leadership did not even try to obtain permission. Whether the Hungarians shared their scientific-technological knowledge with the USSR remains unknown.

Thus, there was apparently no offensive BW research in Hungary after 1944, perhaps in part because in the nuclear era BW were viewed as inferior.[5] The former BW site was developed into a gun factory, and the military medical personnel were trained for defensive activities such as diagnosis and medication.

Although Hungary—and perhaps most if not all non-Soviet WP countries—had no major offensive BW programs, they might have contributed indirectly to some Third World programs as sources of know-how. A number of developing countries and the Palestine Liberation Organization sent thousands of students to WP universities during the Cold War era. Thus North Korean (in the 1950s), Libyan, Syrian, Iraqi, Palestinian, Vietnamese (in the 1970s and 1980s), Afghan (in the 1980s) and other students were abundant at campuses all over WP countries. Of course, some of these states could have had their students educated both in the East and in the West, but others were dependent on WP higher education exclusively. We do not know whether some of these nations utilized this possibility to build up an academic staff needed in a potential BW research program. Hints indicate that students of some Third World nations have been particularly interested in military medical sciences; for example, some 30 Libyan soldiers were attending the Semmelweis Medical University of Budapest in the 1970s—in uniform, and strictly separated from other students.[6]

In the 1970s the military medical staff of non-Soviet WP countries paid reciprocal visits to each other's main institutes. Although these visits were more or less formal, they mutually convinced participants that their countries were not involved in offensive BW programs. This was not surprising, since all military activities in these countries were strictly controlled by the USSR. As John Hemsley summarized: "Unlike CW [chemical weapons], in which non-Soviet WP countries carry out research into and practice the military application of CW, the USSR has a monopoly on all research and development into offensive BW. There is every indication

that this tight control will continue to be maintained."[7] Similarly, Colonel Kanatjan Alibekov, deputy director of Biopreparat before his defection in 1992, says, "to our best knowledge, none of our East-European satellite states worked on a BW program."[8]

Romania

Libya's interest in sciences relevant to biowarfare may be significant in the light of a possible Romanian-Libyan cooperation to develop BW agents from about 1980, as mentioned by J. D. Douglass.[9] The situation in Romania was always different from that in other WP countries. It switched sides from Germany to the USSR as soon as the front between retreating German and advancing Soviet troops reached Romanian territory. Consequently, the Red Army left this country a few years after the war. During the Ceausescu era (1967–1989), the "supreme leader" used nationalism to gain independence from the USSR within the context of Communism. He built closer relations with China and with the West. Thus, one cannot exclude the possibility that the Soviets' BW monopoly did not apply to Romania. Theoretically, Romanian-Libyan cooperation could have been mutually beneficial, since Romania had an advanced chemical industry, while Libya could provide areas for field-testing. However, we have found no information in the public domain bearing on the existence of such a program.

Czechoslovakia

Czechoslovakia—a country under strict Soviet control, especially after 1968—was also interested in biowarfare. It possessed a collection of viral and bacterial strains that might have been established for potential biowarfare purposes. In 1994 the newspaper *Cesky Denik* reported that viral and bacterial strains remaining from the WP era were still stored at the Immunology and Microbiology Institute of the Military Medical Academy in Technonin, Bohemia, and in the Central Military Hospital in Prague-Stresovice.[10] They included strains of bacteria causing plague, cholera, tularemia, meningitis, and psittacosis, and the smallpox virus. Former and current directors of the Technonin institute denied that any offensive weapon research had been conducted there and noted that

the institute had been opened to international inspection in 1990. Officials said that the strains served scientific research that was not military in nature, and did not violate any international agreement. Moreover, neither storage site had large-scale production facilities. Defense Minister Antonin Baudys ordered the destruction of pathogens soon after he learned of their existence, because they "were no longer useful." He said that the majority of the strains represented banal pathogens like influenza, but about 20 percent of them were "especially dangerous and exotic."[11]

The Czech Republic apparently did not inherit facilities needed for large-scale production and weaponization of pathogens. It seems unlikely that the collapsing Communist regime would carefully dismantle and eliminate such equipment while forgetting to destroy the strains themselves. It is much more likely that such facilities did not exist in the Cold War era. However, the possession of smallpox is notable. The possession of the smallpox virus outside two approved repositories is prohibited by international agreements since its global eradication in 1980.

We do not know whether the Slovak Republic also inherited anything related to BWs from Czechoslovakia.

Czechoslovak scientists appear to have been involved in the research, development, and application of psychoactive drugs in close cooperation with their Soviet colleagues. In the early 1950s, public testimony by Cardinal Mindszenty of Hungary and by American POWs in Korea asserting that America was evil and Communism superior shocked local people and Western experts alike.[12] These were the first signs to indicate that the USSR had developed "mind control" and behavior-modifying drugs. The extent of this program is hard to assess. The view stressed by Douglass is that it was a major and serious program starting as early as 1949, when neuropharmacology appeared as a new branch of science.[13] The scientists assigned to this KGB program included researchers from Czechoslovakia and the GDR. The first known operational use of Soviet mind-control drugs was the use of "confession drugs" in the cases mentioned above. Another family of drugs, named "friendship drugs," was used to manipulate, for example, the president of Finland and the majority of the Indonesian cabinet in the 1950s. Drugs were also used to eliminate religion from Communist societies. Friendship drugs made many bishops and priests "red," while others were driven to suicide or to insanity by drugs.

Of course, no pill can in itself turn someone into a Communist. Drugs were only one aspect of a complex psychological operation. The friendship drugs were administered over several days to suppress the target's natural inclinations or mental defenses. Thereafter, agents made friendly overtures and repeatedly advanced the desired point of view. If all went well, the target slowly adopted the new perspective. Thus the drugs were necessary but not sufficient; sustained operational efforts by intelligence agents were also needed.

This program paralleled another one to distribute classical drugs to particular target groups of certain countries, such as the army, the youth, and the "bourgeois leadership" of the US. The origin of this idea dates back to the Korean War, when the Russians observed the Chinese using drugs to soften morale in the US Army. Early Russian activities were intensified when Nikita Khrushchev formally extended the project to non-Soviet WP countries under the codename Peoples' Friendship.[14] Czechoslovakia's contribution appears to be most relevant to this project, while Cuba, Vietnam, Bulgaria, Poland, the GDR, and Hungary were also involved.

Most of our information about these programs comes from a Czech defector, General Jan Sejna, head of the Defense Council Secretariat and chief of staff to the minister of defense.[15] He was personally involved in planning and monitoring Czechoslovakia's participation in these programs from 1956 until his defection in 1968. A parallel source is Colonel Alibekov, who mentions a Soviet program codenamed Flute to develop psychotropic and behavior-modifying drugs. According to him, this was one of the two most secret projects (the BW program being the other) supervised by the Central Committee and the KGB. The program controlled many organizations such as pharmacology institutes and psychiatry clinics.[16]

Independent reports of former targets seem to verify the widespread misuse of psychoactive drugs. However, accounts by persons like Jan Svankmajer, who was a volunteer in drug experiments with his wife in Prague in 1972,[17] or Mihail Semjakin, who was subjected to forced psychiatric treatments in Moscow in 1968 to "medicate" his interest in religious arts,[18] appear to contradict the picture of a highly sophisticated neuropharmacological approach. Rather, they seem to have suffered from a forced use of brutal drugs.

Poland

Extensive military research concerning BW was also carried out in Poland. The Central Sanitary Epidemiological Laboratory and Ninth Sanitary Epidemiological Laboratory of the Front were established on 8 January 1945, just before the end of World War II. Captain Professor Edmund Mikulaszek was appointed the first head of this laboratory. He later became head of the Department of Microbiology at the Medical Faculty in Warsaw, and a member of the Polish Academy of Sciences. The laboratory was transferred on 10 February 1960 to the General Karol Kaczkowski Military Institute of Hygiene and Epidemiology (MIHE). The academic character of the MIHE is reflected in the fact that it was soon authorized to grant Ph.D. degrees in medicine and later also to supervise postdoctoral studies. Early research activities were apparently focused on military hygiene, ecology, epidemiology, microbiology, toxicology, and pharmacology. Interestingly, biological warfare against animals and plants was assessed as being particularly relevant. Once again, there is no evidence in the open literature even hinting at the presence of an offensive BW program at the MIHE. Today it is located in Warsaw and Pulawy (the Veterinary Research Center) and is involved in biological defense R&D.[19]

German Democratic Republic

Apparently the Soviet Union kept its extensive BW program secret even from the GDR, economically one of the most powerful members of the WP, despite the fact that some fermenter and dryer equipment was produced in the GDR.[20] However, whether the GDR did actually build up an offensive BW program remains a question that cannot be answered at present because of the inaccessibility of documentation pertaining to possible activities after World War II.[21]

Most of the open literature on GDR concerns about BW was written by scientists who were also advisors to the delegations representing the GDR at negotiations over the BWC and the Chemical Weapons Convention (CWC). These reports warned about possible threats due to new types of CW (such as bioregulators) as well as developments in the area of bio-

technology; they urged strengthening the BWC and negotiating the CWC to a successful conclusion.[22]

Bulgaria

One of the most dramatic incidents involving the reported use of a biological weapon, which occurred in 1978 and can only be described as bizarre, was the Markov case. Allegedly, the Bulgarian government of that time was supported by the Soviet KGB in planning and executing the murder of Georgi Markov, a Bulgarian dissident working in London. The incident gained wide coverage in the press and seemed to be clear-cut. In fact the evidence was largely circumstantial, and the involvement of Bulgaria and the KGB was inferred mainly through the reports of dissidents.

Markov was a popular writer and TV commentator in Bulgaria during the 1960s, and was a personal protégé of Todor Zhivkov, the former chief of state. He had special privileges that included access to Communist archives. While looking through this material he apparently became disillusioned with the regime. He had also written a controversial play. In 1969 he fled to Italy with his brother. In 1971 he was in London, working for BBC Radio's Bulgarian service as well as the Deutsche Welle and Radio Free Europe, using these forums to criticize the Bulgarian regime.[23] Zhivkov tolerated these broadcasts for some time, until in early 1978 Markov started reading from his memoirs, in which his criticism was not only especially hard, but also poked fun at the dictator. Soon thereafter Markov started receiving death threats: unless he stopped writing for Radio Free Europe, he would be executed in "a refined way, something out of the ordinary."[24]

On 7 September 1978, Markov was waiting at a bus station in London when he felt a blow to the back of his right thigh. He turned to see a man bending down to pick up an umbrella. The man apologized in a foreign accent and then went off. Markov went on by bus to his office. He complained to a co-worker of pain in the back of his right thigh, which showed an "angry red spot." A few hours later he left to go home. Soon he became obviously ill, and went to the hospital the next day with a high temperature, swollen lymph glands, and vomiting. X rays of his right thigh did not reveal any foreign body, and blood cultures were neg-

ative for bacteria. Nevertheless he had a highly elevated white blood cell count. He received antibiotics but soon went into kidney and cardiac failure, and died on 11 September.

An autopsy revealed pulmonary edema due to heart failure, fatty change of the liver pointing to toxemia, and hemorrhagic necrosis of the small intestines and the lymph glands in the right groin. Microscopic examination showed small hemorrhages throughout the heart muscle. Because of suspected toxemia, tissue samples of the right thigh area affected, along with the matching piece of tissue from the rear part of the left thigh, were sent to the Chemical Defense Establishment at Porton Down to be examined in an attempt to isolate and identify any toxin. During the histological examination a pinhead-like metallic object was found. This seemed to be a small metallic bead with two holes drilled in it at right angles. It was made of rare metals (90 percent platinum and 10 percent iridium) and measured 1.53 millimeters across with holes 0.34 millimeters in diameter. The holes could possibly have contained about 500 micrograms of toxin covered with a wax or a sugar coating that would melt as a result of body heat.

No poison was ever detected in this pellet or in the tissues examined. However, on the basis of Markov's symptoms, the Porton Down analysts speculated that the poison was most likely ricin, a highly toxic molecule extracted from the castor bean plant *Ricinus communis.* Almost everything else was ruled out in accord with the degree of toxicity that had to be achieved and the symptoms that were observed. However, no antibodies to ricin could be found in blood samples taken at the time of autopsy (not surprising, given the short interval between the presumed exposure and death).

The presumptions seemed to be supported by another incident that occurred in Paris some two weeks before the Markov case and involved Vladimir Kostov, a Bulgarian State Radio and Television correspondent who had defected to Paris in June 1978. On 26 August he was on the Metro when he heard a sound like an air gun being discharged behind him and felt a blow to his back, which later showed a small red spot. He became ill and was in the hospital for 12 days with a fever, from which he did, however, recover. Because of the Markov case, Kostov was reexamined sometime later, and X rays showed a foreign body in the region of the wound on his back. A pellet identical with that found in Markov's

thigh was removed from his back on 26 September. Furthermore, antibodies to ricin were found in Kostov's serum, suggesting that in contrast to Markov, Kostov's recovery provided the time needed for antibodies directed against the ricin in his system to develop. Kostov's recovery was attributed to the possibility that he might have received a smaller dose than Markov.

In the end, there was strong circumstantial evidence that Markov had been killed by ricin, but the examiners admitted that they could claim no more than that. Support for the claim came from another source. Oleg Kalugin, a former KGB major general, who was in charge of counterintelligence in the Soviet Foreign Ministry from 1970 through 1979, was stripped of his rank, his KGB decorations, and his pension after he broke with the organization in 1990. In an interview in London, he denied having anything directly to do with the Markov case, but implicated the KGB in the affair. He said that Dimitur Stoyanov, Zhivkov's interior minister, had asked the assistance of the KGB in the assassination of Markov. Kalugin personally sent two KGB operatives to Sofia in 1978 to provide Bulgarian secret service agents with dissolving poison pellets, concealed in the tip of an umbrella that was configured to inject them.[25] He went on to say that Stoyanov informed KGB officials that Zhivkov had ordered Markov's murder, and that Yuri Andropov, the late Soviet leader, who was the KGB director at that time, had approved the order. Oleg Gordievsky, a former KGB station chief in London, confirmed that the KGB had provided the poison pellet, which was manufactured in Moscow, and the umbrella, which was modified by KGB technicians.[26] The assassin (whose identity is still unknown) was supposedly supplied by the Bulgarians.[27]

The inquest into Georgi Markov's death returned a verdict of unlawful killing. With nothing more in hand at the time, the Markov case was closed. After the collapse of the Communist regime in 1989, it was reopened by the new Bulgarian government, which brought charges against Zhivkov and Stoyanov. However, the trial was in trouble from the beginning. All pertinent Bulgarian documents concerning the case had suddenly disappeared. The day before he was to give key testimony in the trial, General Stojan Savov, who had been the deputy interior minister under Zhivkov, committed suicide or was killed. Zhivkov, who was 80 years old at the time of the investigation, was said to ramble on in public and show signs of being close to senility, so that nothing much could be

expected from his testimony.[28] The only documented evidence against Zhivkov and Stoyanov is a Politburo decree from July 1977 signed by both, stating that "all measures can be used to neutralize enemy émigrés."[29] As late as 1997, the British government was appealing to Bulgaria to provide a definitive account of the incident so that the case could be closed. Sources in Bulgaria reported that there was no new evidence, and until this was found, nothing further would happen.[30]

Conclusion

All prerequisites upon which potential BW programs could build were present in the non-Soviet WP countries after World War II. At least one of them, Hungary, already had a staff experienced in BW R&D and motivated to continue the project. Another one, the GDR, had an advanced chemical industry; even the Biopreparat ordered some of its large equipment there. Czechoslovakia, possessing significant military-medical traditions, illegally collected pathogen strains relevant to potential weaponization. Bulgaria apparently felt a need for covert biotoxin capability, at least when it ordered the Markov and Kostov assassinations from the KGB. The scientific community provided a high level of research and education in biology and medical sciences, providing a suitable background for BW programs—a potential that might have been realized by some Third World allies. However, the USSR's determination to maintain a BW monopoly prohibited most—if not all—of the non-Soviet WP armies from conducting offensive BW programs. On the other hand, evidence suggests that East European secret services applied classical drugs, modern psychoactive drugs, and even biotoxins over several decades to destroy their enemies at home and abroad. The scale of this activity is still not well understood.