

THE GENERATION AND ROLE OF THE 1972 CONVENTION ON THE PROHIBITION OF BIOLOGICAL WEAPONS

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In the first half of the twentieth century, the humankind experienced two devastating global conflagrations that caused millions of victims. The killer vectors were the destructive effects of firearms and, to a lesser extent, death was brought by terrifying actions utilising combat gases and biological agents. During the Cold War, the great military powers of the world continued their efforts to produce, develop, and store biological means meant to secure their victory in future wars. As a result, the spectrum of biological threats had to be reduced, and relaxation measures were taken. The Convention on the Prohibition of the Development, Production, and Stockpiling of Biological Weapons and Toxins and on their Destruction, a document signed in 1972, has the undeniable merit in this respect. However, it must be acknowledged that this Convention was not the first step taken. Previously, in 1925, the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous and Other Gases, and of Bacteriological Methods of Warfare was signed. Although the effectiveness of this Protocol was low, the importance of such initial agreement is huge, as it opened the road to biological disarmament, and to increasing trust among nations. Arguably, following the severe Covid 19 pandemic, the 1972 Convention needs measures, policies, and actions to substantiate the desire of powerful states to gradually and totally eliminate biological arsenals worldwide.

Keywords: biological factors; disarmament; protocol; microorganisms; critical technologies;

Motto:

“The single biggest threat to man’s continued dominance of the planet is the virus.”

Joshua Lederberg, PhD,
Nobel Prize Laureate

INTRODUCTION

Scientific research on security environment describes biological impact, and, implicitly, biological weapons and bioterrorism as events or phenomena which may occur at any time, with unpredictable size, frequency, and consequences. History offers relevant, if not ample records of biological incidents. Certainly, biological events having afflicted the social and natural environment did occur in the past.

A biological crisis should be considered as a severe attack against human community security, due to vital resource contamination, critical facility damaging or physical destruction of numerous populations, following hostile or irrational actions. Biological challenge has the potential to activate a hard-to-measure destructive drive, with possibly catastrophic effects, and such disaster can occur in instances when the humankind fails to act intelligently, timely and in synergy. Through many supporting factors, the biologic agent dissemination is easy and quick. Globalisation supports rapid transmission of biological agents at large distances. Therefore, the pathogen biological impact factor presence is difficult to detect in due time, in view of implementing counteraction measures. The efforts of responsible authorities must be centred on surveillance and information, prophylaxis, detection, intervention, and treatment actions, isolation, and containment measures, as well as other measures pertaining to biological crisis management (Miller, 2005, pp. 10-11).

The history of war offers a plethora of cases where elements of biologic warfare were used by combatants to achieve their goals. The option of utilising the biological means stems from the threat vectors’ destructive potential, which is massive, and difficult to prevent. Given that the biological agents were microorganisms, the contamination factors were easily used as biological weapons in battle. Biological agents allowed Middle Ages, or even earlier age armed forces to achieve specific objectives. Biological weapons host a destructive potential surpassing the destructive possibilities of conventional or even chemical weapons, by their directivity towards live force. Easy utilisation, wide utilisation range, low production and dissemination cost, plus the impossibility of effective counteraction by unprotected warriors

or human communities make just a few of the issues which pushed towards international measures on banning the production, stockpiling, and utilization of such warfare means (Bogdan, 2016, pp. 27-28).

THE 1925 GENEVA PROTOCOL

As a nation participating in the First World War, Germany possibly conducted scientifically – operational activities in the field of biological warfare. It seems that Germany nurtured the desire to transfer infected livestock (with anthrax and glanders) to the United States and other enemy nations. Cattle and horses were transfer vectors, while infected sheep were used for livestock exports to Russia. There were also intentions by Germany to send cholera to Italy, and bubonic plague to Russia (to Sankt Petersburg). Germany also committed a biological bombing against British troops.

Germany adamantly rejected accusations regarding any activity of biological warfare and was successful in that endeavour. In 1924, after the end of World War I, a Nations League subcommittee was unsuccessful in the attempt to identify watertight evidence of the use of biological weapons in that global confrontation. However, the investigation commission was able to prove the utilisation of chemical weapons during the then recently ended WWI.

No doubt, there was an outstanding success for humanity. Various chemical and biological warfare implications, with specific consequences, resulted after WWI, and both warfare options were considered as potentially afflicting huge impact on human lives in an open conflict. Therefore, political and diplomatic efforts were necessary to stop further proliferation of such mass destruction weapons (Riedel, 2004, p. 401).

The *Geneva Protocol* appeared as a historical need stemming from the chemical and biological horrors of WWI, and negotiations unfolded under the League of the Nations aegis, in the framework of the League's main goal of preventing war. Consequently, on 17 June 1925, the "*Protocol banning the possession and use of asphyxiating, poisonous and other gases in warfare, as well as the ways in which bacteriological warfare should be waged*" was signed in Geneva, Switzerland. The document is also known as the "*1925 Geneva Protocol*", and bears the signatures of 108 nations, including the five permanent members of the present UN Security Council. The United States began the ratification of this document only in 1975. Due to lack of agreement on clear measures regarding the implementation of a severe control, in the line of trust and verification, the worldwide applicability of Geneva Protocol was limited.

The gaps in Protocol applicability and control were speculated by several signatory countries, even after the document was ratified in those countries. For example, Belgium, Canada, France, the Netherlands, Poland, Japan, Soviet Union, and United Kingdom continued efforts in biological weapon development programmes (Bogdan, Ibid, p. 29).

THE NECESSITY OF AN AGREEMENT BANNING BIOLOGICAL WEAPONS

After the end of the Second World War, German officials circulated accusations against the Allies for having used biological weapons. It is known that, following Hitler's personal intervention (he had suffered from battle gas effects during WWI), the German offensive biological program was terminated (Riedel, Ibid, pp. 402-403). Practically, Goebbels accused the British of attempts to disseminate yellow fever in India, by using infested mosquitoes brought from Western Africa, as transmission vectors. The German accusation is credible, because it would follow previous British efforts, such as London's actions of testing anthrax on Scotland shores. Due to massive contamination of Scottish soil, complete environment decontamination was achieved as late as 1986, when formaldehyde and sea water were used.

The United States initiated its offensive biological weapon production program in 1942, under coordination of a civilian agency, the War Reserve Service. The American program focused on anthrax and *Brucella suis* (bacteria which causes swine brucellosis). The necessary biological material was produced in Terre Haute, Indiana, and research was conducted in Camp Dietrick, Maryland (Bogdan, p. 31). The Japanese Imperial Army infamous actions in Manchuria are well known: Unit 731 committed unimaginable atrocities in the war zone, against Chinese war prisoners and civilian population (Riedel, pp. 401-403).

In the big picture, the humankind acts extremely sensitive after the appalling slaughters committed during WWII. Following the post-WWII specific vibe, the general public and experts expressed criticism regarding the major epidemiological risk generated by the unpredictable and indiscriminate utilisation of biological warfare assets, as well as regarding the lack of any possibility of adequate epidemiological control over biological weapons. These concerns were based on the lack of valid, trusted, and directly verifiable information about national program statistics of several countries possessing biological warfare potential. The seventh and eighth decades of 20th Century recorded significant progress in international understanding and détente. The whole world strongly felt the need for a climate of calm and trust, for achieving wide area geopolitical balance, for progress in disarmament, as well as for diminishing the high-risk arsenals worldwide. There was a general desire for a more predictable world, committed to build peace and cooperation among nations, even among potential adversaries (Bogdan, pp. 31-32).

Countries possessing high-level technological and military capabilities were in obvious disagreement regarding the Geneva Protocol stipulations. The document was certainly proving its low level of practical effectiveness (Riedel, p. 403). Facing quite concerning biological realities, the UN Disarmament Committee noted the massive advance in offensive biological weapons, in opposition to lower progress in protective, defensive systems. Hence, it was clear that mankind showed high vulnerability to the massive biological potential of destruction accumulated by numerous international actors. In these circumstances, it appeared absolutely necessary to establish the measure of banning the development, production, and stocking biological weapons. It was also necessary to introduce control and on-site verification measures strongly needed in cases of breaching the internationally agreed prohibitive measures.

THE 1972 CONVENTION BANNING BIOLOGICAL WEAPONS

In September 1969, the United Kingdom initiated a series of framework proposals to Warsaw Treaty member nations, in view of diminishing the biological danger. After several consultations within the Warsaw Treaty, East-European countries sent to the United Nations constructive proposals leading to banning the biological weapons. Of course, that action was possible and unfolded under Soviet Union supervision.

The document was a continuation of older desires and disarming efforts of the entire progressive humankind and should generate the elimination of fighting methods totally rejected by the world. Therefore, the necessary starting point was supposed to develop stipulations written in the 17 June 1925 Geneva Protocol, that banned the use of toxic, breath taking and associate poisonous gases, as well as the use of bacteriologic means in military campaigns. Obviously, these measures had to be extended in the new document wording. Thus, by signing the future Convention, significant steps had to be decided for establishing a true and ample disarming worldwide, including by establishing practical control measures on the types of weapons used for mass destruction (Bogdan, pp. 33-34).

Against this background, in 1972, the *“Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction”* was adopted. The document strongly stipulated the banning of development, processing and stockpiling pathogen agents or toxins in quantities exceeding the needs for scientific research. According to this document, research was meant to be conducted only for prophylactic objectives, for protection, and for other purposes in direct support of peace. The draft convention included the banning of sale, technology, or expertise transfer to

various countries, for other purposes. Thus, the convened document promoted the end of production, improvement, possession or stockpiling collection of pathogenic agents and toxins. Biological samples exceeding the minimal needs for research in this field had to be recorded and notified by quantity. Both the presence of stocks and biological weapon destruction process had to be controlled by effective measures, in transparency, under accepted international supervision. Additionally, immediately after the ratification of the treaty, signatory parties were committed to destroy stocks of biological materiel, distribution system and production equipment thereof, in a reasonable nine-month established timeline.

This historical agreement was possible by the consensus of 103 nations, and the *Convention* was ratified on 10 April 1972. It is worth mentioning that signatories who did not ratify the *Convention* offered their commitment to refrain from conducting activities in contrast with the goal of this agreement, until an official notification regarding the intention of not ratifying the document. Reviews of treaty stipulations were made in 1981, 1986, 1991, and 1996. As a deterrence measure, the *Convention* signatory parties had to communicate genuine data on facilities where activities pertaining to the document unfolded (biological research for defensive purposes, scientific conferences in venues under the incidence of the treaty, experience exchanges, focus groups, information transfers, other events with biological profile). Communications on such issues had to be made annually.

Ratification instruments and documents on new membership were to be deposited by the governments of United Kingdom of Great Britain and Northern Ireland, United States of America, and the Union of Soviet Socialist Republics, designated as depositary nations of the *Convention*. The agreed document was written in English, Chinese, French, Russian, and Spanish, as equally valid documents, the official papers being stored in Washington, London, and Moscow. Legally certified copies of the *Convention* were sent to the governments of signatory nations, as well to those governments who adhered to this agreement.

THE WORLD AFTER THE 1972 CONVENTION

It is interesting to see the evolution of the countries that developed biological programs or activities in biological weapons, as result of a specific dynamics. It is worth mentioning that numerous breaches of the international agreement unfolded in an increasing number of such countries:

- although they proceeded to ratify the Convention, in 1972 there were only four countries to have finished the ratification procedures;
- in 1989, ten countries were conducting biological activities;
- in 1997, twelve countries were in breach of Convention stipulations;

- in 2001, thirteen countries were conducting biological activities (Gould, Folb, 2002). Even in official documents, the United States position was somewhat ambiguous. Although the effort focused on the defensive issues of biological warfare activities, the offensive research was intended too, obviously for national security reasons. It is true, the divide between the offensive and the defensive domains, even for monitoring purposes, appears to be difficult to establish, because there is a common segment of initial scientific effort. Even the final divergent developments include plenty of elements which allow the migration of the real contents of a biological activity, obviously for propaganda reasons (figure 1) (Leitenberg, 2005, pp. 71-73). Clearly, during the next years, the number of countries having eluded 1972 Convention stipulations increased.

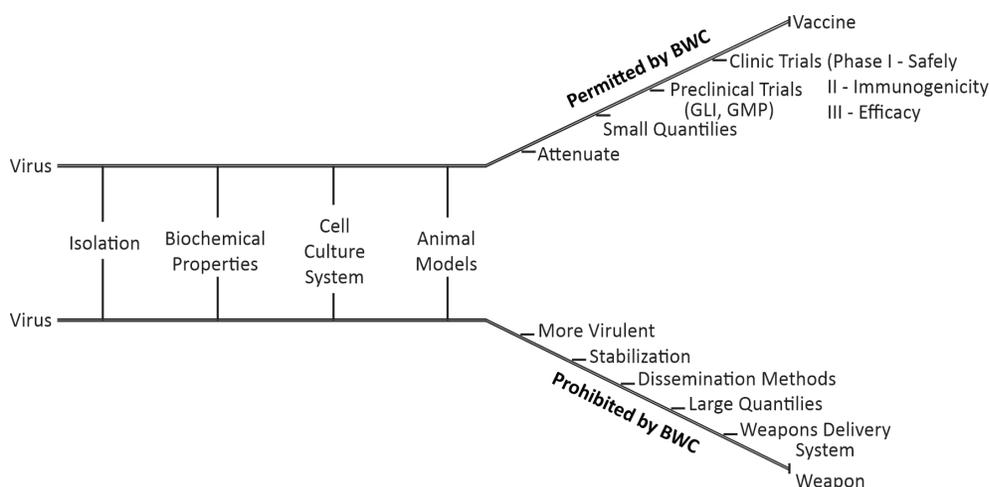


Figure 1: Common laboratory techniques (hypotheses) (Leitenberg, 2005)

The collapse of the Soviet Union and the Warsaw Pact termination (1991) increased general concerns regarding the protection, control, and responsibilities of entities possessing biological agents and other mass destruction weapons, plus associated materials, and technologies. The same, arguable concerns appeared, and they stemmed from potential unemployment and from the migration of thousands of scientists or specialised personnel towards areas of instability and future risk for the peace of mankind. It is known that biological attacks can cause catastrophic numbers of victims. After the collapse of the Soviet Union and the Warsaw Pact, in the conditions of the chaos within the Red Army, there was little control to establish the kinds of biological weapons that should not leak to the black market or unauthorised hands. The danger was certain and high, as the offensive biological substances

could reach in the hands of extremists or terrorist organisations. Also, universities and research centres conducting medical research with various dangerous bacteria, toxins, and pathogen substances were potentially lacking sufficient security measures. Therefore, destructive biological factors are very vulnerable to stealing from hospitals, universities, research or testing facilities, and from stockpiling and decommissioning facilities. Anarchist organisations might intend to extend the size of their attacks by indiscriminately damaging more event scenes (special events, periodically or occasionally crowded spaces, high value targets, to contaminate wide areas or to widely spread the infection) (Bogdan, pp. 35-36).

The September 11 attacks in the US should be remembered also for the distribution of letters contaminated with anthrax spores during the week following the terrorist attacks, through the US Postal Service. Due to domestic incidents regarding the utilisation of anthrax since 2001 to the fall of 2003, American authorities used \$ 7 – 8 billion in counter-bioterrorism programs. This money was necessary for damage control and for efforts meant to restore the level of biosecurity at national level. Earmarking such funds was meant for protection against the terrible bio-terrorist possibilities which may occur in the future. Further efforts and funds constantly increased thereafter (Leitenberg, pp. 65-67).

In December 2002, after the occupation of part of Afghanistan, the United States identified indications and data demonstrating that al-Qaeda was interested in purchasing knowledge and technologies pertaining to biological agent production (Mackby, 2003, pp. 6-7).

It is worth mentioning that, between 1989 and 1992, the Soviet Union breached the Convention regarding biological weapons, because, after ratifying the Convention, in 1975, it proceeded to develop a massive secret program on biological weapons, perhaps the largest in the world (Biological Weapons, 2000).

- The use of biological weapons or agents by terrorist organisations or non-state international actors seems to be very convenient, because:
- They can generate victims in mass numbers, the destructive agents can elude legal control, as the substances have dual use.
- Hostile entities intend to overwhelm the governmental system's emergency response capability, regarding the biological crisis.
- They brutally disrupt human community routines, cause, and increase panic and fear of numerous human communities.
- They contaminate and turn inoperable national key facilities, therefore blocking the economic and social life for indefinite periods of time.
- They destroy the trust of human communities in their authorities' capacity to protect the society and the environment, so afflicting the society resilience (Ackerman et al, 2006, pp. 12-14).

The past century knew a remarkable progress in development of biotechnologies and biochemistry, which hugely increased the possibilities to produce and develop biological weapons. Genetic engineering significantly contributed to increase the biological agents' own destructive potential. Industrial production of aggressive agents surged easily and diverse, benefits technological support for increasing the destructive effect, and significantly extended the countries' capability to develop biological agents presenting high risks in case of utilisation in combat (or accidental release) (Miller, pp. 11-13).

As a result, during the latest decades, biological weapons have become a significant concern of responsible officials in national security. The technological revolution of the 90s extended the proliferation of biological weapons among countries, leading to non-state actor participation. Among potential non-state actors, there are terrorist groupings with large financial strength. Therefore, the illegal intentions and activities regarding the use of biological weapon destructive capacity continued to be of current interest and saw an increase in development efforts (Bogdan, Ibid).

CONCLUSIONS

The Convention on biological weapons is a document extremely necessary to the humankind. We insist upon the priority that the value of the Convention should increase a lot in the future, by identification of desirable ways to verify the implementation and respect of its stipulations, therefore, by effective measures of implementing the Convention in international relations. Currently, a swift information exchange is needed to become operational for trustful data regarding the main governmental institution stockpiles that pose adequate biological potential. In view of avoiding dangerous biological situations, research intentions (offensive or defensive) should be known, as well as the typology of utilised agents, the size of projects, quantities of agents used in various activities, and implemented biosecurity measures. Dangerous stem stocks are not to be taken out from storage and transported outside bio-secured facilities. Dangerous stems should be stored only in secure biological research spaces or destroyed in full biosecurity conditions. The priority in the effort of biological prevention includes the participation of all nations in the world (Mackby, pp. 9-12).

The 1972 Convention should not be regarded as a panacea regarding the problem of biological threat in the world. The increase in measures and capabilities of surveillance, detection, diagnosis, vaccine production, and treatment procedures will amplify the possibilities of diminishing biological threats. Systematic overlapping efforts are necessary, and the international organisations should militate for extending the contents of international agreements established in this domain.

It is also necessary to put in practice the common vision of balance and action for increasing the trust and stability in the world.

It is already well known that, in globalisation conditions, the biological crisis should be approached in synchronisation across the globe. Such global conception fosters the coordination of efforts by all nations worldwide, as well as the unitary distribution of recent information, access to critical technologies, joint use of viable treatment procedures, and cooperation among relevant institutions. At national level, a unitary strategic leadership is of paramount importance for biological crisis management, with adequate various measures for prevention, crisis effort, and damage control.

Therefore, concerted efforts are necessary by all nations of the world for generating a new convention in the future, an agreement meant to take over all conclusions and lessons learned from the Covid 19 pandemic, and more effectively support: biological disarmament measures; destruction of dangerous stockpiles; redefining the biosecurity norms; an established presumption of nations' right to protection against offensive biological actions; prevention; monitoring; facility and experiment facility control; as well as mutual support during biological crises. All these should generate protection to the world against biological factors, for securing life on Earth and the progress of tomorrow's society.

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