

**BACTERIOLOGICAL (BIOLOGICAL) AND TOXIN  
WEAPONS AS THE SOURCE OF ENDANGERMENT  
FOR THE CONTEMPORARY WORLD AND THE  
REASON FOR THE INTERNATIONAL LAW  
REGULATIONS BEING A SUBJECT OF ABUSE**

*by Wojciech Stankiewicz*

*Determined, for the sake of all mankind, to exclude completely the possibility of bacteriological (biological) agents and toxins being used as weapons,  
Convinced that such use would be repugnant to the conscience of mankind and that no effort should be spared to minimise this risk...<sup>1</sup>*

(taken from the Preamble of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, 10 April 1972, came into force on 26 March 1975.)

Among the kinds of CB Weapons<sup>2</sup>, the chemical one might be considered as the one with the longest history of widespread warfare applicability, whereas the biological one as the developed problem of the recent two centuries but also having its roots in ancient eras<sup>3</sup>. The consequences of the usage of CBs are acknowledged by the international conventions dealing with the CB phenomenon. Although the provisions provide solutions and declarations of the minimised usage of CB weapons as the method of warfare and the limited laboratory testing in accordance to the sake of all mankind, the problem still exists. Nowadays, it is especially discussed after the events of 11.09.2001, which brought about the airborne attack on the the two towers

---

<sup>1</sup> K. Alibeck, S. Handelman, *Biohazard*, Random House Inc. 2000, p. 5.

<sup>2</sup> Short for: Chemical, Biological Weapons; further: CB Weapons or CBs.

<sup>3</sup> P. Rogers, S. Whitby, M. Dando, *Nowa Broń masowej zagłady?* "Świat Nauki" 1999, no. 11, pp. 48–53.

of the World Trade Centre in New York and the proceeding events of the *Bacillus anthracis*<sup>4</sup> intoxication spread across the United States of America.

The aim of this article is to deal with and present the possible future endangerment stemming from the fact of usage and laboratory testing of some lethal microbes with the present international conventions concerning the problem mentioned above as the subject of abuse. As it shall be presented, some of the processes of production, the amount, the manner of storage or usage of the CBs are not a subject of any international supervision or control and what is more, lack the basic principles of security. It will also be argued that the governments, Special Forces and other agendas are not well prepared for the possible chemical or biological attacks, which shall be proved by the examples of the “lethally” unsuccessful simulations of such attacks performed in the recent years (mainly in 1998 and later). What is more, the possible and already observed consequences of contact with lethal microbes for the human beings shall be discussed, and further: the problem of world-wide vaccination programme as well as the problem of innate immunity. All of these problems shall be preceded by the brief historical introduction and the aspects of international law regulations concerning the CBs phenomenon, which seem to be essential as far as the full understanding of the subject matter is concerned.

The article shall be the attempt to discuss the following research questions:

1. what are the origins of bioterrorism or whether it is a new phenomenon?
2. what are the international law regulations concerning the subject matter and in what aspects are they a subject of abuse?
3. why it is so difficult to determine whether a country possesses the biological or toxic material and for what purposes it is used. What are the countries that possess the biological weapon and whether they are acting contrary to the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction?
4. what are the features of the biological weapon attack and for what reasons are they so effective? What is the endangerment stemming from the biological weapon attack whether there is a remedy in antibiotics and the world vaccination programme, or is it rather the foundation for further endangerment?

To present the subject matter the analytical, comparative and politological methods shall be used, while dealing with historical aspects – the historical method.

---

<sup>4</sup> Latin term for the anthrax microbes, further: anthrax.

## HISTORICAL ASPECTS

The traces of usage of the CBs might be found already in the VII B.C<sup>5</sup>, where during the warfare some lethally poisonous substances were used to fight the opponent as well as the “Greek fire” which consisted of such materials as: pitch, resin and sulphur<sup>6</sup>. However the history of the phenomenon known as the “biological warfare” began in the XIV century as a result of the actions undertaken by the Tartars<sup>7</sup>. They used their soldiers intoxicated with microbes of *Yersina pestis*<sup>8</sup> to fight their opponents situated in Kaffa (Teodosia). The inhabitants forced to abandon their city were supposed to bring plague to Europe, which is said to be the ultimate cause of the epidemics lasting in the years of 1347–1351. At that time other countries condemned the conduct of warfare with the usage of such substances (known nowadays as the CB substances) as for being the malice of the unwritten international law. In their condemnation they stressed that in the ancient history of Athens, Rome or India, scarce examples of the usage of biological and toxic agents in order to poison the opponent, water or air were presented<sup>9</sup>.

The first well-documented examples of the usage of the CBs were distinguished within the history of the World War I (1914–1918). Although the condemnation of the international community and the undertaken provisions of the Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases and of Bacteriological Methods of Warfare (17 June 1925), which was supposed to prohibit the usage of the CBs during the conduct of warfare; next examples of the abuse of the Protocol may be observed within the history of World War II (1939–1945). Also the Poles had their influence in the development of the biological warfare during the World War II<sup>10</sup>. Armia Krajowa (conspiracy, military organisation, set up by the Polish Government on Exile in order to realise the independence idea<sup>11</sup>) in order to fight the opponent used (on minimal scale however) some biological substances (i.e. the microbe fever and the infected louses) in order to kill hundreds of German

<sup>5</sup> M. Krauze, I. Nowak, *Broń chemiczna*, Warszawa 1984, p.11.

<sup>6</sup> S. Franke, *Lehrbuch der Militarchemie*, Berlin 1977, p.15.

<sup>7</sup> D. Baliszewski, *Zaraza nowego wieku, historia bioterroru*, “Newsweek”, 28.10.2001, nr 8, p. 47.

<sup>8</sup> Latin term for: plague; further: plague.

<sup>9</sup> J. Kołodyński, *Bakterie na wojnie: co wiemy o broni biologicznej*, “Aura” 2000, nr 1, s. 11–12.

<sup>10</sup> The Oxford Companion to the Second World War, Oxford 1995, search: “biological warfare”.

<sup>11</sup> *Encyklopedia Popularna PWN*, Warszawa 1982, p. 42.

soldiers and Gestapo agents. Further after-war examples of the bioterrorism acts took place as follows (only the most important are mentioned):

1979 – catastrophe in Swierdlowsk (Russia) where the poisonous fumes from the military factories intoxicated over 66 people with the microbes of anthrax and plague

1984 – Oregon (USA) where the members of the religious organisation Ma Anand Shella poisoned food with salmonella in four restaurants, 750 people were affected.

1995 – Tokyo (Japan), the religious organisation called “The Highest Truth” intoxicated the air in the subway with SARIN – highly poisonous gas provoking spasms and paralysis. 12 people died and 5500 were poisoned. The organisation was also convicted of the attempts of producing the “biological bomb” as they went to Zaire for the lethal Ebola virus.

1995 – Ohio (USA) Larry Harris (laboratory technician) ordered from the bio-medical company some plague bacteria, and as it turned out later was found to be the member of the organisation which belief was the superiority of the white human race<sup>12</sup>.

2001 – USA – various cases of envelopes containing anthrax spores being sent to citizens. It was firstly believed to be an act of terror of Usama Bin Laden’s (a person believed to be the organiser of the WTC attack on 11.09.2001, New York) people, but then turned out to be the act of domestic origin.

#### **THE INTERNATIONAL LAW REGULATIONS CONCERNING THE PROBLEM OF CBS**

The first attempt to prohibit the usage of the poisonous substances was undertaken in 1874 during the Brussels Conference.<sup>13</sup> Although the decisions formed thereupon never came into force, they were the basis for the agreements during the first Hague peace conference in 1889. The problems concerning the CBS were also discussed during the second Hague Conference in 1907. After the World War I when the CB weapons were used, it was necessary to come back to these problems again in the particular peace treaties with Germany as well as the Versailles Treaty (1919). The next example of provisions concerning the usage of CBS was present in the treaty signed in Washington (USA) in 1922, but it never came into force. The most significant breakthrough treaty was signed in 1925, Geneva – “Protocol for the Prohibi-

---

<sup>12</sup> D. Baliszewski, *op.cit.*, p. 48.

<sup>13</sup> M. Krauze, I. Nowak, *op.cit.*, p.264.

tion of the Use in War of Asphyxiating, Poisonous or other Gases and of Bacteriological Methods of Warfare” which provisions stated:

1. that the usage of chemical gases and biological agents in warfare is prohibited and condemned by the International Community
2. that the provisions of the Protocol are binding *si omnes* (due to the Martens’s Clause); for example: although USA and Japan did not ratify the Protocol, they were bound to act in accordance to the provisions of it with no exception.

The problem also emerged after the World War II in the peace treaties signed in 1947, 1951 and 1955 concerning the prohibition of production, and possession of the CB weapons by the countries.

In 1972 (10 April) the “Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction” was signed in Geneva (came into force on 26 March 1975). Its provisions stated:

1. the obligation of the parties not to produce nor purchase the biological and toxin weapons
2. the obligation to destroy any existing reserves of biological weapons within 3 months from the Convention’s coming into force
3. the obligation to regulate these matters within the inner law of each party - state
4. the obligation to exchange the scientific information concerning the subject matter
5. the obligation to use the biological and toxin materials only for the peace purposes<sup>14</sup>.

Although the provisions of the treaties, which were mentioned above, are in force, according to the Office of Technological Assessment (the USA Senate Commission’s Bureau of the Technology Estimations) over 17 countries of the world are in the possession of CB weapons<sup>15</sup>. What is more, despite the obligation (from Geneva Convention, 1972) not to produce the biological weapon, these countries are in constant seek for the mutated and modified in other chemical ways, germs of the lethal microbes, which are aimed to kill people<sup>16</sup>. Although some scientists prove that the sole possession or laboratory work on anthrax or plague microbes does not indicate the aim to produce the biological weapon of mass destruction, it has been proved that even the most primitive germ of microbe produced in numerous quan-

<sup>14</sup> M. Krauze, I. Nowak, *op.cit.*, p. 265.

<sup>15</sup> K. Alibeck, S. Handelman, *op.cit.*, p.220.

<sup>16</sup> L. A. Cole, *Widmo zagrożenia bronią biologiczną*, “Świat Nauki” 1997, no. 2, pp. 46–52.

tities is a good material for a CB weapon. The international law also lacks the detailed provisions regulating the access to the biological and toxin material from the biotechnology companies spread across the world. Nowadays (apart from America who has new strict regulations concerning the possession of CB materials by the civil citizens) it is sufficient to be a member of any laboratory staff to order and obtain spores of anthrax, plague etc. for laboratory testing and no supervision is applied whether the materials are in reality used for their original purposes. It has been also argued that in reality it is difficult and sometimes impossible to trace the amount and purposes of the CB material stored in many state or private laboratories.

A specific situation may be discerned in Russia. According to the “Время” news presented on the Russian OPT channel on 05.XI.2001 apart from the state laboratories dealing with lethal microbes, there are numerous private ones which work with these materials as well. This situation stems from the fact that the state ones lack money and equipment which is necessary to work with potentially lethal microbes thus they devolve their competencies upon the private ones. The problem is that there is generally no supervision over the amount, type or other features of the material that is tested and worked upon there. Other controversial question is the quality of equipment that is used for testing – it is said to be primitive and lacking the basic principles of security. What is more, the International Community is especially concerned with the fact that Russia (as the only world state nowadays) keeps the anthrax microbes in their alive form. For example in the United States these are kept in their non-alive forms as they are said to be safer and less contagious in the case of eventual exposure.

The specific situation of Russia stems from the fact that this state, just after the signing of the 1972 “Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction” started (in disclosure) the greatest world project concerned with the testing and production of the CB weapons, which is known as the “Biopreparat” project. The starting point for this project was the 1973 top secret decree signed by Brezniev, which concerned the modernisation of the existing biological weapons and the making of the genetically modified pathogens resistant for vaccinations and antibiotics which could be used in the eventual intercontinental conflict. This programme was named “Enzyme” and gave a start to the “Biopreparat” project. This undertaking was said to be a part of the world-wide CB armament – race contrary to the provisions of the 1972 Convention mentioned above. The “Biopreparat” project was launched in 1973<sup>17</sup> and formally was said to be the governmental institution (under the Ministry Council, later under the Ministry of Medical and Microbiology

---

<sup>17</sup> K. Alibek, S. Handelman, *op.cit.*, p. 234.

Industry) responsible for the civil laboratories dealing with vaccinations, biopesticides, hospital and laboratory equipment. In reality, these objects were either the factories producing the CB weapons, or they were in constant alert state for the production of such material in case of any military conflict. According to Ken Alibek (real name – Kenatjan Alibekow, the former chief of the “Biopreparat” project, the inventor of one of the most dangerous germs of anthrax), the budget of this undertaking exceeded 1 000 000 000 dollars per year and involved over 60 thousand people (the best specialists in biology, epidemiology and biochemistry) working in the laboratories spread across Russia<sup>18</sup>. The works upon the biological material included not only the methods of spreading but also the various mutations of the microbes, for example the attempts to produce chimeras of anthrax and plague. There were also undertakings to produce such biological substances or mutate the existing ones in such manner that they would be resistant to any antibiotics and medicines known to mankind. The project was the more developed the weaker position was held by Russia in the international arena. The possible endangerment stemming from the fact of Russia’s possession of the B weapon is as follows:

- in 1989 the existence of “Biopreparat” project was acknowledged by the USA and the United Kingdom and they stated that the 1972 Convention was broken by Russia. As a result Russia was supposed to ban the programme and produce a decree concerning this matter. Indeed, such a decree was given out in 1990 but at the same time there was a second one edited which stated that every measure should be undertaken in order to save the alert state of the production of B weapon in case of the military conflict. Given diplomatic notes by the USA and the Great Britain, Russia was defending herself by the unclear definition of the “biological defence” from the 1972 Convention and stated that she does nothing more than preparation for eventual “defence” in case of a military conflict,
- because the Biopreparat, and former Enzyme, were secret undertakings and under cover of the civil programmes, there is no knowledge about the real number of possible factories or laboratories which are involved in the programme and are still capable of production of lethal microbes,
- Biopreparat as well as Enzyme worked upon the most lethal microbes and were involved in the methods of spreading and mutation of them. The science used for these undertakings was at the world’s highest levels as it involved the best specialists in these branches of knowledge. Although the programmes officially do not exist, the knowledge and experience has not evaporated and might be

---

<sup>18</sup> *Chemical weapon destruction in Russia: political, legal, and technical aspects*, edited by J. Hart and C. D. Miller, Oxford, New York 1998.

used now or in the future, possibly not in the peace aims. It has also been proved that the former staff involved in the “Biopreparat” project, have moved abroad and are employed in Iraq for instance or other countries working upon the B weapon projects.

- The power of this state is also highlighted as it possesses (together with the USA – Contagious Diseases Centre<sup>19</sup>, Atlanta – exclusively) the Variola (small-pox) microbes in their laboratory under the city of Novosibirsk.

According to another report of the Office of Technological Assessments over 17 countries of the world are probably in possession of the B weapons. Among them are: Libya, North Korea, South Korea, Iraq, Taiwan, Syria, Israel, Iran, China, Egypt, Vietnam, Laos, Cuba, Bulgaria, India, Republic of South Africa, Russia<sup>20</sup>. It might be assumed that the number of the countries has increased in the recent one or two years. It is especially difficult to state clearly whether one country possesses the B weapon or not because it is not easy to distinguish between the military complex and the laboratory buildings. Sometimes a sheer coincidental event proves the possession of the B weapon as it was in the case of Iraq. The International Community got to know about the Iraq’s possession after the escape of the Saddam Hussein’s (Saddam Hussein – president of Iraq from 1979, who engaged in costly and unsuccessful wars against the neighbouring countries) son in law – Hussein Camel. The programme of the production of the B weapon in Iraq took 10 years (was launched in 1985). They were working on anthrax and other toxins, which were also extracted from the corn seeds and the nuts. In 1996 the United Nations Organisation<sup>21</sup> inspectors found the factories producing these materials and destroyed the Al. Hakun (the name of the Iraq’s city) object. Nevertheless, Iraq managed to compile hundreds of thousands liters of the liquid form of anthrax and other pathogens. Up to now, Iraq is suspected of possession and laboratory testing of the lethal microbes and constantly tries to avoid the UNO’s inspections. The same example might be distinguished within the “Biopreparat” case when the USA and the UK got to know about the existence of this programme after the escape of one of the laboratory workers – Vladimir Pasechnik (he was a chief of the Ultra-Clear Biopreparates Institute). As it is shown, the B weapon programmes, if they exist in a particular country, are kept in disclosure and it is possible that nobody will ever know about their existence unless a coincidental event takes place like the ones mentioned above.

In general, the terrorist actions, especially after the Cold War (1945–1957 an open, yet restricted rivalry between the United States of America and Russia with their

---

<sup>19</sup> Contagious Diseases Centre: further CDC.

<sup>20</sup> K. Alibek, S. Handelman, *op.cit.*, p. 220.

<sup>21</sup> United Nations Organisation – short UNO, further: UNO.



respective allies) became influenced strongly by the political, economical and technological aspects. It is common that the organisations or capitals, which prepare the strategies and technologies, that are aimed at killing people, back these acts of terror. The great endangerment for the contemporary world comes from the Islamic radical fundamentalism. It is a strong enemy from the material, moral and military point of view because:

- it is fanatically aimed at building the “state of god”
- it is the source of the contemporary Cold War called by the fundamentalists the “Sacred War” which aim is to rule the Islamic religion upon the whole world

It is significant that they use every possible measure to fight for their beliefs, including the acts of terror. Because they are financially backed by the prosperous people or organisations, they are capable of purchasing and using the most advanced military technologies, including the atomic as well as the biological and toxin materials<sup>22</sup>.

It is possible that the Fundamentalist will be the third power (after the communism and fascism) attempting to gain power over the world. The first major one was on 11.09.2001 when the Islamic fanatics conducted the airborne suicidal attack on the two towers of the World Trade Centre in New York (USA). The endangerment of Fundamentalism stems not only from the fact that the Islamic countries possess the B weapons but also because their religion and beliefs provoke them to use every measure in order to spread these religious dogmas. During the attack on the WTC around 6000 people were found dead, whereas with the usage of the biological or toxin agent this number could have been multiplied. For example due to the usage of 50 kg of any airborne lethal microbe this number could have reached over a few hundred thousand of dead people<sup>23</sup>.

What might be the other endangerment concerned with the usage of the B material?

- the lack of preparation of the governments and Special Agendas for such attacks
- the difficulty to determine whether the attack has been conducted with the usage of the toxin material, and if so, what kind of material has been used within the specific time limits
- the difficulty to protect people from the actions of the lethal microbes, the problem of vaccinations, antibiotics and medicines which are not sufficient for the contagious B weapon

---

<sup>22</sup> C. Gearly, *Terroryzm*, Warszawa 1998, p. 7–9.

<sup>23</sup> J. Parker, *The Killing Factory*, Colori 1999, p.. 186.

- the lack of knowledge about the subject matter, a provoked panic after the attack on the WTC and the proceeding events of anthrax spores being sent to citizens ( after this mailborne attack one person died and eight more were affected) which resulted in a constant alert state for the possible B weapon attacks.

According to the statistics, people fear possible future attacks – by conventional explosives (31%), by anthrax (27%) and by Variola/ smallpox (22%)<sup>24</sup>. As a result of this, many agendas are training in order to be prepared to defend civilians from the possible BW<sup>25</sup> attack. Since 1998 various simulations of BW endangerment have been conducted, most of them being unsuccessful. According to Tom Mangold and Jeff Goldberg's book "The Plague Wars" (published in the UK in October), the world is going to face the bioterror attacks in the coming ten years. Also Polish scientists are concerned with the subject matter as Prof. Janusz Jeljaszewicz (the director of Państwowy Zakład Higieny w Warszawie) presented to the Ministry of Health the work concerning the possible bioterror endangerment in Poland and in the world<sup>26</sup>. As it turns out, the bioterrorism attacks are no longer the science fiction reality, but stand for the real endangerment of the contemporary world<sup>27</sup>. After the contamination of the microbes causing smallpox, flu or typhus, people became to believe that they no longer stand for the possible endangerment. Baring in mind that many spores of lethal microbes are still kept in the laboratories and used for testing, as well as their capacity to mutate, create survival forms, spread and multiply, the protection and safety becomes less obvious.

The best example might be the AIDS (Acquired Immune Deficiency Syndrome – a viral disease caused by the immunodeficiency virus called HIV, that impairs the immune system of the human body leaving it not resistant to pathogens) as being the result of testing viruses on monkeys, which spread in uncontrolled way and affected human beings. Another one might be the example of the after-war testing of anthrax performed by the UK on one of the Atlantic Ocean islands (including tests on animals as well), which resulted in the necessity to quarantine and finally close the island as the site constantly affected and contagious with anthrax.

The United States of America are said to be the best-prepared country for the possible BW attack. The President has his own agenda, which is solely concerned with the aspects of bioterrorism. As a result of that most of the US major cities

---

<sup>24</sup> G. Cowley, *Epidemic Threats*, "Newsweek" (American edition), October 29, 2001, p. 45.

<sup>25</sup> BW – short for Biological Weapon, further: BW.

<sup>26</sup> R. Kocwa-Haluch, *Wirus ospy jako potencjalna broń biologiczna terrorystów*, "Czasopismo Techniczne" 2003, vol. 1, pp. 127–133.

<sup>27</sup> J. Mierzejewski, *Bioterroryzm*, "Postępy Mikrobiologii" 2001, vol. 3, pp. 279–285.

perform simulations of the possible attacks and train their forces. The simulations in most of the cases fail to succeed which might illustrate how difficult and impossible it is to fight the biological or toxin weapon<sup>28</sup>.

One of the scenarios of the performed simulation proves that it would be sufficient to perform the attack with the usage of a boat, some sprays and 50 litres of liquid anthrax, plague or variola. The boat, floating near Manhattan could have been able to contaminate the quantity of 500 000 people of the population of the city of New York, if the sprays were used to make the liquid airborne, and only 50% of the substance reached the banks of the city<sup>29</sup>. Another simulated situation produced even more horrendous results. The operation was called the "Dark Winter" and was performed by the United States' Department of Health and Human Service. The experts (two dozen altogether) have gathered for 24 hours at Andrews Air Force Base and worked to contain the simulated bioterror attack. They did not manage to do it although the case started with few examples of patients turning up in hospitals of Oklahoma, Pennsylvania and Georgia exhibiting aches, fevers and rashes characteristic of smallpox (the disease contained, which had not been developed by a human being since 1977). Although the experts engaged all possible forces and what was left of the old nation's vaccine stock, the disease managed to spread to 25 US states and 10 foreign countries. The expert epidemiologists projected 3 million cases and over a million deaths within the 90 days<sup>30</sup>.

After acquiring the knowledge about the endangerment of the microbes, the scientists from the United States Defence Department launched a project called "Bachus"<sup>31</sup>. Within the year 1999 special agents travelled throughout the USA and collected some used equipment which might have been recycled for the production of some B weapon. Within the summer of 2000 they managed to purchase filters, pipes, glassware, nutrient, a fermenter (for growing the colonies of anthrax) and a special milling machine (to grind down the spores in order to make them more infectious). The experiment proved that it is not difficult to acquire a small BW plant – the whole undertaking's cost was 1.6 million dollars only. It was significant that the equipment purchased previously belonged to the state or private laboratories. The same machines and equipment are used in order to produce antibiotics or vaccines as the ones destined for the production of anthrax or other B weapon. This is one of the answers for the question why it is so difficult to distinguish between the state vaccine laboratory and the BW armament plant.

---

<sup>28</sup> J. Banach, *Bioterroryzm: realne zagrożenie*, "Atest" 2001, no. 11, pp. 22–23.

<sup>29</sup> E. Bendyk, *Łódka z rozpylaczem*, "Polityka" no. 2218 p. 45.

<sup>30</sup> G. Cowley, *op.cit.*, p. 44.

<sup>31</sup> S. Begley, *Tracking Anthrax*, "Newsweek" (American edition), October 29, 2001, p. 42.

In 1998 one of the first simulations of the BW attack was performed in the city of New York in order to check the experience and efficiency of the forces like Police Department or Fire Department. The majority of the emergency personnel sent to deal with this attack “died” because of the insufficient security measures. They were acting properly – said one of the officers – but the development of the situation was a complete surprise for them. The most difficult obstacle (and the main reason of the fatal result of the simulation) was to determine which biological or toxic agent contaminated the city. The forces did not manage to do it within the prescribed time limit<sup>32</sup>.

As the experts declare, the quick examination and recognition of the agent that has been used to perform the attack is crucial as far as the success of the emergency action is concerned. Contrary to the conventional explosives as well as the chemical weapons, the attack with the usage of the biological or toxic material might be performed in the invisible way<sup>33</sup>. Many of the biological or toxic substances are stainless, odourless and do not cause effect immediately<sup>34</sup>. That is one of the reasons why the BW attacks are recognised so late, some of them might be discerned only after the symptoms emerge. It also produces the answer to the question why the BW attacks bring about so lethal consequences. That is because most of the microbes may be treated (with antibiotics, vaccines or other medicines) only during the early stages of contamination, usually when they themselves do not cause any symptoms or side effects and the victim itself does not realise that has been affected. The other factor is that the terrorists are likely to use in their attack those germs of lethal microbes, which are capable of quick infection of large number of people, cause high mortality in a short period of time and provoke a widespread panic<sup>35</sup>. The latest factor appears more significant than it might seem as it proves to be the cause of the disorientation and disorganisation of the civilians as well as the emergency forces – resulting in the higher efficiency of the BW attack. There are half a dozen agents which fulfil these requirements, among which are:

- Variola (smallpox)
- Anthrax (*Bacillus anthracis*),  
followed by the bacteria that cause:
  - plague, botulism and tularaemia and

---

<sup>32</sup> K. Alibek, S. Handelman, *op.cit.*, p. 226.

<sup>33</sup> D. Baker, *Biological, nuclear, and chemical weapons*, Vero Beach 2006.

<sup>34</sup> M. Koneckiewicz, E. Maziński, *Broń biologiczna*, “Edukacja dla Bezpieczeństwa” 2002, no. 3, pp. 31–36.

<sup>35</sup> E. Regis, *Ocena niebezpieczeństwa: bioterroryzm*, “Świat Nauki” 2002, no. 1, pp. 13–15.

- the viruses of haemorrhagic fevers such as the Ebola virus (which killed over 244 people in Kikwit, Zaire in 1995)<sup>36</sup>

All of the agents mentioned above might be spread invisibly through the air and the attacks may be unnoticed for the days or weeks until the infections incubate. After that time the treatment with vaccines, antibiotics or other medicines might fail to succeed<sup>37</sup>.

During the conference in Washington (24.09.2001) the Director of the World Health Organisation<sup>38</sup> Mrs Gro Harlem Brundtland called the governments of the world countries to undertake all possible measures in order to be prepared for the possible chemical and biological attacks<sup>39</sup>. This programme should involve the production and stockpiling of vaccines for the diseases like smallpox, anthrax or plague. It has been indicated that during the simulations of BW attacks, the national reserves of vaccines proved insufficient for the spreading disease. Other conclusion was that some of the vaccines programmes have been suspended – for instance the anti-variola vaccination in 1970s – and for that reason the immunity of people nowadays might be compared to the ancestors living in the IVth Century. As it might be observed (see attached Appendix 1) not only the problem of vaccines is important but also the early diagnostic tests are crucial. Their importance stems from the fact that most of the diseases presented might be cured or treated only before the symptoms emerge. As it was mentioned earlier sometimes the fact of the BW attack is discovered only after the first affected victim dies or exhibits side effects. As far as the diagnostic tests are concerned they are far from being reliable and sufficient for the needs of the contemporary endangerment of the BW attack.

The governments and special agendas throughout the world tried to come up with the solution to the possible biological weapon attack<sup>40</sup>. Due to the panic caused by the events of mailborne anthrax attacks, many biotechnology and medical companies started to produce special sets of medicines, vaccines, vitamins and food that are nowadays being sold to citizens. Some of the undertakings include the presentation of ultra-resistant air masks, which are believed to be resistant to any kind of microbe used as the B weapon. Another medical companies stress the fact that even the most advanced technologies, medicaments and vaccines will not be sufficient

---

<sup>36</sup> G. Cowley, op.cit, 2001, p. 44; J. Huggins, *Bakteryjna i wirusowa broń terrorystów*, (in:) Y. Alexander, M. Hoenig, *Superterroryzm. Biologiczny, chemiczny i nuklearny. Ataki chemiczne, bronie bioterrorystów, zagrożenie nuklearne. Dokumenty*, Warszawa 2001, pp. 38–40.

<sup>37</sup> for further details see Appendix 1.

<sup>38</sup> World Health Organisation, short: WHO, further: WHO.

<sup>39</sup> R. Casagrande, *Technika kontra terroryzm*, "Świat Nauki" 2002, no. 12, pp. 63–67.

<sup>40</sup> R. Butler, *Wojny zarazków. Biologiczne zagrożenie z zagranicy*, (in:) *11 września 2001. Jak to się stało i co dalej?*, ed. by J. F. Hoge Jr., G. Rose, Warszawa 2001, pp. 160–163.

because of the lack of the innate immunity of human beings to these microbes. The programmes aimed at the creation of the innate immunity were launched already after the world wars, but they failed to succeed. Nowadays, the experts stress out that the innate immunity apart from vaccines might be induced by special diet consisting of vitamins and antioxidants which prove to be the natural protection from the first stages of contamination. On the other hand the same experts remind that experimenting with vaccinations and so called “cocktails” consisting of anti-viral medications might bring about unwanted consequences.

An example of the malice done by the vaccines and anti-toxin medicaments might be discerned within the conduct of the Persian Gulf War (1990–1991, triggered by Iraq’s invasion of Kuwait on August 2, 1990). The American and British soldiers were given vaccines against: malaria, cholera, tetanus, two kinds of anthrax, plague, polio, typhoid fever, hooping-cough, meningitis inflammation. The anti-plague vaccine had no attest. Independently from the vaccines, the soldiers were also given some pills, which were supposed to minimise the effects of the eventual exposure to the CBs. Among them was a substance called NAPS (Nerve Anti Pre-treatment Sets; NAPS had no attest as well) and BATS (Biological Anti Pre-treatment Sets)<sup>41</sup>. From the experiments performed later by the governmental health agendas of the USA and the UK, it turned out that one in 1000 soldiers, which was under the treatment suffered serious side effects. Among them were the muscle and nerve disorders.

The first investigation concerning the diseases affecting the Persian Gulf War veterans was launched in 1993. It was triggered by the reappearing cases of the veterans’ children (born after the Persian Gulf War) among which a high percentage suffering from serious innate body deformations. The quantity of dead births and miscarriages among the wives of veterans was also numerous. The veterans themselves suffered from the pulmonary disorders and also were less resistant to the allergic pathogens. Numerous cases of the members of the veterans’ families suffering from the same disorders were discerned within a short period of time after the war. None of the veterans recalls the kinds and quantities of the vaccines and medicaments that they were given during the conduct of the war. They were said that the doses were appropriate for their body masses, nevertheless they were never weighed. In some of the cases, they had to overdose the vaccines and medicaments in so called “cocktails” in order to defend themselves from the reappearing biological weapon airborne attacks. Some of the veterans recalled that due to the action of some medicaments during the first 10 days after vaccination they suffered respiratory, muscle and nerve disorders which disappeared after that period of time. They reappeared

---

<sup>41</sup> J. Parker, *op.cit.*, p. 255.

however after the war and affected also the members of their families. Such examples prove that although experiments on vaccines may bring about positive results, they may also produce side effects, which would affect people after their exposure to the BW materials. The CDC launched the greatest world vaccine project, which is aimed at the production of the mostly needed vaccines up to the year 2004. As a result of the mailborne anthrax attacks and the panic evoked by this phenomenon, the time limit was shortened and the results are expected before the end of 2002. Still, the scientists underline the need for the reliable and modern early detection system which proves to be crucial as far as the warfare with the BW attack is concerned. The actually used system – BIDS (Biological Integrated Detection System) has shortened the time of detection to 30 minutes, but proves to be reliable only in the cases of anthrax, plague and botuline intoxication.

After the discussion and analysis of the CB phenomenon and the evaluation of the research questions it has to be concluded that:

1. Bioterrorism as well as the biological weapon attacks are not a new phenomenon<sup>42</sup>. They have existed for seven centuries already and have been perceived as the malice of the unwritten international law.
2. Although in the XX Century some international law regulations have been passed in order to prohibit the production, possession and stockpiling of the biological and toxin agents, their provisions are a subject of a continuous abuse.
3. The abuse of the international law regulations might stem from the fact that some of the provisions and definitions are not clear and might be interpreted differently depending on the aims of the party-state.
4. There might be distinguished a lack of supervision (or insufficient supervision) of the International Community's systems and agendas concerning:
  - a) the number of countries that are in the possession of the CB weapons
  - b) the access to CB materials by civilians through the medical and biochemical companies offering spores of lethal microbes to any member of any laboratory staff – no supervision is applied whether the material is used for the purposes it was destined for
  - c) the purposes for which some of the CB materials are stored in state or private laboratories
  - d) the undertakings of people who were the former staff members of projects like "Biopreparat" or the "Enzyme".

---

<sup>42</sup> L. Garrett, *Przeciw bioterroryzmowi*, (in:) *11 września 2001. jak to się stało i co dalej?...*, s. 164–169.

5. Even if the country possesses biological or chemical agents it is not easy to prove that their aim is to produce the CB weapon of mass destruction. This is connected with the unclear regulation of the “biological defence” in the 1972 Convention as well as the obstacle to distinguish between the state laboratory dealing with biopesticides and the real BW plant aimed at the BW production.
6. Special attention should be applied to Russia, as the potentially dangerous state, as it launched in disclosure the world greatest BW armament projects contrary to the provisions of the 1972 Convention. The undertakings of many of the Russian state and private laboratories do not comply with the security regulations and are not a subject of a reliable supervision.
7. The governments and Special Agendas are not well prepared for the possible BW attack and probably never shall be prepared for it. Biological and toxin agents share common characteristics, which make them invisible, odourless and stainless so that the attack may be performed in disclosure.
8. Fighting the consequences of the BW attack is more difficult as it might not be discerned until the first symptoms of diseases emerge. Most of the viral diseases might be cured only before the incubation, there are scarce examples of medicaments curing the later stages of contamination.
9. The project of World Vaccination Programme provides the chance that before the end of 2002 most of the vaccines would be developed and ready to be given to people. The historical facts prove that even the best vaccine and medicaments may provoke later serious side effects.



## APPENDIX 1

Disease	Germ	Symptoms	Mortality	Treatment	What is needed
Smallpox	Variola virus	Fever, aches, pustules on face and torso	30%	Vaccination up to 4 days after exposure; no treatment later	New vaccine (CDC accelerates the 2004 production programme)
Inhalation Anthrax	Bacillus anthracis	Fever, chest pain, difficulty in breathing	90%	Cipro and other antibiotics work given before symptoms emerge	Early diagnostic tests and new generation drugs for treatment in later stages of disease
Pneumonic Plague	Yersina pestis	Fever after 2–4 days, then pneumonialike	50–90%	Streptomycin, tetracycline and doxycycline	Vaccine was discontinued, new one in preparation
Botulism	Clostridium botulinum	Progressive paralysis, respiratory failure	5%	Equine anti-toxin given early treats most common botulinum toxins	Rapid diagnostic tests and a vaccine; less risky antitoxins
Tularaemia	Francisella tularensis	Fever, sore throat, weakness, weight loss	30–60%	Antibiotics such as streptomycin and gentamycin	Simple and reliable diagnostic tests, a vaccine is in development
Haemorrhagic fever	Several viruses	Vary, include bleeding, shock, coma	Varies	Some, like the Ebola have no cure, the antiviral ribavirin helps others	Ebola vaccine is being re-searched; new antivirals are needed

The characteristics of the 6 most contagious diseases and the microbes responsible for contamination that might be used during the BW attack

Adapted from Geoffrey Cowley's "Epidemic Threats", Newsweek, October 29, 2001, p. 45