

Technology of Biowarfare and Bioterrorism

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DESCRIPTION

A revolution in military affairs may result from the revolution in molecular biology and biotechnology, according to several theories (RMA). In his study, Andrew F. Krepinevich identified 10 RMAs throughout military history. 54 A RMA must include four components: Organisational adaptation that fundamentally affects the nature and conduct of conflict, technological advancement, integration of this new technology into military systems, military operational innovation, and military innovation. The introduction of the space/information warfare RMA has been attributed to the Gulf War. The development of biotechnology has led to the possibility of biowarfare using pathogens that have been genetically modified in the future. Despite the fact that the Russians have incorporated BW into their doctrine, there is currently no proof that they have ever used it in actual combat in the recent past.

We are at the beginning of a strategic shift, according to Lieutenant General Paul van Riper, USMC (Ret.), the former commanding general of the Marine Corps Combat Research Command. 55 While they are still in the planning stages, it is challenging to evaluate their significance and impact. In fact, only time will show whether a technology advancement will aid in an RMA. It could be 20 or 30 years before we fully comprehend their importance. Some people currently hold the opinion that information warfare and biological warfare will be the next real serious challenges to our national security. 56 We may argue that the information warfare RMA is further along than the biowarfare RMA.

Technology of biowarfare

Regardless of whether biotechnology has a role in a future RMA, it is unquestionably transforming medicine. One has sequenced the human genome. The Holy Grail of modern medicine, gene therapy, promises to allow for the replacement or repair of defective genes. 58 Genome sequencing, gene splicing treatment, and molecular genetics approaches all have potential dual applications. Ironically, the same biotechnology that is utilised to create new drugs or vaccines can also be used to create bioweapons that are more dangerous. The same science that can

save lives also has the potential to end them. Currently, as our understanding of biotechnology expands, terrorists are more willing than ever to cause widespread destruction and casualties.

These two relatively new phenomena of unparalleled biotechnology and terrorists ready to cause huge casualties will most certainly collide in history, following the historical pattern of interaction between warfare and sickness. The anthrax attacks that occurred in the United States after the terrorist attacks on the Pentagon and the World Trade Center twin towers on September 11, 2001, are most likely precursors of future occurrences.

New viral illnesses the Cobra Incident, written by Richard Preston in 1997, depicted a fictitious case of bioterrorism involving a supervirus that had been genetically altered. Reading this book made President Clinton more aware of the bioterrorist threat. He investigated the BW/BT threat more thoroughly and then issued two Presidential Decision Directives to address gaps in national security relating to biological and chemical terrorism and warfare.

President Bush established the Homeland Security Council in response to the terrorist attacks on the World Trade Center and the Pentagon on September 11, as well as the numerous anthrax-laced letters that were subsequently sent to national legislators, the governor of New York, and news media offices. This was done in order to coordinate a national effort involving about 40 different agencies and organisations that were already involved in homeland security.

Bioterrorism and biowarfare: Biological weapons are always a possibility as our enemies search for "asymmetric" advantages. The potential lethality of biological weapons has drawn the attention of terrorists and bellicose state leaders, who continue to pursue their acquisition. Curiously, though, biological weapons have largely failed when they have been used in combat. They have lacked dependability and control.

Its military utility has been minimal due to how challenging it has been to deploy them consistently. It takes specialised knowledge to stabilise biological agents and deploy them either overtly with high-tech weapons or secretly without endangering

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Received: 09-Feb-2023, Manuscript No. JDFM-23-22334; **Editor assigned:** 14-Feb-2023, PreQC No. JDFM-23-22334 (PQ); **Reviewed:** 07-Mar-2023, QC No. JDFM-23-22334; **Revised:** 14-Mar-2023, Manuscript No. JDFM-23-22334 (R); **Published:** 21-Mar-2023, DOI: 10.35248/2167-0374.23.13.266.

Citation: Magness B (2023) Technology of Biowarfare and Bioterrorism. J Defense Manag.13:266.

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the culprit or allied forces. This might alter with the capabilities of biological engineering and a new breed of weaponry.

CONCLUSION

A biologically manufactured agent used in a terrorist strike could result in a unique course of events. There can be a lag time between exposure and the development of symptoms since

the virus could be secretly released. When people start experiencing symptoms days to weeks later, they may start spreading infectious diseases right away. Many persons will have travelled hundreds of miles from the location of their initial exposure by then, maybe to several foreign locations. Victims who are seriously ill can arrive in large numbers at emergency rooms and other medical facilities.