Bio Terror Bible

EXPOSING THE COMING BIO-TERROR PANDEMIC

BIOTERRORBIBLE.COM: The actual reality of the bio-terror and pandemic situation is far different than what the public has been led to believe. The following collection of articles show beyond the shadow of a doubt that the government is complicit in the funding, planning, drilling and war-gaming a future bio-terror generated pandemic. The mass killing of millions is on the agenda; only an informed population can stop it.

Title: Tinkering With The Genes Of Biological Weapons: Genetic Engineering Is Regularly Used To Produce Lethal Bacterial
Date: July 13, 2000
Source: Sunshine Project

Abstract: Investigations bythe Sunshine Project show that genetic engineering has been used in the past decade to tinker with the genes of biological weapon agents. Researchers in the USA, UK, Russia, Germany and other countries introduced genes into hazardous bacteria that are likely to enhance the biowarfare possibilities of these microbes. Strains have been designed that can withstand antibiotics, are undetectable by traditional equipment, can overcome vaccines, or that cause unusual symptoms, thereby hampering diagnosis. In general, gene transfer can be used to build more effective biological weapons, it could be used to broaden the military biological warfare spectrum, making it more difficult to fight and control bioweapons.

"*Military research seems to be out of control*", says Jan van Aken, genetic engineering expert of the Sunshine Project. "*Many research projects have a clear offensive potential. To just stick the label 'defense' on it is not enough. We urgently have to draw clear lines and prohibit genetic engineering with biological weapon agents.*"

At the same time, it is very unclear that efforts to strengthen the Biological Weapons Convention will succeed in the round of negotiations currently underway in Geneva. In light of the increasing biowarfare threat, the international community decided in 1994 to negotiate a Protocol to strengthen the Biological and Toxin Weapons Convention (BTWC). (1)

Considering that the biowarfare threat is dramatically increasing due to the speedy development of genetic engineering, a Bioweapons Convention that it not updated to reflect new technological realitites will not create global security. "*In light of recent advancements in genetic engineering, updating and reinforcement of international law that outlaws bioweapons is urgently needed.*" says Edward Hammond of the Sunshine Project's Seattle office. A strong Protocol will be a first step, that enhances tranparency, making it more difficult for countries to conceal a bioweapons program, for example, in the guise of pharmaceutical research.

Genetic Engineering: A New Class Of Biological Weapons
It sounds like science fiction, but it is a deadly reality: lethal microbes, with no cure, invisible to detection systems, and able to overcome vaccines. In 'defensive' programs, researchers in the USA, UK, Russia and Germany have genetically engineered biological weapons agents, building new deadly strains. And this is probably only the tip of the iceberg.

Genetic engineering can be used to broaden the classical bioweapons arsenal. Through genetic engineering, bacteria can not only be made resistant to antibiotics or vaccines, they can also be made even more toxic, harder to detect, or more stable in the environment. By using genetic methods that are standard procedures in thousands of labs worldwide, bioweapons can be made more virulent, easier to handle, and harder to fight. In short, more effective.

Military experts are perfectly aware of the danger of genetically engineered bioweapons, as their traditional defense measures - e.g.detection methods or vaccines - are easily sidestepped by the artificial microbes. The speedy development of genetic engineering is one driving force to strenghten the Bioweapons Convention and establish a verification system.

Example 1: Bacteria Causing Unusual Symptoms
Researchers from Obolensk near Moscow inserted a gene into *Francisella tularensis*, the causative agent of tularemia and a well known biological weapon agent. The gene made the bacteria produce beta-endorphin, an endogenous human drug, which caused changes in the behaviour of mice when infected with the transgenic bacteria. (2) According to the published results, the endorphin gene was not introduced into a fully virulent strain, but only into a vaccine strain.

If inserted into virulent *F. tularensis*, the victims would not show the usual symptoms of tularemia, but instead unusual symptoms that would obscure the diagnosis and delay therapy. Development of symptom-altered BW-agents has been identified as one possible application of genetic engineering for BW purposes by the US Department of Defense. (3)

Example 2: Transferring A Lethal Factor To Harmless Human Gut Bacteria
Genetic engineering could make previously harmless bacteria lethal biological weapons by introducing deadly genes from a highly pathogenic organism. This was done by US researchers as early as 1986. They isolated the gene for the lethal factor of Bacillus anthracis, the causative agent of anthrax, and introduced into Escherichia coli, a normally harmless gut bacteria. The US team reported that the lethal factor protein was active in E. coli and displayed the same deadly effects as it did when in its native B. anthracis. (4)

Example 3: Antibiotic Resistant Anthrax And Tularemia
Antibiotic resistance is often used as a marker gene in genetic engineering experiments. However, the very same genes could render biological weapons more dangerous by making agents less treatable. Any experiment with biological weapons agents using antibiotic resistance genes has a strong offensive potential, even if in the contect of âdefensiveÔ research. Despite this obvious problem, there is a long list of questionable experiments:

German military researchers at the *Santitaetsakademie der Bundeswehr* in Munich, the main BW research facility of the German army, cultured genetically engineered *Francisella tularensis* subsp. *holarctica* bacteria (5), a close relative of the causative agent of tularaemia. An antibiotic resistance marker gene (tetracyclin) was been inserted into these bacteria.

Recently, researchers from Porton Down in the UK used genes conferring resistance to antibiotics for genetic studies in fully virulent strains of anthrax. (6) In the late 1980s, a researcher at the University of Massaschussetts in Amherst also introduced antibiotic resistance genes into anthrax, making it less treatable with antibiotics. (7)

There are even more cases: Researchers from the Institut Pasteur in Paris (8) and from a Russian laboratory in Obolensk (near Moscow) (9) introduced antibiotic resistance genes into anthrax bacteria.

All these studies are allegedly "basic research", where antibiotic resistance is used as a marker gene. But it is obvious that the very same genetically engineered bacteria can be used to design more effective bioweapons compared to the natural anthrax strains.

Example 4: Invisible Anthrax
In December 1997, the same Russian research group from Obolensk published a paper in a British scientific journal on another effort to genetically engineer anthrax. (10) By putting new genes into fully pathogenic strains of anthrax, the scientists altered anthraxÔs immunopathogenic properties, making existing anthrax vaccines ineffective against the new genetically-engineered types.

In most cases, detection of bioweapons relies on molecular recognition of the microbe using antibodies similar to the human immune system. Altering the immunogenicity not only overcomes vaccinations; but also the detection systems.

Western military experts were alarmed by this work. The chief of the bacteriology division at the US Army Medical Research Institute of Infectious Diseases (USAMRIID) in Fort Detrick, Md, Col. Arthur Friedlander, commented: "*This is the first indication we're aware of in which genes are being put into a fully virulent strain. They genetically engineered a strain that's resistant to their own vaccine, and one has to question why that was done*". (11)

The Russian researchers also constructed a new vaccine against the new strain. This is of particular importance, as it could enable an army to use such a bioweapon by vaccinating their soldiers against a specific strain, while the enemy remains vulnerable. The case is an example of the frightening potential of genetic engineering applied to biological weapons research (Sunshine Project, 2000).

Title: Avoiding Bioterrorism Starts With US
Date: September 19, 2001
Source: Sunshine Project

Abstract: The United States decision to respond to the terrorist attacks on New York and Washington with military force could destabilize controls on biological weapons and trigger chemical and biological war. To prevent a slide down this dangerous and slippery slope, the United States' four recent key mistakes in biological weapons control must be corrected. Failure to take these steps may worsen conditions conducive to terrorist use of weapons of mass destruction.

Equally important, the US must not succumb to the temptation to use less lethal chemical and biological weapons - such as calmatives and other riot control agents - in the war it has declared on terrorism. Please see the News Release "The Destabilizing Danger of 'Non-Lethal' Chemical and Biological Weapons in the War on Terrorism", also issued today, for more information on this threat.

Correcting Critical Policy Mistakes
As fear of a terrorist use of weapons of mass destruction skyrockets, the US must analyze and correct its policies that contribute to biological weapons instability. There are four recent critical missteps:

1. First, the US Central Intelligence Agency (CIA) is conducting a secret program of biodefense research that, in the opinion of many experts, violates the Biological and Toxin Weapons Convention. This work, revealed in the New York Times, involves testing mock biological bombs and construction of a bioweapons production facility in Nevada. If any other country conducted this research, it would have drawn the US's harshest denunciations and, quite possibly, military attack. The longer the United States insists on this biological weapons research double standard, the more determined its enemies will be, and the greater the risk to its own and allies' citizens.

2. Second, the United States failed to disclose the CIA's research in annual declarations of biodefense activities to the Bioweapons Convention, deliberately evading a UN mechanism to enhance transparency and trust between nations. The significance of this US failure is difficult to overstate. Secret US biological weapons research has drawn suspicion from the US allies and undermined faith in voluntary confidence building measures. To US enemies, the CIA's work is nothing short of a biological weapons threat. Failing

corrective action, pious declarations about the danger of bioweapons will ring hollow and be understood by US enemies as lies - or even threats.

3. Third, while it may shock many Americans, it is no secret to arms control experts that the United States has menaced Afghanistan (and Colombia, home to three groups on the US State DepartmentÕs terrorist list) with the threat of a biological attack since at least 1998. This threat is through plans to use the fungus Pleospora papaveracea, a biological weapon, to forcibly eradicate opium poppy crops. Transcripts of Kabul Radio clearly indicate that the Taliban is aware of the plan and opposes it. Through the United Nations Drug Control Program, the US has attempted to veil the fungus in legality by obtaining the approval of the Afghan government in exile, which has no de facto power. The Taliban is thought to willingly harbor terrorists who use weapons of mass destruction. The US and its allies are foolish, hypocritical, and courting disaster to continue to threaten such a state with a biological weapons attack.

4. Fourth, in July, the United States trashed six years of negotiations to develop a Protocol for international verification of the Bioweapons Convention. Not only did it anger the world by being uncooperative, the US even said it would block other nations' attempts to proceed with new controls on biological weapons. Close US allies were publicly appalled; but few publicly suggested it was because the US itself intended to violate the treaty. With the New York Times revelation and the new, dangerous atmosphere following the terrorist attacks, the size and ramifications of the USA's terrible miscalculation are now fully apparent.

At a minimum, the US needs to take the following actions:

1. The CIA's research program must be immediately and entirely terminated. Because of frail US credibility on this issue, this decision must be made and explained in clear detail by a high-ranking US official and;

2. In light of incontrovertible evidence that it has not complied with confidence building measures, the US has no peaceful alternative but to endorse a United Nations system of bioweapons verification requiring broad declarations and mandatory, short-notice, and comprehensively-equipped UN inspections of commercial and military biotechnology facilities. Nothing less will restore faith in US compliance. Dubious arguments about shielding US facilities in deference to commercial interests are outmoded by recent events and no longer tenable. Lives cannot be put at risk in the interest biotechnology profits, even if the US Defense Secretary once headed Searle, the former pharmaceutical division of Monsanto;

3. The Drug War cannot be a pretext for undermining biological weapons controls and escalating the war on terrorism. The United States and the United Nations Drug Control Program must immediately and unequivocally renounce the development and use of biological agents in forced crop eradication. The US-supported research facility at the Institute for Genetics in Tashkent, Uzbekistan must be immediately locked and the key thrown away. Research efforts in the United States must be similarly halted. The government of the United Kingdom, which has provided lukewarm support for the research, should announce that in light of the current political situation it must withdraw its support in the interests of peace and security.

4. The United States must come back to the table at the Verification Protocol negotiations and signal its intention to cooperate. The US does not have the ability to inspect suspected biological weapons facilities worldwide. A UN system could possess this strength and obtain access and apply verification technology not possible for any state to use alone. US policymakers say they are developing new ideas for verification, which they Ð and other countries - should bring to the 5th Review Conference of the BTWC in November. But political reality dictates that the current negotiating text must be the starting point. The vast majority of countries have already agreed to a number of measures to improve verification. Scrapping existing work and developing a new text is an option unlikely to be possible for at least several years (Sunshine Project, 2001).

Title: Two Fisted Assault On Biological Weapons Control: Will The Bioweapons Convention Be Left Standing?
Date: October 22, 2001
Source: Sunshine Project

Abstract: Even as its citizens suffer through the greatest biological weapons scare of modern times, and perhaps ever, the United States is promoting a plan to undermine international controls on biological weapons. The proposals come four weeks before a major UN meeting to review international efforts to prevent biological weapons from being used.

The plan was announced on October 10th and is currently being presented to the US's European allies. It is a direct attack on the core article of the Biological and Toxin Weapons Convention, proposing a shift in the focus of arms control that will remove barriers on the development, acquisition, and stockpiling of biological weapons. If governments, including indecisive Europe, do not move to counter these proposals, a green light will be given to potential developers of offensive biological weapons.

Assault on the Bioweapons Convention
The proposals were first unveiled on October 10th in a UN speech by Assistant Secretary of State Avis Bohlen, a US arms control chief. Other US officials are currently on a round of shuttle diplomacy, trying to sell their ideas to allies. What the US wants is to redesign Article I of the Biological and Toxin Weapons Convention, a unique achievement of international law that prohibits an entire class of weapons, all biological agents and toxins used for hostile purposes. (A copy of Bohlen's statement is here.)

The United States purpose in destroying this valuable cornerstone is to permit a stratification of biological weapons into "good" and "bad" ones. This would permit the United States (and other countries) to continue work on a number of biological weapons under development, including anti-crop fungi ("Agent Green"), Pentagon work on so-called "non-lethal weapons" to control (in the US military's words) "potentially hostile civilians", and the US Navy's genetically-modified superbugs that consume materials, such as plastics, jet fuel, rubber, and asphalt.

Perversion of International Law
In addition to the dismantling Article I of the BTWC, the US attack on bioweapons control includes another dangerous proposal to shift the arms control focus away from prevention of biological weapons development. Instead of stopping development of these weapons in the first place, the United States is promoting a perverted form of extraterritorial jurisdiction that focuses international efforts on criminal punishment of use of some kinds of biological weapons. The result would be abrogation of domestic jurisprudence in favor of application of America's law abroad, with attendant extradition conflicts (or kidnapping), and possible show trials as the US seeks to avenge terrorist attacks.

International criminalization of biological weapons is a good idea that has been promoted by non-profits for years; but it must be applied fairly and evenly, to all persons, regardless of official position, who order, direct or knowingly give substantial assistance to development or use of biological weapons. In the US conception, however, penalties only apply to "lethal intent", meaning only yo those people that use (or threaten to use) biological weapons, and only for weapons that kill humans. The proposal ignores many other types of bioweapons that target plants, animals, materials, and crops, such as Agent Green (or hoof and mouth disease), which can result in human suffering and death through starvation and poisoning of the environment. In the US conception, even some bioweapons used against people wouldn't be punishable, for example, the US "non-lethal" weapons under development.

Old Pretexts and a New Biological Arms Race
Apart from relaxing controls on many kinds of biological weapons, the US emphasis on use (as opposed to prevention) is a paradigm shift in international efforts that paves the way for countries to embark on massive programs to develop biological - and, especially, biotechnological - weapons. Why? Because by focusing on use, the teeth of international law will not apply until after biological weapons are used,

instead of while they are being developed or stockpiled. Thus, countries with bad intentions will be given a green light to proceed with bioweapons research because they will have little to fear from the international community.

That situation amounts to a 75 year legal setback to the 1925 Geneva Protocol, which prohibited use; but not development of biological (and chemical) weapons. That Protocol was augmented by the BTWC in large part because it had only very limited success. Many countries made reservations upon ratifying the Geneva Protocol. European powers ratified; but several then prepared and used chemical weapons against in their colonial possessions in Africa and Asia. Fascist Italy, a Protocol party, invaded Ethiopia in 1935 and used more than 300 tons of chemical weapons against another sovereign state. The League of Nations did nothing. Prohibitions on use, in other words, have proven malleable and their enforcement depends on who is the victim. This phenomena did not end with decolonization. With a logic similar to that of European colonial powers, the US is presently using the Drug War as a pretext to deploy biological weapons in Latin America and Asia. (See the Sunshine Project website for a list of examples of major power violation of use restrictions on chemical and biological weapons.)

Is the BTWC Dying?
The attack on Article I has transformed the upcoming 5th Review Conference of the BTWC (beginning Novemenr 19th) into a do or die situation for biological arms control. If the world fails to emphatically and unequivocally reaffirm the Article I prohibition on all forms of biological weapons, the Convention's utility in preventing biological weapons development will be severely reduced. Future meetings, if any, would have to focus on arguments over which kinds of biological weapons are "acceptable" and which are not, a grave setback. The spirit of the convention would be dead.

Europe, so far, has signaled that it is happy to roll over and play dead, tucked in the poisonous embrace of the Bush administration. Instead of criticizing the recently revealed US projects "Clear Vision" and "Bacchus" to develop biological weapons production facilities in Nevada, to genetically-engineer anthrax, and to test biological bombs, Germany has endorsed the efforts. According to the German Foreign Ministry's chief Bioweapons Convention negotiator "*With regard to the research in the USA, the US government stated through a spokesperson of the Department of Defense that the projects aimed solely at the development of protection measures. The German government does not have any hints to the contrary*." In other words, Germany has indicated agreement with the US proposal to open the floodgates on biological weapons research and development. With Europe so weak, the South may play the critical role in stopping the US proposals.

Other Options
Stopping the US must be the first priority for civil society and diplomats; but with arms control agreements on the verge of failure to control biological weapons - especially biotechnological weapons - alternative means of prevention must be found. Among the options for civil society and supporting governments is taking verification of the BTWC into their own hands by developing a non-profit network that uses open sources and information freedom laws to promote transparency - and denounce violations of - the Biological and Toxin Weapons Convention.

In government, it is often the case that officials in agriculture, public health, and environment ministries have a strong understanding of the dangers of biological weapons and the authority to take steps to improve environmental and health security. In fact, the political South has already promoted addressing the dangers of hostile abuse of biotechnology in the UN's Cartagena Protocol on genetically modified organisms. Sadly, its efforts were beaten back by a short sighted and commerce-obsessed North.

Efforts by agriculture, public health, and environment ministries do reduce the biological weapons threat. For example, led by environmental and agriculture officials from over 30 countries, the African Union recently endorsed a continent-wide Model Law on Safety in Biotechnology that criminalizes all hostile use of genetic engineering. In the Philippines, health and environment officials quashed a proposal to use biological weapons to eradicate cannabis (marijuana). Even Colombia's Environment Ministry, which was

initially receptive, decided to reject anti-coca biological weapons after protests from civil society highlighted the environmental and human dangers.

Geneva Showdown
Governments should urgently pursue non-arms control means to protect against the development of biological weapons. But in the coming weeks, all eyes turn to Geneva, where the BTWC will be tested as never before at its 5th Review Conference, which begins on November 19th. It is critical the Article I be upheld in its entirety, and that US proposals to create a system that is permissive of biological weapons development be emphatically rejected; but will governments have the will to stand up? (Sunshine Project, 2001).

Title: Biodefense Funding Creates Quandary: Increase Designed To Fight Terror Also Raises Risk Of Attack
Date: February 19, 2002
Source: UCLA

Abstract: Even as the FBI investigates a possible link between U.S. biodefense programs and last fall's anthrax attacks, a flood of new funding for bioterrorism research promises to increase rapidly the number of labs and people with access to such lethal pathogens.

Some scientists say that without new limits and tougher regulations, the law of unintended consequences could come into play. The biodefense research boom could lead to diversions of organisms or expertise for new terrorist attacks, making Americans less safe rather than safer.

"Each one of these labs in essence becomes a full-service shopping center for someone who wants to get hold of a lethal agent for nefarious purposes," says Richard H. Ebright, a Rutgers University chemist who helped spark a debate among scientists with a letter he co-wrote last month to the journal *Nature* calling for new restrictions. He says the number of laboratories approved to work with potential bioterrorist pathogens should be "fewer than five nationally," a drastic decrease from the scores of labs doing such work.

He acknowledges that, with the federal government budgeting $2.4 billion in new money for bioterrorism preparedness, scientists aren't rallying to support him.

"No one wants to say anything that is likely to decrease funding," he says. "This money is going to attract applications from institutions that have no experience with these pathogens and no previous interest in them."

"It's a sticky problem," says Michael Mair, a molecular biologist at the Johns Hopkins Center for Civilian Biodefense Strategies. "The question is how to provide for security while not putting shackles on scientists. Science works best when there's a free flow of ideas."

The problem is illustrated by the situation of Ebright's co-author on the letter to *Nature*. Nancy D. Connell, director of the Center for Biodefense at the University of Medicine and Dentistry of New Jersey, is calling for tighter regulations even as she prepares her lab in Newark to handle dangerous organisms in bioterrorism research. The first supplies of such microbes, including the *Bacillus anthracis* bacteria that cause anthrax, are expected to arrive next month, she says.

In preparing her lab for the new work, Connell has voluntarily contacted local law enforcement agencies and imposed strict security rules. A "buddy system" will ensure that no scientist is left alone with the dangerous agents, and advance approval will be required for night and weekend work, she says.

But most of those precautions are not required by law. They should be, Connell says.

Connell, an associate professor of microbiology and molecular genetics, says she believes research on bioterrorism agents is important. She knows some colleagues may see her as trying to slam the door to bioterrorism research just after her lab has gotten approval from the Centers for Disease Control and Prevention in Atlanta to ship and receive dangerous pathogens.

But unless rules are tightened, "we're concerned that the increased research could actually decrease security," she says.

As a possible model, scientists point to the far stricter regulation of radioactive materials by the Nuclear Regulatory Commission and state agencies. NRC inspectors, for example, conduct surprise inspections of university laboratories, showing up unannounced to check inventories and record-keeping.

"Universities know exactly how much they have of every radioisotope and where it is," Ebright says. That's not the case with biological agents. After the anthrax attacks, some universities discovered poorly secured anthrax samples with few records of where they had come from or how they had been used.

That's because handling of deadly biological pathogens was not regulated until 1997, when an anti-terrorism act required labs that wished to ship or receive certain "select agents" to go through a demanding registration process with the CDC. The select agents are a nightmarish arsenal including 13 viruses, 12 toxins, seven kinds of bacteria and four other organisms.

There are a little more than 250 labs nationally that are registered to receive the select agents, and the number is growing at about one lab a week, says Jonathan V. Richmond, director of the CDC's office of health and safety. Since 1997, more than 1,500 shipments of such organisms have been reported to the CDC, he said.

But the regulation has many holes, scientists say. Labs that were using select agents in research before 1997 do not have to register, and the CDC can't keep up with the required lab inspections, they say. Bills pending in Congress would close some of the loopholes and tighten oversight.

Richmond says the CDC may not be the right agency to police the burgeoning bioterror field. "CDC's whole mission in life is to be part of the scientific effort, to be collegial with the people we work with," he says. "If CDC pushes the regulatory side too hard, that collegial element could dry up."

He suggests that the Food and Drug Administration, the Office of Homeland Security and the Department of Justice might be better suited to regulate labs.

Some scientists are skeptical about the need for more regulation. Steven M. Block, a biophysicist at Stanford University, notes that many of the lethal agents can be obtained from natural sources -- notably *Bacillus anthracis*, which infects cattle and other animals in dozens of countries.

"Anyone bent on obtaining anthrax doesn't have to raid Fort Detrick or a university lab," Block says. A natural source for the anthrax used in last fall's attacks can't be ruled out, though the FBI appears to be aggressively pursuing a possible connection to Army labs at Fort Detrick in Frederick or Dugway Proving Ground in Utah.

Block says he is worried about the possibility of attacks -- but that's why he wants to see more work on drugs, vaccines and defenses against genetically altered organisms. "I think we should encourage research on these pathogens, not discourage it," he says.

Mair, at the Hopkins Center for Civilian Biodefense Strategies, says regulation of radioactive materials may not offer a precise model for bioagents.

For one thing, a radioactive isotope is always decaying -- left alone, it becomes less of a problem over time. But biological agents can grow. A gram of *Bacillus anthracis* recorded in January may be a kilogram by March.

Inspections, too, are far harder. Radiation experts can use a Geiger counter to check a lab, determining instantly where radioactive substances are stored. But biological agents, stored in test tubes inside freezers, usually don't have a distinctive appearance. "If a vial is intentionally mislabeled, there's no way to know what it is without actually culturing it," Mair says.

Elisa D. Harris, a bioweapons expert at the University of Maryland and former National Security Council official, is helping lead a project at the university's Center for International and Security Studies to design an oversight system for bioagents.

"I'm afraid of an enormous increase in classified research in U.S. government and even university labs," she said. "That would stimulate concerns in other countries about whether we're really doing the work for defensive purposes" (UCLA, 2002).

Title: US Bioterror Effort May Impact Global Disease Fight
Date: April 16, 2002
Source: UCLA

Abstract: The United States' massive build-up of infrastructure to gird against bioterror attacks will probably help--but could actually hinder--the fight to contain the growing global problem of infectious disease, according to experts inside and outside the government.

President Bush asked Congress for nearly $6 billion for anti-bioterrorism efforts in the wake of last October's still-unsolved anthrax attacks that left 5 dead on the East Coast. In addition to spending billions to develop and buy vaccines, much of the money is likely to be targeted at building up the nation's systems for detecting and treating infectious diseases.

Conventional wisdom so far among public health experts has been that the huge cash infusion for domestic bioterror defense will also benefit US efforts to combat global infectious diseases.

While most experts agree that some positive "spillover" is likely, many attending a National Academies of Science forum on global infectious diseases warned that the United States' new focus could slow moves to help developing nations slip out from under the crushing burden of diseases like malaria, tuberculosis and HIV/AIDS.

"The country does have an unprecedented opportunity to rebuild the public health system," said Dr. James Hughes, the assistant surgeon general and the director of the national center for infectious diseases at the Centers for Disease Control and Prevention.

At the same time, Hughes said, "there is a small pool of people out there with the kinds of skills that are going to be needed" for America's bioterror efforts. Microbiologists and other disease experts are likely to be recruited for new programs at the expense of the overseas infectious disease work policy makers now consider a national security priority.

"There is likely to be a diversion of interests," said Dr. Stanley Lemon, dean of medicine at the University of Texas Medical Branch in Galveston and the forum's vice-chair.

Public health experts and policy makers are increasingly concerned with the threat infectious disease poses to world economic and political stability. American politicians at the highest levels of government

have taken notice as HIV/AIDS, which infects some 40 million people, threatens to destabilize governments and cultures in Africa, Asia and Eastern Europe.

Meanwhile, tuberculosis bacteria infect up to one third of the world population, with 10% of those showing the full-blown respiratory disease. Most experts blame massive immigration waves and tourism travel, as well as poor disease surveillance, for rising rates of infection in many parts of the US.

Dr. Danielle Grondin, director of migration health for the International Organization for Migration in Geneva, said that wealthy countries can no longer rely on testing refugees and immigrants as a way to keep tuberculosis and other ailments from crossing their borders.

Recent research suggests that testing policies in the US and Canada have failed to detect massive numbers of visitors and immigrants who carry TB. "The rich countries need to do much more to promote testing in origin countries," she said in an interview.

American research experts, including leaders at the National Institutes of Health, have stepped up efforts to help developing countries improve their disease surveillance systems and extend disease treatment. They stress that the efforts will continue.

But others worried that those efforts will not immediately match up with the new American priorities of preventing anthrax, smallpox and tularemia attacks.

"You cannot expect them to care about 5 deaths from anthrax in our country," said Patrick Kelley, who directs the Pentagon's Global Emerging Infections Surveillance Response Systems (UCLA, 2002).

Title: Overuse of Anthrax Drug May Prove Deadly: Scientist
Date: September 11, 2002
Source: UCLA

Abstract: Overuse of the drug that was widely taken during the US anthrax attacks last year could lead to more deaths from antibiotic-resistant infections than from the bacteria, a British scientist said on Wednesday.

More than 30,000 prescriptions for Bayer AG's Cipro were written last year after anthrax-tainted letters, which killed five people, were sent to US government officials and media outlets in three states in the weeks following the September 11 attacks.

Many more people self-prescribed the drug after obtaining it from the Internet or abroad, which increased the risk of drug resistance as well as complications from serious side effects.

"Here we have a situation where a very important broad-spectrum antibiotic is massively used and we have the risk that more people can develop drug-resistant complications, which could lead to death, than would have actually been killed in the anthrax attacks," Dr. Chris Willmott told a science conference.

The professor at Leicester University in central England cited research from scientists at Johns Hopkins University in the United States, who modeled the impact of 5,000 prescriptions of Cipro. The results suggested it would have prevented nine cases of anthrax.

"At the same time, about two people per hour in American hospitals are dying of complications of drug-resistant bacteria. That equates to around about 17,000 people a year," Willmott added.

Cipro, or ciprofloxacin, is an antibiotic that is used for a wide range of bacterial infections and life-threatening illnesses such as pneumonia, meningitis and septicaemia, which unlike anthrax can easily be transmitted to other people.

Willmott told the British Association for the Advancement of Science festival that overprescribing Cipro increases the threat of resistance and could make people vulnerable to other infections.

The US Centers for Disease Control and Prevention now recommends doxycycline, a member of a different class of antibiotics, instead of Cipro against anthrax.

"The frenzy whipped up regarding Cipro as the only cure for anthrax led to widespread and unnecessary self-prescription of ciprofloxacin," said Willmott.

"It remains to be seen if there is a significant increase in resistance-associated fatalities resulting from this unregulated misuse of a vital antibacterial drug," he added.

Last month, scientists at Rockefeller University in New York announced they may have found a new treatment that would make it impossible for anthrax to mutate into a resistant form (UCLA, 2002).

Title: U.S. Supplied Germs To Iraq In '80s
Date: October 1, 2002
Source: UCLA

Abstract: Iraq's bioweapons program that President Bush wants to eradicate got its start with help from Uncle Sam two decades ago, according to government records getting new scrutiny in light of the discussion of war against Iraq.

The Centers for Disease Control and Prevention sent samples directly to several Iraqi sites that U.N. weapons inspectors determined were part of Saddam Hussein's biological weapons program, CDC and congressional records from the early 1990s show. Iraq had ordered the samples, claiming it needed them for legitimate medical research.

The CDC and a biological sample company, the American Type Culture Collection, sent strains of all the germs Iraq used to make weapons, including anthrax, the bacteria that make botulinum toxin and the germs that cause gas gangrene, the records show. Iraq also got samples of other deadly pathogens, including the West Nile virus.

The transfers came in the 1980s, when the United States supported Iraq in its war against Iran. They were detailed in a 1994 Senate Banking Committee report and a 1995 follow-up letter from the CDC to the Senate.

The exports were legal at the time and approved under a program administered by the Commerce Department.

"I don't think it would be accurate to say the United States government deliberately provided seed stocks to the Iraqis' biological weapons programs," said Jonathan Tucker, a former U.N. biological weapons inspector.

"But they did deliver samples that Iraq said had a legitimate public health purpose, which I think was naive to believe, even at the time."

The disclosures put the United States in the uncomfortable position of possibly having provided the key ingredients of the weapons America is considering waging war to destroy, said Sen. Robert Byrd, D-W.Va. Byrd entered the documents into the Congressional Record this month.

Byrd asked Defense Secretary Donald H. Rumsfeld about the germ transfers at a recent Senate Armed Services Committee hearing. Byrd noted that Rumsfeld met Saddam in 1983, when Rumsfeld was President Reagan's Middle East envoy.

"Are we, in fact, now facing the possibility of reaping what we have sown?" Byrd asked Rumsfeld after reading parts of a *Newsweek* article on the transfers.

"I have never heard anything like what you've read, I have no knowledge of it whatsoever, and I doubt it," Rumsfeld said. He later said he would ask the Defense Department and other government agencies to search their records for evidence of the transfers.

Invoices included in the documents read like shopping lists for biological weapons programs. One 1986 shipment from the Virginia-based American Type Culture Collection included three strains of anthrax, six strains of the bacteria that make botulinum toxin and three strains of the bacteria that cause gas gangrene. Iraq later admitted to the United Nations that it had made weapons out of all three.

The company sent the bacteria to the University of Baghdad, which U.N. inspectors concluded had been used as a front to acquire samples for Iraq's biological weapons program.

The CDC, meanwhile, sent shipments of germs to the Iraqi Atomic Energy Commission and other agencies involved in Iraq's weapons of mass destruction programs. It sent samples in 1986 of botulinum toxin and botulinum toxoid -- used to make vaccines against botulinum toxin -- directly to the Iraqi chemical and biological weapons complex at al-Muthanna, the records show.

Botulinum toxin is the paralyzing poison that causes botulism. Having a vaccine to the toxin would be useful for anyone working with it, such as biological weapons researchers or soldiers who might be exposed to the deadly poison, Tucker said.

The CDC also sent samples of a strain of West Nile virus to an Iraqi microbiologist at a university in the southern city of Basra in 1985, the records show (UCLA, 2002).

Title: U.S. Likely Sent Iraq Toxic Bugs
Date: October 2, 2002
Source: UCLA

Abstract: Evidence that the U.S. government once authorized and sent to Iraq germ cultures capable of being used for biological weapons underscores the sometimes fuzzy boundary separating research on public health from that on weapons of mass destruction.

Whether the disease is anthrax, smallpox or West Nile fever, science for the common good as well as evil ultimately depends on ready access to the same bugs.

Details of the potential germ warfare agents the Centers for Disease Control and Prevention in Atlanta and a Virginia biologics company shipped to Iraq in the 1980s are stirring concerns about the country's ability to control the export of deadly germs.

To Sen. Robert Byrd (D-W.Va.), the situation has created "the equivalent of a Betty Crocker cookbook of ingredients that the U.S. allowed Iraq to obtain and that may have been used to concoct biological weapons."

But CDC officials say the shipments, which occurred during a period when the United States viewed Iraqi President Saddam Hussein as an ally, are old news -- and part of an essential worldwide exchange of disease-causing bacteria, viruses and fungi.

"We ship over 300 agents to several dozen countries every year," said CDC spokesman Thomas Skinner. "It's important for the CDC to cooperate with international health authorities on research that . . . saves lives. At the same time it's equally important to us to work with the U.S. Commerce Department to see that these organisms don't fall into the wrong hands."

As with other exports, the Commerce Department has a list of countries and germs that are restricted in international trade. Iraq wasn't on the list of countries in the 1980s, but it is today, along with Iran, Syria, Libya, Sudan, North Korea and Cuba.

Because potentially deadly cultures could be reshipped for illicit use to a third country, the Commerce Department also lists dozens of possible bio-warfare agents -- including anthrax, smallpox, botulinum toxin and hemorrhagic fevers -- that require government approval before they can be exported at all.

Byrd says even tighter controls are needed to guard against a future in which "today's friend may be tomorrow's enemy."

CDC officials said absolute assurance that biological materials won't be misused is probably not possible.

Bugs for good and evil

Even within the United States, compartmentalizing medical and weapons research has not been entirely successful. The strain of microbe responsible for last year's anthrax-by-mail attacks closely matches one used by a number of U.S. research institutions -- including the U.S. Army Medical Research Institute of Infectious Diseases in Fort Detrick, Md.

In the case of Iraq, Byrd says at least 11 shipments -- a "witches brew of pathogens including anthrax, botulinum toxin and gangrene," came from the American Type Culture Collection, a nonprofit firm in Manassas, Va., that has supplied biological cultures and products for global research since 1925.

The company's products, including nearly 18,000 strains of bacteria and more than 2,000 viruses, can be ordered by fax, phone or online from the firm's Web site.

In a tersely worded statement Tuesday, company spokeswoman Nancy Wysocki dismissed the controversy as "old news" that surfaced in congressional hearings in 1993.

"The Department of Commerce approved all requests for shipments of biological samples by Iraq," Wysocki said, adding that the firm's shipments currently comply with all government regulations.

"As a global biological resources center, the American Type Culture Collection's mission is to provide resources to scientists in medicine, public health, industry and education," she said.

Between 1985 and 1988, the Commerce Department approved export licenses for more than 110 shipments of biological materials. The timing of the shipments coincides with the period during which Iraqi scientists turned from studying literature on biological weapons experiments to working with actual samples of anthrax and botulinum toxin.

The Bush administration's charges that Iraq is developing biological weapons have revived congressional interest in how and where the country got the raw materials.

Byrd doesn't contend that the government deliberately approved the shipment of potential seed stock for biological weapons. "It was simply a matter of business as usual, I suppose," he said.

Now, however, he said the risks of lax export controls are apparent. "We not only know that Iraq has biological weapons, we know the type, strain, and the batch number of the germs that may have been used to fashion these weapons," he said. "We know the dates they were shipped and the addresses to which they were shipped."

CDC Verified Shipments

In a response to a congressional inquiry in 1993, former CDC Director David Satcher acknowledged eight shipments of "viruses, retroviruses, bacteria and fungi" from the agency's laboratories in Atlanta to researchers in Iraq.

Destinations for the CDC shipments included the Iraqi Ministry of Health in Baghdad, the University of Baghdad -- later identified by U.N. weapons inspectors as a front for the acquisition of biological weapons samples -- and at least one researcher in Al-Muthanna, a site 40 miles south of Baghdad that has the nucleus of Iraq's chemical weapons program.

Several months later, Satcher reported that the CDC had also discovered that additional cultures -- including the germ that causes dengue fever and a non-virulent strain of the bug that causes plague -- were hand-carried to Iraq in May 1985 by Dr. Mahammad Mahmud, a doctor who had just finished three months of research on mosquito-borne viruses at the CDC.

Of the dozens of approved biological materials shipped to Iraq by the government and corporate sources, a 1992 Defense Department report to Congress identified five so-called Class III pathogens as being of particular concern:

Bacillus anthracis, the anthrax bacterium whose finely powdered spores killed five people and sickened 17 others in the United States last year in the country's first brush with biological terrorism.

Clostridium botulinum, the bacterial source of a toxin that can cause vomiting, fever, partial paralysis and is often fatal.

Histoplasma capsulatum, which causes a disease that afflicts the liver and spleen and at least superficially resembles tuberculosis.

Brucella melitensis, a bacteria that causes chronic fatigue, nausea and damage to major organs.

Clostridium perfringens, a highly toxic bacteria that causes gas gangrene.

Although the United States has increased the number of biological agents and countries on its restricted export list since the Gulf War, the Bush administration has balked at efforts to strengthen the 1972 Biological Weapons Convention, which bans the development and stockpiling of germ warfare agents.

The treaty has been signed by 164 nations, including the United States and Iraq.

Over the objections of European allies, however, the State Department in July withdrew from negotiations to strengthen the treaty on the grounds that the proposed inspection system was ineffectual and measures to assure the compliance of rogue nations such as Iraq would not be legally binding.

U.S. officials have indicated they plan no further discussion on the treaty until 2006 to give them time to consider alternate means of enforcement (UCLA, 2002).

Title: Non-Profit Coalition Calls For A National Reassessment Of The Biodefense Building Boom
Date: October 14, 2002
Source: Sunshine Project

Abstract: A non-profit coalition is calling upon Congress and the public for an urgent national reassessment of America's biodefense spending. The coalition contends that the $6 billion in biodefense that Congress hastily appropriated after last fall's anthrax attacks have triggered a laboratory rat race more likely to undermine US national and environmental security than to enhance it.

The groups dedicated to research safety, arms control, and scientific responsibility do not oppose all biodefense work; but cite a range of concerns and evidence in support of their demands (see attached quotes and contact sheet). The Coalition says that unless a national reconsideration is done, competition for biodefense funding and poor planning will combine with dangerous results, including a needless proliferation of facilities handling biowarfare agents and a spread of the knowledge needed to wage biowarfare. This poses dangers to local communities, to arms control, and US national security, they claim. Instead of emphasizing biotech band aids from facilities pursuing dream vaccines and working in secret, the coalition says spending should focus on unclassified, public research to bolster local public health capabilities.

"The number of new biodefense biosafety level 3 and 4 laboratories being developed far exceeds what is prudent and necessary, and we are asking Congress to freeze biodefense laboratory construction until a cross-cutting federal review ensures that the massive new investment isn't going awry, and wouldn't be better spent elsewhere," said Steve Erickson of the Citizen's Education Project in Salt Lake City. According to Edward Hammond of the Austin, TX-based Sunshine Project, "Government and academic labs are responding less to bona fide needs than the urge to build power and revenue centers for what they hope is a perpetual biodefense boom. This will result in a dangerous proliferation of bioweapons agents and the knowledge to use them."

"Too many agencies want too many facilities, likely leading to duplication and unnecessary danger," Colin King of Nuclear Watch of New Mexico in Santa Fe, "Agencies are confusing the public by trying to gain lab approval on a one-by-one basis, obfuscating the risks and ramifications of large national programs."

The coalition is calling for programmatic environmental impact assessments and insists that Congress and the General Accounting Office carefully examine the programs of the National Institutes of Health and the Departments of Defense, Energy, and Agriculture both individually and for their collective implications. "Congress and the GAO need to identify the pork, the overlap, the national and local dangers, and address the bigger question of whether the proposed construction of more than a dozen new (or upgraded) biodefense labs really serves America's domestic and international interests" argues Tara Dorabji of TriValley CAREs in Livermore, CA.

The coalition is currently working on biodefense lab and program expansions proposed at Lawrence Livermore National Laboratory in California, Los Alamos National Laboratory in New Mexico, Utah State University and Dugway Proving Ground in Utah, Rocky Mountain Laboratory in Montana, and the University of Texas in Galveston. Other new and upgraded BL3 and 4 labs are proposed in San Antonio and Lubbock, TX, Manhattan, KS, Albuquerque, NM, Davis, CA, Honolulu, HI, and Plum Island, NY. The National Institute of Allergy and Infectious Diseases (NIAID), part of NIH, is promising up to a dozen "Centers of Biodefense Excellence", each with BL3 and/or 4 capacity.

Additional Information, Contacts, Quotes
The coalition members are Citizen's Education Project (Salt Lake City, UT), Coalition for a Safe Lab (Hamilton, MT), Los Alamos Study Group (Santa Fe, NM), Nuclear Watch of New Mexico (Santa Fe), The Sunshine Project (Austin, TX), Tri-Valley CAREs (Livermore, CA) and Western States Legal Foundation (Oakland, CA). Members cite a range of concerns and evidence in support of their demands, including:

Domestic Threat
The FBI's investigation of last fall's anthrax letters has determined that the attack was perpetrated with a US biodefense anthrax strain, and suggests that the author of the attacks was a biodefense insider with hands-on training courtesy of the federal government. Under current plans, thousands of new people will gain access to bioweapons agents and knowledge of their preparation and use. How is the government making sure that it isn't sowing the seeds of domestic terrorism?

Manipulation of the Facts
In California, Lawrence Livermore National Laboratory (LLNL) wants a new biodefense lab smack dab in the middle of a major nuclear weapons design facility, and right next door to a bioreactor (fermenter) facility potentially capable of producing agents on a massive scale. These issues were brushed aside in the lab's draft environmental impact assessment. LLNL claims it needs the new facility because it has insufficient access to similar labs nearby and because the Department of Energy has no BL3 capacity. "LLNL is manipulating the truth to its convenience." says Tara Dorabji of Livermore-based Tri-Valley CAREs, "First, LLNL's environmental assessment fails to give due consideration to the civilian-mission BL3 facilities already in existence. Second, LLNL conveniently ignores the fact that DOE also wants to build a BL3 facility at the Los Alamos Lab in New Mexico. And, finally, new information has surfaced showing LLNL involvement in a proposal to build BL4 and BL3 labs in nearby Davis, California."

Opaque Proposals
In Utah, the US Army's Dugway Proving Ground wants a 200% increase in its biodefense activity, including BL3 lab upgrades and another aerosol chamber, a very controversial piece of testing equipment with many potential offensive uses. The Army has produced a huge draft environmental impact assessment (DEIS); but according to Steve Erickson of the Citizens Education Project in Salt Lake City, "The DEIS is 1000 pages long, but it's so vague that it's impossible to fairly assess what the Army wants to do. They want to conduct many more in-lab and open-air tests, but won't say with what and when or under what conditions until future plans and studies are completed and rubber-stamped by the brass. There is no independent oversight of this facility, and given its penchant for secrecy and its track record of exposing civilians and contaminating the environment with its biological, chemical, and radiological tests, Dugway can't be trusted with such blanket permission to expand programs and missions."

Poor Community Consultation
In Hamilton, Montana, the National Institutes of Health (NIH) wants to build a new BL4 facility at Rocky Mountain Labs (RML). NIH originally proposed to begin building in February 2003 with only a brief environmental assessment and a two week public comment period. Hamilton's Coalition for a Safe Lab demanded more public participation and a more thorough review of the project. NIH relented and is now conducting an Environmental Impact Statement, which will delay groundbreaking. Then, RML put together a community outreach committee; but decided the meetings would be by invitation only. The Coalition protested again. At the last minute, RML opened the meetings to the public; but still required interested people to call ahead and advise the lab that they would like to attend.

Coalition for a Safe Lab organizer Mary Wulff, says, "When we arrived for their meeting we were welcomed with the news that we needed a security escort to use the restroom. The meeting was scheduled for 2 hours. During that time we listened to NIH talk about public relations with their community, children's programs, and bus rides across the NIH campus. Ten minutes were left for our twenty community 'leaders' to comment and ask questions. Several of them didn't comment at all. Our Coalition previously presented RML with a comprehensive list of questions, which they have not yet answered. RML's assistant director said at the meeting that they definitely will not be working with smallpox or Ebola; but conflicting information was given to a Coalition by RML's biosafety committee chairman. The chairman said that if the world situation changes then 'all bets are off'. It's unfair to thrust a national facility like this on a small community, especially in the absence of a comprehensive national review."

Ephemeral Promises?
In Galveston, Texas, the University of Texas (UT) is building a new BL4 lab. UT claims good community

relations for the effort, which began before September 11th, 2001. UT held public meetings and in July 2001, dispelled criticism that the lab's work might be "secret or ominous" with the public declaration that "No classified research will be performed." In September 2002, the Austin-based Sunshine Project wrote the lab's Director to verify that the University of Texas stands by its no secrets pledge, and to request the lab's biosafety committee transparency rules. The BL4 that prides itself on community relations did not reply.

Dangerous Relationships with Weaponsmaking

In New Mexico, a number of non-profit organizations are asking tough questions of Los Alamos National Laboratory (LANL), which wants to build a new BL3 facility. Greg Mello of Los Alamos Study Group in Santa Fe says "Does it really make sense to put a biodefense lab at the nation's largest facility for designing, testing, and producing weapons of mass destruction? Los Alamos has little conspicuous expertise in biology, but it does have a 60-year history of secrecy and compartmentalization devoted to weapons development. What is the rest of the world going to think? What should they think? Los Alamos is not inspectable. A decision to build a bioweapons 'defense' facility at such a place could cripple efforts to build a better nonproliferation regime for biological weapons."

New Mexico non-profits are fed up with LANL's dismal environmental and safety compliance. In August, Nuclear Watch of New Mexico filed suit in federal court, arguing that LANL and DOE have failed to take the hard look at their bioweapons research program that is required under federal law.

"We hope to compel DOE to undergo a Los Alamos-specific Environmental Impact Statement, and a Programmatic EIS for the Chemical and Biological National Security Program. If we are successful, this will greatly increase public scrutiny of DOE's program, and make it more difficult for the agency to continue to avoid environmental and public health issues," said Nuclear Watch's Colin King.

Misplaced Priorities

The coalition sees overinvestment in high-tech facilities to handle pathogens as the wrong emphasis for protecting the public against biological agents – whether naturally-arising or intentionally introduced by terrorists. Dr. Robert M. Gould, President of the San Francisco Bay Area chapter of Physicians for Social Responsibility states "We need to develop a comprehensive, primary-prevention approach towards all forms of infectious disease, which means providing adequate resources to combat AIDS, antibiotic-resistant tuberculosis, as well as the rise in diseases such as malaria predicted to increase from global climate change. According to a UN report from 2000, $10 billion a year would provide enough clean water and sanitation to cut by up to one third the 4 billion cases of diarrheal disease that kill 2 million people every year."

International Ramifications

According to the coalition, the emphasis on labs doing work such as aerosol challenge tests, particularly by the Defense and Energy Departments, runs terrible risks of being misinterpreted by other countries and triggering a bioweapons research race, or even worse. Says Jackie Cabasso of Western States Legal Foundation in Oakland, CA: "With biological weapons, the line between offense and defense is exceedingly difficult to draw. In the end, secrecy is the greatest enemy of safety. Last year, the US single-handedly blew apart an international system for inspections of these kinds of laboratories, a system that would have made great strides toward ensuring that biodefense labs aren't abused for offensive purposes. Having thumbed our nose at the world, the US is now massively expanding its biodefense program, mostly in secretive facilities. Other countries are going to be suspicious. This bodes badly for the future of biological weapons control" (Sunshine Project, 2002).

Title: Smallpox Strike Called Unlikely
Date: December 13, 2002
Source: UCLA

Abstract: It's the ultimate fear in the post-9/11 era: Terrorists infect themselves with smallpox, then before the telltale pustules spread across their bodies, they spend a day at LAX — talking, coughing, touching chairs and counters, spreading contagion via travelers to every corner of the nation.

Other scenarios are just as terrifying: the unleashing of a smallpox bomb that sprays a city with the deadly virus, or the release of genetically engineered smallpox for which there is no protection.

President Bush's expected announcement today of a nationwide smallpox vaccination plan has pushed these visions of horror to the forefront of the public consciousness.

But as the government prepares for a possible smallpox attack, some experts say that such scenarios, while possible, are not likely.

Smallpox is difficult to handle and experts believe its victims are contagious for no more than a day before the excruciating rash erupts — an obvious sign of infection that would immediately mark any carrier, said Clarence J. Peters, director of the Center of Biodefense at the University of Texas medical school in Galveston. Before the disease's infectious phase, a would-be bioterrorist would show debilitating flu-like symptoms, making it difficult to move around in public inconspicuously. Peters said the disease also must be spread by close contact — more than merely crossing paths with a carrier or brushing past the same ticket counter.

The scientific and technological challenges of creating smallpox bombs or genetically altered smallpox agents also make those possibilities somewhat distant, said Jonathan Tucker, author of "Scourge: The Once and Future Threat of Smallpox." Advanced bioweapons would cost millions to develop, yet would be difficult to test for all but the most advanced nations because of the extreme danger.

"It's still quite unlikely that smallpox would be used as a weapon," Tucker said.

Smallpox was declared eradicated from the world in 1980. The only legal stocks of the virus that were not destroyed are small amounts held by the U.S. and Russia in highly secured labs. Today's fears stem from former Soviet scientists who manufactured and maintained tons of the virus in violation of international law. Some of those experts may have sold deadly samples.

But even if terrorists obtain stocks of smallpox, suicidal efforts to provoke an epidemic would be easily prone to failure.

Life of Virus

Once a person is infected, the incubation period is seven to 17 days, followed by body aches, high fever and dizziness — and often severe abdominal pain and even delirium. Yet the person would not be contagious until the appearance of a rapidly spreading rash, according to a consensus of the nation's leading smallpox experts published in the *Journal of the American Medical Assn.* in 1999.

"The guy is going to feel terrible; he is going to be walking around, not shedding virus until maybe the day before, or the day of the rash," Peters said. "He may be obviously ill, a fever, a flushed face and bumps on his face."

If the carrier survives, contagion lasts until the very noticeable scabs from smallpox pustules have completely healed, three weeks or more later.

In a few cases, terrible outbreaks have been started by a single unwitting victim. For example, a Yugoslav Muslim contracted smallpox during a pilgrimage to Mecca in 1972, returned home and started an epidemic that eventually caused 150 cases, including dozens of deaths. In response, authorities imposed a massive quarantine and vaccinated millions.

Yet such single-source episodes are the exception, because smallpox is more difficult to transmit than many other infectious diseases. New contacts must have direct contact with viral particles shed from pustules on the skin, or those coughed up from the mouth or throat. Once in the open environment, the virus wouldn't survive for long, experts say, except in cool, dry conditions.

This combination of factors has historically caused smallpox to spread more slowly than such childhood ailments as chickenpox. In general, smallpox victims pass the disease to family members or hospital workers, rather than casual contacts. Even the Yugoslav carrier spread contagion almost exclusively to hospital workers.

Unlike the Yugoslav authorities who were caught by surprise with their nation's first smallpox episode in more than four decades, this country is on a high state of alert. The U.S. public health infrastructure is better equipped to rapidly respond to an outbreak, the vast majority of victims can be saved by taking the vaccine within three days of exposure and even as long as seven days after exposure, the vaccine can reduce the severity of the disease.

A lone, infected terrorist, or a small group "could certainly do some damage," Peters said. "But he's not going to cruise through [John F.] Kennedy [International] Airport and leave hundreds of people infected behind him. This whole scenario that there's going to be massive spread by people that nobody notices is not realistic."

Russian Weapons

In contrast, a smallpox bomb or sprayer that floats the virus over a wide area would be much more likely to spark an epidemic, experts say. Such weapons were developed in Russia well into the 1990s.

"Unfortunately, I know of a number of examples about possible involvement of some Soviet and Russian scientists in collaboration with some countries like Iraq and Iran," said Ken Alibek, formerly a top scientist in the Soviet biological warfare program. He defected to the United States in 1992, and now directs a biodefense institute at George Mason University, in Manassas, Va.

Yet even with expert help, such weapons would be technically difficult to construct, said Peters, who formerly headed the Disease Assessment Division at the Army's primary biological defense lab at Ft. Detrick, Md.

The smallpox virus must be grown in living cells, typically within fertilized eggs, he said, then refined under precise conditions. A gooey mass of smallpox-laden egg protein must be turned into a liquid or ultra-fine powder. It then must be packaged in a bomb or other disseminator that can gently release the microscopic particles so they are not destroyed and float freely in the air, Peters said.

Even if terrorist groups could overcome the technical problems, there is still a powerful disincentive for them to pursue such a strategy since developing the weapons would pose an enormous risk of accidental release.

Such stumbling blocks helped fuel a debate about how widely to vaccinate the population beyond health-care workers, soldiers and public safety officials. President Bush ultimately decided to offer the vaccine to all Americans on a voluntary basis when sufficient licensed supplies are available.

"It comes down to a weighing of risks," Tucker said.

A terrorism-related smallpox epidemic could be contained with relatively few deaths, he said, but may still provoke widespread panic. In a national vaccination campaign many thousands of people would certainly suffer serious side effects, and as many as several hundred could die. Yet society as a whole might accept that toll as a fair price for a sense of greater security.

The most horrifying smallpox scenario — the development of an altered strain engineered to defeat the vaccine — gained currency last year. A team of Australian researchers spliced the gene for the human hormone interleukin-4, which affects immune response, into mousepox, a virus related to smallpox that cannot infect people. Their goal was innocent: They wanted to reduce mouse fertility.

Their result sent chills through the biodefense community. The experiment created a super mousepox strain that even killed mice that had been previously immunized.

Most exerts accept the possibility that a genetically engineered, super smallpox virus can be created. But aside from the tremendous dangers of handling so deadly and incurable a microbe, other drawbacks make them doubt anyone would try.

"You can add genes to smallpox, but what we don't know is whether you are getting the effect you want," Peters said. "I could never be sure it was a decent [biological warfare] agent unless I tested it."

Testing on humans would be a monumental gamble. Because only people contract smallpox, the weapon's effectiveness could not be tested on animals.

Such concerns reflect a more general skepticism about the efficacy of medical defenses against bioterrorism. Many diseases beyond smallpox have been turned into weapons in the past, so a sophisticated attacker might avoid smallpox if the target population has been vaccinated, and instead use a weapon such as plague or anthrax. Vaccinating against every possible threat is next to impossible.

"When you talk about biological terrorism, I would not spend even a penny on vaccines," Alibek said. "Protecting an entire population [in advance] against biological warfare is not feasible" (UCLA, 2002).

Title: Scientists Say Bioterror Threat 'Exaggerated'
Date: January 29, 2003
Source: Science Editor

Abstract: Politicians and the media have greatly exaggerated the likely consequences of any use of biological or chemical weapons for terrorism, scientists said on Wednesday.

Even the most feared weapons, such as smallpox or nerve agents, would cause far fewer casualties that most people imagine, according to experts at a press briefing in London.

John Oxford, professor of virology at Queen Mary's medical school, London, said: "The smallpox virus is an old plodder, not a sure-footed fast-moving virus like 'flu or measles."

Prof Oxford, an expert on smallpox, said he did not recognise "the virus I know" in some scenarios presented, particularly in the US, in which a smallpox epidemic started by terrorists could end up killing millions of people.

According to Prof Oxford, smallpox can be passed on from person to person only by close physical contact, not simply by being in the same room as someone who is infected, and the number of cases in historical outbreaks of the disease built up quite slowly. And he said that people

who were vaccinated against smallpox before the disease was officially eradicated in the 1970s would still have residual immunity 30 or 40 years later.

Prof Oxford acknowledged that it was reasonable to take some precautions against bioterrorism, for example by building up stocks of smallpox vaccine, but added: "It would not take much to divert all of us [infectious disease specialists] into anthrax and smallpox, when we should be focusing on the great natural killers such as HIV, TB and influenza."

Tom Inch, who chairs the UK chemical weapons convention advisory committee, told the meeting that if terrorists used a chemical agent in a confined space such as the London Underground, "some people would die but not a huge number - high explosives would be far more dangerous." Fear and panic would probably do more harm than a nerve agent or toxin such as ricin.

The problem for terrorists, Dr Inch said, is that even the deadliest chemicals are extremely difficult to distribute in a way that causes mass casulties.

Steve Emmett, an expert on nerve agents at Oxford University who now works for Synaptica, a university spin-out company, agreed. **"It's easy to play up the risks and encourage panic," he said. "In fact the risks of mass poisoning [from any chemical agent] are very low"** (Science Editor, 2003).

Title: Fear Is Still The Thing To Fear
Date: March 6, 2003
Source: UCLA

Abstract: Dr. Kenneth Lightface is a highly respected specialist in infectious diseases who works out of Hoag Hospital in Newport Beach. He is also a good friend who -- with his wife, Louise -- had dinner in our home last week.

Because I never get far from my journalistic roots, I broke one of the cardinal rules that kicks in when a physician is a guest in your home. I talked shop. His shop.

I wanted to hear his expertise on the smallpox shots being pushed on a reluctant society by our government.

Did he plan to get one? No. Did he think it was a good idea for the rest of us? No. Did he think smallpox was a weapon that terrorists could use effectively against us? No. Actually the greater threat, he said, was the use we might make of it ourselves.

So we were off and running.

The only way smallpox can be transmitted, he said, is by a person with the disease. There is no data on spreading it in any other way. Putting it into a missile and releasing it in the air, for example, is highly unlikely to be dangerous because the virus is extremely fragile.

So to use it as a weapon, the terrorists would almost certainly have to infect one of their agents and send him or her to this country. If he could pass the infection along to a handful of Americans, he might be able to start a mini-epidemic. But the barriers in his way are formidable. The most important is his appearance. When the disease surfaces, he will be an unsightly bed of sores. And the disease is communicable only when it is obvious. So to pass the disease along , he would first have to get into the country and then move among us while he was marked with multiple sores on his face and extremities, a scenario that reads like a bad "B" movie.

On the other hand, Litwack said, the wholesale inoculation of our citizens against smallpox carries much greater likelihood of danger than its use as a weapon by terrorists. And not from the

one or two in a million chance that the inoculation will kill the recipient or even the much greater chance that there may be severe side effects but rather because those who are vaccinated can unwittingly pass the vaccine virus along -- with possibly fatal results -- to others whose immune systems have been weakened for a multitude of reasons. Thus, in a bizarre sort of way, the terrorists might more likely achieve their goals through the protections we put up against them.

I asked Litwack if most physicians shared this view, and -- if so -- why it hasn't been passed along strongly to the public? He said that anyone educated in medicine would understand these reservations and that a good many doctors have appeared on panel talk shows to say so.

The problem, he said, is that these voices are drowned out by the party line -- centered in government health agencies -- that smallpox shots are an important weapon against terrorists rather than an expensive and counterproductive insurance policy against an exceedingly remote danger.

What about the other so-called "biological weapons of mass destruction?" Do they need to be better understood by the lay public?

He said there are six possible biological weapons. In addition to smallpox, he named anthrax, botulism, plague, viral hemorrhagic fever and tularemia.

"It would take great expertise to weaponize any of these substances," he said, "and they would be extremely difficult to deliver. They would also be detected quickly if they ever were delivered. The system is in place for a quick response if an unusual case appears, and we would have plenty of time to immunize the victims.

"Smallpox is in a class apart," he continued, "because there is no immunization for these other threatened substances. Nor is there an immunization for fear. 'Biological weapons for mass destruction' are buzz words that strike fear. We should respond to fear with accurate information."

Franklin Roosevelt, when he told America the only thing it had to fear was fear itself, made the same point. He was right.

Roosevelt assuaged our fears and dealt to our strengths. The present leaders of this country feed our fears and deal to our vulnerabilities.

Bio-terrorism clearly isn't the only threat to our homeland. Chemical weapons -- particularly nerve gas and nuclear devices -- also threaten us. But they also need to be dealt with intelligently and not with emotional buzz words.

Their availability, accuracy, method of delivery, pattern and degree of destruction, and modes of defense need to be understood -- as much as possible free of bias -- as far as the information is accessible. A good place to start is the Web site of the Centers for Disease Control at www.bt.cdc.gov.

It has become clear that our own government is not going to provide information that doesn't support immediate policy needs. So we have to dig it out ourselves. Fear has become a potent player on the war team. Information is an antidote for fear with a great deal more effectiveness than smallpox shots.

Ken Litwack is an expert in a field where disseminating accurate information is a considerable public service. To deal with the chaos in which we all find ourselves these days, we need to listen to cool and unbiased expertise wherever we can find it to provide the balance we need to keep our own heads straight. We're lucky he's in our neighborhood to help (UCLA, 2003).

Title: US Army Patents Biological Weapons Delivery System, Violates Bioweapons Convention
Date: May 8, 2003
Source: Sunshine Project

Abstract: The United States Army has developed and patented a new grenade that it says can be used to wage biowarfare. This is in violation of the Biological Weapons Convention, which explicitly prohibits development of bioweapons delivery devices.

US Patent #6,523,478, granted on February 25th 2003, covers a "*rifle launched non lethal cargo dispenser*" that is designed to deliver aerosols, including – according to the patent's claims - "*crowd control agents, biological agents,* [and] *chemical agents...*"

The development of biological weapons delivery devices is absolutely prohibited - "*in any circumstance*" - by Article I of the 1972 Biological and Toxin Weapons Convention, to which the US is a party. There is no exemption from this prohibition, neither for defensive purposes nor for so called non-lethal agents.

"*The development of weapons for biological payloads produces great uncertainty about the US commitment to the Biological Weapons Convention.*" says Edward Hammond of the Sunshine Project US, "*Thirty four years after the US renunciation of biological weapons, the Pentagon is back in the bioweapons business.*"

"*Hans Blix might have an easier time finding illegal weapons if he were inspecting near Baltimore instead of Baghdad,*" says biologist Jan van Aken from the Sunshine Project Germany, referring to the fact that two of the inventors work at the Army's Edgewood Arsenal north of Baltimore, Maryland. Other inventors work at an engineering firm in Orlando, Florida, where the US Special Forces operate from MacDill Air Force Base.

This grenade is yet another indication of prohibited biological and chemical weapons development projects in the US. It stands in a row with an illegal chemical weapons program focusing on so called non-lethal agents (see below), uncovered last September by the Sunshine Project, with research activities on material degrading microorganisms by the US armed forces (see below), and with a range of questionable biodefense activities that may well suit offensive purposes (see *New York Times*, 4 September 2001) (Sunshine Project, 2003).

Title: Ricin Breeding And Production Projects At Texas Tech University Raise Questions
Date: October 23, 2003
Source: Sunshine Project

Abstract: Since the mid-1990s, researchers at Texas Tech University (TTU) in Lubbock have conducted several projects to produce ricin, a toxin found in the seeds of the castor bean plant. Ricin is deadly in very small quantities and is subject to tight restrictions under both the Chemical and the Biological Weapons Conventions. At TTU, agriculture researchers bred castor to create high-ricin yielding plants specifically adapted for toxin production. TTU chemical engineers also built a machine to extract the highly potent toxin. The peaceful biomedical demand for ricin is extremely limited, and TTU's efforts far outstrip it in many aspects. TTU's public explanation of all its ricin projects is required. The activities are of particular concern because of TTU's quiet but intense involvement in Pentagon biodefense programs.

The Breeding Project
TTU's castor breeding project, which began in 1995, has two aims - producing a variety of castor with low ricin content, and one with high content. A low ricin variety, called "TTU-LRC", is the one that the University likes to talk about. But the project also aimed to create a castor variety specifically adapted for ricin production, with the characteristics of being machine-harvestable, having high toxin content, and a low level of Ricinus communis agglutinin (RCA). RCA is a product of the seed that is harmful; but that is

difficult to separate from ricin. By breeding for lowered RCA and the other characteristics, TTU sought a new variety of castor fine-tuned for manufacturing ricin.

The Ricin Extraction Unit
Parallel to the castor breeding effort, beginning in 1996, TTU's chemical engineering department designed and built a machine to automate the process of extracting purified ricin from seeds grown on the university's 2 acre (.81 hectare) experimental castor plot. According to recent statements by TTU, this machine ran test batches of 'denatured' castor beans that did not contain ricin; but was never used to actually produce toxin. Like the castor breeding, the construction of this machine has been justified by TTU with the explanation that ricin might be used in pharmaceutical products. Yet there are no approved pharmaceutical uses of the toxin. Medical experiments have utilized very small quantities of ricin for years; but no viable products have resulted. And biomedical researchers are able to produce the tiny quantities of ricin that they need on-site - without a castor field, without a ricin 'extraction unit', and without any need to produce, store, and ship large quantities of toxin.

Scale & Purpose
In many countries, castor is grown for its oil, which has many uses. In commercial castor production, ricin is a dangerous nuisance, and it is systematically eliminated from the oil and byproducts. TTU efforts work in the opposite direction - they relate to producing the toxin at a scale for which there is absolutely no legitimate use. A small plot of many existing types of castor will produce many times more toxin than is needed for legitimate biomedical purposes. With TTU's ricin extraction technology, even its small test plot is capable of producing enormous amounts of toxin. With normal harvests and farming practices, TTU's two acre (.81 hectare) plot, sown with an average ricin-level variety, can yield in excess of 150 kilograms of toxin if it is efficiently extracted. By way of comparison, the international terrorism scare prompted by last year's discovery of ricin in Europe was provoked by a few grams of the substance.

GMOs with Ricin
TTU scientists also developed ways to move the genetic code for ricin from the castor bean into other plants, such as cotton. Comparatively little is publicly available about this research although a notice on TTU's website indicates that TTU has developed transgenic ricin technology that is for sale. According to the notice, ricin production can be limited to parts of the plant that are not typically harvested. In this particular area, TTU's work follows that of others - University of Florida researchers produced ricin in tobacco as early as 1994, and have followed with work to produce ricin in laboratory cell cultures.

Conclusion
The effort at TTU to develop ways to produce and use ricin involved a coordinated effort across several academic departments and activities that, if conducted in many countries, the US would consider proof of a weapons program. While TTU is not the only university to experiment with transgenic ricin, the creation, much less release, of genetically-modified ricin-producing species is an extraordinarily bad idea. Either through accidents or abuse, such plants could result in widespread problems from ricin toxin. TTU's work to breed a ricin production variety of castor is completely unwarranted. Selection for ricin production characteristics should never have been performed, and the germplasm should not be released. TTU's construction of a ricin extraction unit in the absence of any legitimate demand for the weapons agent product was sheer folly.

Because TTU ricin activities relate to production of a toxin subject to severe restrictions under the Chemical and Biological Weapons Conventions, TTU should provide a detailed public explanation of all of its ricin projects. Ricin production has little to no reasonable peaceful application, but it could be appropriated for military purposes. So, TTU should wish to avoid suspicion by clarifying that its ricin production projects have no relationship to any Army, Air Force, or other Pentagon biodefense research that is being conducted at the University. TTU's explanation should account for all the castor and any toxin that TTU has produced and fully describe the present status of all TTU ricin-related projects, including any at its Health Science Center or other affiliated environmental and health institutions. It should fully explain TTU's motives in the ricin work and every application to which the knowledge, plants, equipment, and toxin that it has produced have been applied (Sunshine Project, 2003).

Title: Institute Responsible For Anthrax Accident In California, In Charge Of Safety And Security At Chicago Biodefense Laboratory
Date: June 22, 2004
Source: Sunshine Project

Abstract: Non-Profit Watchdogs Renew Call for a Moratorium on Construction of Biodefense "Hot Zones"

Southern Research Institute, the military biodefense contractor recently in the news for sending live anthrax to the Children's Hospital of Oakland (CA), is also in charge of safety and security for a major new $30 million biodefense facility being built at the Department of Energy's Argonne National Laboratory near Chicago.

The new Ricketts Regional Biocontainment Laboratory is funded by the National Institute of Allergy and Infectious Disease (NIAID) and is named after Howard T. Ricketts, a celebrated pathologist who acquired typhus in the course of research and died at age 39. It will begin biodefense work with studies of anthrax (Ames strain) and Yersinia pestis, the causative agent of plague.

Southern Research Institute, with major labs of its own in Frederick, Maryland and Birmingham, Alabama, has a $75 million annual budget including biodefense contracts from an impressive roster of Pentagon agencies. Its Frederick, Maryland facility is located near the Army's biological weapons research headquarters at Fort Detrick, yet despite its biodefense prominence, Southern Research in Frederick does not maintain an institutional biosafety committee that complies with federal research rules. (And Southern Research in Birmingham has not honored requests for records of its institutional biosafety committee.)

"Southern Research's incompetence is plain to see. Its own house is in dangerous disarray and does not comply with federal research rules," said Edward Hammond, Director of the Sunshine Project. "That threat is bad enough; but even after leaking anthrax, the institute is still developing biosafety and operating procedures for new high containment labs."

According to a national coalition of biodefense watchdogs, formed in 2002 to monitor the US biodefense program, the Southern Research situation epitomizes their concern that biodefense laboratories are proliferating unsafely and with unsound planning, and that this could result in health, environment, and international security problems.

The watchdogs also point to Southern Research's links to classified biodefense research. (Southern Research's facilities and personnel have "secret" clearance.) "Public interest groups seeking information about military biodefense programs are being stonewalled by the Army and other agencies." says Steve Erickson of Citizen's Education Project in Salt Lake City, which monitors the Army's Dugway Proving Ground. "That Southern Research and other secretive military contractors are also insinuating themselves into civilian biodefense programs is cause for concern that we are witnessing a steady erosion of openness and accountability, not only at Pentagon labs; but at academic institutions and in work funded by the National Institutes of Health."

Two other Department of Energy (DOE) labs that design and develop the nation's nuclear weapons are also building new biosafety level three biodefense facilities. Both Lawrence Livermore and Los Alamos Labs have been sued by local community groups under the National Environmental Policy Act (NEPA). Inga Olson, Program Director at Tri-Valley CAREs, one of the groups that sued DOE, warns "Biodefense dollars are flowing like champagne at a wedding - into everywhere from nuclear weapons labs to children's hospitals - everyone wants a piece of the action. But a far more sober look is needed at whether the rapid spread of labs, pathogens, and bioweapons knowledge poses a greater threat than the problem we are trying to solve."

"After all," says Mary Wulff of Citizens for a Safe Lab in Hamilton, Montana (where NIH is building a new biosafety level four facility), "the Bush administration continues to rely on fear generated by the anthrax attacks and shaky allegations against other countries, like Iraq, to push billions and billions through Congress. Instead of an informed national discussion, the government's actions are based on fear and unsound information. The importance of reigning in knee-jerk reactions is underscored by the nearly tragic exposure of workers at Children's Hospital in Oakland, California."

The national coalition of nonprofit groups is calling for a moratorium on new biodefense labs until comprehensive national assessment is conducted, and transparency guarantees in place, and a binding and open federal system exists to review dual-use research with biological weapons agents (Sunshine Project, 2004).

Title: Has Biodefense Gone Overboard?
Date: February 28, 2005
Source: Science Mag

Abstract: The vast program to defend the U.S. from bioterrorism is hurting basic microbiology and could eventually undermine public health, according to an open letter signed by more than 750 microbiologists. The letter--scheduled to be sent to Elias Zerhouni director of the National Institutes of Health (NIH) this week--calls the billions spent on potential bioterror agents like plague and anthrax a "misdirection of NIH priorities" and asks Zerhouni to "take corrective action".

Biodefense research exploded after the 9/11 terror attacks and the subsequent anthrax letters; the annual budget of the National Institute for Allergy and Infectious Diseases (NIAID) went up by some 47% in 2003 and now includes $1.7 billion for biodefense. Rutgers University microbiologist Richard Ebright, who took the initiative for the open letter, claims that the bonanza has coincided with waning support for nonbiodefense related science. The number of grants issued in two NIH 'study sections'-- Microbial Physiology and Genetics, and Bacteriology and Mycology--has fallen from 1117 between 1996 and 2000 to 746 since then, a drop of 33%. In the same period, the number of grants for six bacterial diseases that are on the priority bioweapons list but extremely rare in humans--tularemia, anthrax, plague, glanders, melioidosis, and brucellosis--shot up from 33 to 497.

Not only is less money going to research on bacteria that cause thousands of infections each year, the protesters say, but fundamental research on model agents such as *Escherichia coli*, *Bacillus subtilis*, and *Salmonella* is also in decline. Such basic work has led to vast advances in knowledge, paving the way for new antibiotics, says Stanley Falkow of Stanford University, who also signed the letter.

But NIH officials say the numbers cited in the letter are misleading. Biodefense research spending has come on top of existing budgets, says NIAID director Anthony Fauci, and nonbiodefense microbiology has fared no worse than NIH-supported research in general. NIAID's analysis of nonbiodefense bacterial physiology grants since 2000--defined more broadly and not limited to two study sections--finds awards have been stable, Fauci says, hovering between about 120 and 150 per year since 2000. "I wish those who signed [the letter] would take a careful look at the data," says Fauci. Moreover, studying biodefense agents is yielding valuable insights that will help fight other, more common diseases as well, Fauci adds.

Mark Wheelis, a biological arms control specialist at the University of California, Davis, says he's delighted to see the discussions unfurl. By and large, the three-and-a-half years since 9/11 have passed without an informed debate about exactly what's threatening the U.S. population and how much should be invested to avert those dangers. "This letter finally opens the debate," he says (Science Mag, 2005).

Title: U.S. Germ-Research Policy Is Protested By 758 Scientists
Date: March 1, 2005
Source: New York Times

Abstract: More than 700 scientists sent a petition on Monday to the director of the National Institutes of

Health protesting what they said was the shift of tens of millions of dollars in federal research money since 2001 away from pathogens that cause major public health problems to obscure germs the government fears might be used in a bioterrorist attack.

The scientists, including two Nobel Prize winners and a biologist who is to receive the National Medal of Science from President Bush in March, say grants for research on the bacteria that cause anthrax and five other diseases that are rare or nonexistent in the United States have increased fifteenfold since 2001. Over the same period, grants to study bacteria not associated with bioterrorism, including those causing diseases like tuberculosis and syphilis, have decreased 27 percent, the petition said.

The letter, which has been circulated among scientists for several weeks, was sent on Monday to Dr. Elias Zerhouni, the director of the institutes, and was posted on the Web site of the magazine Science.

"The diversion of research funds from projects of high public-health importance to projects of high biodefense but low public-health importance represents a misdirection of N.I.H. priorities and a crisis for N.I.H.-supported microbiologist research," the letter said.

The letter was signed by 758 scientists who have received grants from the institutes or have served on panels helping to distribute them in the fields of bacteriology and mycology, the study of fungi.

Scientists specializing in viruses were not asked to sign because their grants are handled separately, but some virologists have expressed interest in organizing a similar petition, said Richard H. Ebright, a molecular biologist at Rutgers University who was the primary organizer of the petition.

"A majority of the nation's top microbiologists - the very group that the Bush administration is counting on to carry out its biodefense research agenda - dispute the premises and implementation of the biodefense spending," Dr. Ebright said in an interview.

Dr. Zerhouni declined through a spokesman to comment on the letter. But Dr. Anthony S. Fauci, the director of National Institute of Allergy and Infectious Diseases, which controls about 95 percent of the institutes' biodefense research spending, said the petition's signers were mistaken on several points.

Dr. Fauci said the $1.5 billion a year the administration decided to spend on biodefense research starting in 2003 was new money and was not taken from existing N.I.H. programs. Moreover, he said, much of the biodefense research should also help protect against natural emerging disease threats.

For example, he said, research centers around the country that his institute has designated for biodefense financing will also work on the possibility of an influenza pandemic, which he acknowledged is a greater threat today than bioterrorism.

"The United States through its leaders made the decision that this money was going to be spent on biodefense," Dr. Fauci said. If the institutes had not taken the money, it would have been spent by the Defense Department or the Department of Homeland Security for similar purposes, but without the influence of scientists through the traditional grant-reviewing mechanism of the institutes, Dr. Fauci said.

But signers of the petition insisted that the government was making poor trade-offs. "These projects obviously take money away from basic research in the United States," said Sidney Altman, a molecular biologist at Yale who won the Nobel Prize in Chemistry in 1989. He said that while a risk of bioterrorist attack existed, he considered it "a very minor factor" among all the threats faced by the nation. "There's no question that microbiology has suffered" by the focus on obscure organisms, Dr. Altman said.

The other Nobel laureate who signed is Arthur Kornberg, a biochemist at Stanford who won the medicine prize in 1959.

Charles Yanofsky, a biologist at Stanford set to receive the National Medal of Science on March 15, said in a statement that he had signed because he feared the current biodefense spending "will sacrifice progress by well-established investigators who are contributing to our overall understanding that is benefiting mankind in medical as well as many other areas."

Some scientists said they had signed because the institutes used a heavy hand in directing the money to six pathogens: those causing anthrax, tularemia, plague, glanders, melioidosis and brucellosis (New York Times, 2005).

Title: Disease By Design: 1918 "Spanish" Flu Resurrection Creates Major Safety And Security Risks
Date: October 5, 2005
Source: Sunshine Project

Abstract: The resurrection of 1918 influenza has plunged the world closer to a flu pandemic and to a biodefense race scarcely separable from an offensive one, according to the Sunshine Project, a biological weapons watchdog.

"*There was no compelling reason to recreate 1918 flu and plenty of good reasons not to. Instead of a dead bug, now there are live 1918 flu types in several places, with more such strains sure to come in more places*," says Sunshine Project Director Edward Hammond, "*The US government has done a great misdeed by endorsing and encouraging the deliberate creation of extremely dangerous new viruses. The 1918 experiments will be replicated and adapted, and the ability to perform them will proliferate, meaning that the possibility of man-made disaster, either accidental or deliberate, has risen for the entire world.*"

The 1918 experiments are part of the US biodefense program and are of no practical value in responding to outbreaks of "bird flu" (H5N1). The 1918 virus is a different type (H1N1) of influenza than "bird flu". 1918 flu is more than eighty five years old and no longer exists in nature, posing no natural threat. While it is reasonable to determine the genetic sequence of 1918 and other extinct influenza strains, there is no valid reason to recreate the virulent virus, as the risks far outweigh the benefits.

But the most significant story isn't Tumpey, Taubenberger, and colleagues. It is the Centers for Disease Control's (CDC) attitude about the experiments and its implications. "*The biggest news about resurrecting 1918 flu is the US government's enthusiastic embrace of designer disease and the impact that it will have on our future."* says Hammond, *"By encouraging genetic riffs on influenza and other viruses with the explicit intent of building more dangerous pathogens, CDC is fueling the gathering dangers of competition to discover the worst possibilities of biotechnology applied to bioweapons agents. Some might do it just to keep up with the Americans, resulting in a further blurring of defense and offense and heightening the biological mistrust evident in US foreign policy.*"

In addition to the potentially broad damage to international security and cooperation in the biological sciences if novel diseases continue to be created, the 1918 experiments heighten the chance that a flu lab will be the source of the next pandemic.

CDC says that it plans to keep its vials of 1918 flu under close guard in one place. But that's a red herring according to the Sunshine Project. Influenza with as many as five 1918 flu genes, and which are potentially pandemic, have already been handled at labs in at least four places other than CDC, including labs in Athens, GA, Winnipeg, MB (Canada), Seattle, WA, and Madison, WI. With the exception of the Canadian lab, none of these facilities has maximum (BSL-4) biological containment, and it is a virtual certainty that more labs will begin 1918 flu work now.

In fact, the only possible source of a new 1918 influenza outbreak is a laboratory. The situation of the 1918 flu is not dissimilar to SARS, whose natural transmission is believed to have been halted. The experience with SARS accidents is chilling: It has escaped three different labs to date. A 1918 influenza escape would be very likely to take a higher human toll. The US biodefense program has also had a

number of lab accidents since 2002, including mishandling of anthrax and plague and laboratory-acquired infections of tularemia. In Russia, a researcher contracted ebola and died last year.

Importantly, human error and equipment failures aren't the only ways for a disease agent to escape a lab - something vividly illustrated by the anthrax letters in the US four years ago. Unlike anthrax, however, 1918 influenza would transmit from human to human.

"*We are no safer from a pandemic today than yesterday. In fact, we're in greater danger, not only from influenza; but from the failure of the US to come to grips with and address the threats posed by the research it sponsors, in terms of legislation, ethics, and self-restraint.*" concludes Hammond (Sunshine Project, 2005).

Title: Experts: Chemical Terrorism Not Likely to Work
Date: November 2, 2005
Source: Fox News

Abstract: After the warehouse raid in northern Jordan, the word from authorities horrified the people of Amman.

Terrorists linked to Al Qaeda had assembled a fearsome array of chemicals and planned a bombing that would send a 2-mile-wide "poison cloud" over this Middle Eastern capital, killing as many as 80,000 people, military prosecutors said.

Usama bin Laden's foot soldiers had finally concocted a weapon of mass destruction.

A year later, in the hard light of scientific scrutiny, that sinister scenario looks more fictional than factual.

"Eighty thousand! That would have been like Hiroshima. And that was an atomic bomb," says Samih Khreis, one of the alleged plotters' lawyers.

The defense attorneys aren't alone in scoffing at the "WMD" claim. International experts checking the suspects' supposed list of chemicals — from the industrial compound ammonium to the explosive nitroglycerin — say either the defendants or the Jordanian authorities, or both, had little inkling about the makings of a chemical weapon.

The compounds "may generate some toxic byproducts, but they're unlikely to result in significant deaths by poisoning," said Ron G. Manley of Britain, a former senior U.N. adviser on chemical weapons.

The poison cloud of Amman is one more dubious episode in the story of the terrorist quest for doomsday arms, a dark vision that has become an axiom of today's counterterrorist strategy.

Four years into the "global war on terror," half the Americans surveyed this summer said they worry "a lot" about the possibility of such a WMD attack, according to the U.S. polling firm Public Agenda.

Concerns emerged in the 1990s when the Soviet Union's collapse left nuclear and other arms vulnerable to theft. Worries grew as "recipes" for mass-casualty weapons flashed around the Internet.

In 1998, Al Qaeda leader bin Laden told Time magazine that acquiring such arms to defend Muslims "is a religious duty." Three years later in Afghanistan, the U.S. military found Al Qaeda documents, crude equipment and other evidence of chemical and biological experimentation.

Al Qaeda's intent is clear, says a key U.S. intelligence analyst.

"The intent is there and you can see it in the 'fatwas' justifying the use" of WMD, Donald Van Duyn of the FBI's Counterterrorism Division said in a Washington interview.

One fatwa, or Muslim religious decree, issued by radical Saudi cleric Nasser al-Fahd in 2003 at bin Laden's request, "authorized" the use of ultimate weapons "if the infidels can be repelled from the Muslims only by using such weapons."

"It may be only a matter of time before Al Qaeda or another group attempts to use chemical, biological, radiological or nuclear weapons," CIA Director Porter Goss advised U.S. senators earlier this year.

Amid all the warnings, boasts and chilling tales, however, the daunting difficulties of fielding such weapons usually go unmentioned — along with Al Qaeda's glaring lack of expertise and stable home base, the unreliability of Internet "formulas," and the progress made worldwide in locking down the raw materials of the most destructive arms.

Amman's is one of many stories of exaggerated threats or ill-conceived plans. Others include:

— British police last year arrested eight people on suspicion of plotting a bombing that would spread osmium tetroxide, a dangerous corrosive compound. But this volatile chemical would have burned up in any explosion, scientists say.

— The long-jailed Jose Padilla, an American Al Qaeda member accused of planning a radioactive "dirty bomb" in the United States, is said by U.S. officials to have hoped to use uranium. But uranium has low radioactivity, and would have had no more impact than lead in a bomb, scientists note.

— Eight Algerian and Libyan defendants accused of "conspiracy to manufacture chemical weapons" were freed in London last April after authorities acknowledged tests showed a substance found in one of their apartments was not highly lethal ricin, as earlier alleged. The plant extract, effective as a poison dealt to individuals, was long ago dismissed by military arms-makers as an impractical mass-casualty weapon.

— American WMD specialists in Iraq reported that insurgents there last year recruited a Baghdad chemist to make the blistering agent mustard gas, a chemical weapon developed in World War I. They said he had the right ingredients, but he couldn't produce the compound.

The only known terrorist use of a chemical weapon occurred in 1995 in the Tokyo subway system, when Aum Shinrikyo cult members punctured plastic bags of sarin, unleashing nerve-agent vapor that felled thousands of commuters.

The cult, including scientists, is believed to have spent millions of dollars on the demanding, dangerous production process, but came up with only impure sarin. It killed 12 people — hardly a mass-fatality terror attack, specialists point out.

"Regardless of what people say, this is very difficult to do, to inflict mass casualties with chemical or biological weapons," said Jonathan Tucker, an authority on unconventional arms with California's Monterey Institute of International Studies. "One really needs large quantities."

Oregon toxicologist Dr. Robert Hendrickson calculates that terrorists would need 1,900 pounds of sarin — more than 200 gallons — to kill half the people in a typical open-air baseball stadium. So much liquid, with dispersal devices, would be extremely difficult to conceal and to produce, probably taking 10 years in a basement-sized operation, experts say.

Thousands of tons of sarin and VX nerve agent already exist, in old U.S., Russian and other military arsenals. But those weapons' potency has degraded and they're being destroyed under the 1997 treaty

banning them. Security around the storage sites has been tightened since the Sept. 11, 2001, U.S. terror attacks.

If true chemical weapons prove beyond their reach, experts say, terrorists may turn to far less lethal but more available pesticides and caustic compounds. Large amounts of sulfuric acid, the "battery acid" for sale at $2 a gallon on the Internet, were among the Jordanian group's chemicals.

"Terrorists are opportunistic," Tucker said of that group's motley collection. "They apparently figured it would produce some toxic mess that would do some harm."

The prime target in Amman was Jordan's General Intelligence Department, prosecutors said. Defense attorneys said the men admit planning a bombing, but their cache didn't include ammonium, potassium nitrate and some other compounds mentioned by prosecutors.

A televised "confession" to a chemical plot by alleged bombmaker Azmi al-Jayousi was coerced, said lawyer Khreis, who contended Jordan's U.S.-aligned government was exaggerating the threat because "they want approval of people in the street and of Parliament for their antiterror actions."

Military prosecutors, who wouldn't discuss the case on the record, claim a toxic cloud killed rabbits in the desert in a test explosion of the purported chemical cache. A Jordanian army chemical expert recently testified, however, that only considerable expertise and equipment could produce a mass killer from the mix.

"A chemical bomb needs a qualified chemist," Khreis said. "Al-Jayousi has a 6th-grade education."

Some analysts say the facts of chemistry may mean little in the end for those who want to terrorize populations, as long as the word "chemical" is heard on air or seen in headlines.

"One needs only to look at the adjectives used by the media to describe chemicals to understand why the general public is frightened: toxic, killer, lethal, deadly," said Hendrickson, of Oregon Health and Science University.

Whether Internet "recipes" work or not, said the FBI's Van Duyn, "I'm not sure they need to be very effective" (Fox News, 2005).

Title: US House Votes To Advance Offensive Biological Weapons Plan
Date: March 15, 2006
Source: Sunshine Project

Abstract: In an titanic fit of myopia, the US House of Representatives has passed a bill that advances a US plan to wage biological warfare against Colombia and other countries where illicit narcotics are produced. If passed by the US Senate, the bill (HR 2829) will require the US Drug Czar to quickly formulate a plan to field test biological weapons designed to eradicate illicit crops.

The Biological Weapons Convention (BWC) prohibits all biological warfare, including attacks on crops. The BWC has no exemptions - not for the Drug War, nor for the US Congress. The US eradication project thus violates the BWC's Article I, which prohibits development and stockpiling of biological weapons.

The Sunshine Project will call upon the BWC to prevent violation of the treaty by the United States. In April, the Sunshine Project will distribute an Agent Green dossier to governments attending a preparatory meeting for the BWC's upcoming 6th Review Conference. If the US bill is signed into law, the Sunshine Project will press for multilateral action by the BWC 6th Review Conference itself, when it meets in November.

Opposition in South America, the primary target of the plan, spans the political spectrum. When first confronted by US biowarfare pressure in 1999-2000, the Colombian government decided against testing and use of biological agents to eradicate illicit crops. Other Andean countries also oppose the plan, as do many environmental and peace NGOs. So do indigenous peoples who grow coca for cultural purposes unrelated to the drug trade, a constituency that includes Evo Morales, the recently-elected President of Bolivia.

Speaking to the Colombian daily El Tiempo on Monday, former Colombian President Andrés Pastrana, now Bogotá's Ambassador in Washington, emphatically reiterated Colombia's opposition to the plan, telling the paper, "*During my government we opposed it. And Colombia's position, now under President Álvaro Uribe, has not changed.*"

The main biological weapons agents under US consideration are strains of the fungus Fusarium oxysporum that attack coca and other illicit crops. With its serious human health and environmental risks, F. oxysporum has been dubbed "Agent Green" by civil society opponents, who liken it to the defoliant Agent Orange that was used by the US in Vietnam. In the US conception, huge amounts of specially-formulated Fusarium would be sprayed from large military aircraft to blanket large portions of Colombia and, potentially, other countries.

The HR 2829 provision does not specifically mention Colombia or Fusarium, although it does specify that the testing plan should be for a "*major drug producing nation*". This opens the possibility that the tests could be conducted elsewhere, such as Central Asia, where the US has supported development of biological weapons for use against opium poppy. Given past events, however, the bill's language is widely interpreted to refer to Colombia.

The Sunshine Project hopes that the US Senate will catch this egregious mistake and that the provision will be struck from any related bill that it considers. With US fear about a biological weapons attack and spending on biodefense both at unprecedented levels, it is difficult to envision a more unwise US policy than for it to field test biological weapons and to seek to perpetrate a biological attack on other countries (Sunshine Project, 2006).

Title: Bedfellows At The Biosecurity Board
Date: October 30, 2006
Source: Sunshine Project

Abstract: How US science's *nouveau riche* bioweapons constituency is flexing its muscle to carve up safety and security rules.

Karl Rove would probably be impressed by the brand of government "oversight" being developed by the National Science Advisory Board on Biosecurity (NSABB). Like a Bush administration investigation of itself, on last Wednesday (October 25th) an NSABB working group moved to creatively thwart its charge. Although it was formed to recommend biosecurity rules to govern the new field of synthetic biology, the working group will instead assault regulation of a wide range of biodefense and biotech risks.

The working group's outlook is more political than technical. Its science is a veneer that disguises the maturing political muscle of a constituency of bioscientists that has become accustomed, perhaps addicted, to lavish federal biodefense funding. This constituency is challenging the regulations that apply to it and has allied itself with those seeking to block effective regulation of the emerging field of synthetic biology. As such, it will pose a major long-term obstacle bringing under control the wild proliferation of dangerous biodefense research in the US.

The working group's politics deftly unite two distinct scientific camps under the same banner. One camp is synthetic biology, a burgeoning, dangerous science that currently is an unregulated Wild West free-for-all, a condition that many practitioners believe is desirable. The working group also tapped a deep

vein of discontent among its other camp, infectious disease researchers. Specifically, the researchers that receive biodefense handouts; but who resent being required to comply with the Select Agent Rule, a law designed to protect the public from bioterrorism.

In biodefense, the synthetic biologists (who use DNA like building blocks) and the infectious disease bug jockeys (who work with full-blown dangerous microbes) usually don't get along very well. The synthetic crowd scoffs at the bug jockey's focus on vaccines and pills for specific microbes, dubbing the narrow approach a "Maginot Line" after the inflexible border defenses that failed to protect France from German invasion in 1940. Genetic tweaks and new bugs, the synthetic biologists say, can outflank these countermeasures. A subtext, of course, is that synthetic biologists think they should get a bigger piece of the biodefense pork pie from the federal budget.

The bug jockeys, on the other hand, argue that the synthetic guys are a bunch of nerdy engineers whose science of using genes like tinker toys is young and unproven. The bug jockeys claim that they can deliver here and now, whereas the synthetic folks are still in scientific diapers, working out basic principles of their discipline. Perhaps interesting down the road, the bug jockeys say, but what counts is the present. (Neither group questions the wisdom of the government bankrolling tens of billions of dollars in biodefense research at hundreds of places across the country.)

What unites these two quarrelling factions? Apart from the fact that their science is potentially dangerous, the two share an appetite for tax dollars and a disdain for federal security rules. The latter point has led to an NSABB marriage of convenience: The synthetic biologists want to shake pressure for new regulation while the bug jockeys want to assassinate the existing Select Agent Rule, enabling both to do as they please with less "interference" from Uncle Sam.

Thus was born a politico-scientific Coalition of the Willing that aims to invade federal rulemaking to take down what they perceive as a threat: biosecurity legislation designed to protect the public. By hijacking the NSABB, they are on well on their way to Mission Accomplished. And because the current political leadership of the US holds itself to its own unique (nonbinding) standards and sees little reason to reign in dual-use research for safety, security, or treaty compliance reasons, the NSABB working group probably won't have to waterboard anybody in the US government - unless there are radical changes in officialdom.

The specifics of the working group recommendations? They include unusual and dubious arguments about taxonomy, gene sequences, and law. These have far broader implications than the working group apparently paused to contemplate. More on that later.

From an unsurprising "finding" that microbial taxonomy systems are imperfect, the working group leaps to the illogical conclusion that this is justification to eviscerate government regulation of (but not cash handouts for) research with biological weapons agents. That's quite a jump. Considering the recommendations carefully, however, it is clear that the working group's intellectual shortcomings - its recommendations don't logically follow from its findings - stem from an attempt to paper over the distinctions between the need for synthetic biology regulation and the need for the select agent rule.

Synthetic biology may be new; but challenges to taxonomic conventional wisdom are not. Evolution happens. Genes turn up in new places, by the hand of man and through the many ways that biodiversity moves itself. The novel possibilities of synthetic biology are thus not without precedent in nature, in the sense that taxonomy is always encountering the difficult-to-classify and is currently incapable of fully describing naturally occurring diversity.

No matter what is cooked up in a synthetic biology lab, that doesn't change the fact that there are diseases out there that can kill you. Scientists know what most of them are, and can reasonably define them. Hence the need for the Select Agent Rule is unaltered by the powers to manipulate, even create, dangerous forms of life (and nucleic acids) that is possibly offered by synthetic biology.

But don't tell the NSABB working group, because that would get in the way of its political agenda. That the working group's logic doesn't parse is unsurprising in view of the fact its science is merely a pretext to table a pre-emptive attack on regulation of synthetic biology and the extant Select Agent Rule. For good measure, the working group adds a pork barrel recommendation to loosen controls on smallpox virus and DNA that suffers from the same logical flaws as the other recommendations.

And, in an easy to overlook item, the working group suggests that biosafety of synthetic DNA can be handled by the failed genetic engineering oversight system known as the NIH Guidelines, designed three decades ago and declining ever since. It's another failure of the logic to parse. The synthetic biologists literally argue that their science antiquates biodefense before it like the Nazi blitzkrieg through Belgium outmoded the Maginot Line. But then they go on to reason that, for biosafety, the scientific equivalent of the Treaty of Versailles (NIH Guidelines) is sufficient to keep the peace!

In the long run, this quagmire of faulty scientific-legal verbiage won't stop the real risks of biodefense proliferation. It would take an intelligence failure of a very different type than Iraq in order for NSABB to be allowed to thwart its charge and debilitate proper federal oversight of dual-use research. But that may be exactly what NSABB does. Certainly that's the way that its working group on synthetic biology is heading. And if it is an indicator of how biodefense researchers, a sort of bioscience nouveau riche, intend to flex their political muscle, then we may be in for many more dangerous years before the wild excesses of the biodefense boom are brought under control (Sunshine Project, 2006).

Title: 113 Universities, VA Hospitals, And Pharmaceutical Houses Charged With Refusing To Reveal Biotech Research Ops As Required By Law
Date: January 8, 2007
Source: Infowars

Abstract: Some 113 university, government, hospital and corporate laboratories engaged in research often with potential to be used for germ warfare have refused to disclose their operations to the public as required by Federal rules, a nonprofit watchdog agency has charged.

Instead of shutting their operations down, however, the National Institutes of Health(NIH), of Bethesda, Md., the government agency tasked with oversight of these laboratories, allows them to continue to operate, a peculiar stance for an entity that describes itself as "the steward of medical and behavioral research for the Nation."

From California to New Jersey and from Boston to San Antonio, often in the heart of major centers of population, biological warfare labs lavishly financed with their share of about $20-billion by the Bush administration since 2001 are literally
crawling with deadly germs from Spanish flu to plague to anthrax to tularemia to rift valley fever. Reportedly,in some of the laboratories security is lax and safety procedures inadequate to protect the public from exposure to deadly pathogens.

Under U.S. law, recipients of Federal funds for biotech research must comply with guidelines issued by the NIH. These include making available to the public the minutes of the labs' Institutional Biosafety Committees(IBC)meetings, describing their operations and plans. In a number of instances, these IBC's have never bothered to hold a meeting. In other cases, the minutes they furnish are devoid of substance.

Basically, their operations in many cases are being kept secret, according to watchdog Sunshine Project of Austin, Tex., a nonprofit that attempts to protect the public from the risks of biotechnology experiments. The 1972 Biological Weapons Convention(BWC), which the US signed, prohibits research on offensive biological weapons. If the work is performed in secret, however, weapons designed for offensive use could be concealed. In the 1930s, the Japanese military masked its secret germ warfare scheme as a water purification project.

As the government-funded labs engage in "dual-use research," (pathogen research having both offensive

and defensive applications), Sunshine's Edward Hammond reports he "has encountered grave problems with the system." These include "risky experiments approved with dubious safety precautions and/or inadequate IBC review, dysfunctional and otherwise noncompliant committees, and other types of biosafety problems."

Francis Boyle, an international legal expert at the University of Illinois,
Champaign , puts it more bluntly. He called the in-house university committees "a joke and a fraud" that provide "no protection to anyone." Boyle, who drafted the Biological Weapons Anti-Terrorism Act of 1989 enacted by Congress, states the Pentagon "is now gearing up to fight and 'win' biological warfare" pursuant to two Bush national strategy directives adopted "without public knowledge and review" in 2002.

Last November 7th, Hammond lodged a complaint with Dr. Amy Patterson, director of the Office of Biotechnology Activities at NIH, citing 113 institutions "for non-compliance with the NIH Guidelines," specifically for refusing to honor requests for IBC meeting minutes.

"Honoring these requests is not only mandatory under the NIH Guidelines that you are charged with enforcing (but) transparency is also a moral duty of institutions that conduct research, such as rDNA and select agent work that could endanger the public," Hammond added. He wrote Patterson, "Failing prompt compliance by these institutions we note that your office must do its duty under NIH Guidelines and terminate funding."

NIH's Dr. Patterson apparently had troubles of her own obtaining information from labs on the Federal payroll. On Dec. 6, 2004, she issued a "reminder" to universities engaged in research that stated "compliance with the NIH Guidelines is critical to the safe conduct of research and to the fulfillment of an institutional commitment to the protection of staff, the environment, and public health."

Since 9/11, biotech houses, military laboratories, and State and private universities across America, and others sited in Canada, Australia, and South Africa, have collectively lapped up record sums in Federal R&D dollars.

How big is this enterprise? At just one venue, the Southwest Foundation for Biomedical Research(SFBR) in San Antonio, Tex., there are 6,000 caged chimpanzees, baboons, and other primates, Sunshine reports, whose upkeep alone costs U.S. taxpayers $6-million annually. SFBR genetically engineers monkeys and harbors some of the world's most dangerous viruses such as Ebola and Lassa, authorities state.

Again, the Battelle National Biodefense Institute(BNBI) of Columbus, Ohio, has just received a $250-million, five-year award from the Department of Homeland Security to run the new biodefense analysis center under construction at Fort Detrick, Md., according to The Washington Post of December 25, 2006. Earlier, on July 30th of last year, The Post reported much of what transpires at the center may never be publicly known as the Bush administration "intends to operate the facility largely in secret."

Battelle also does not maintain an effective IBC, Sunshine charges. "Some of the resarch falls within what many arms-control experts say is a legal gray zone, skirting the edges of an international treaty outlawing the production of even small amounts of biological weapons," The Post reported. "The administration dismisses these concerns, however, insisting that the work...is purely defensive and thus fully legal. It has rejected calls for oversight by independent observers outside the (Homeland Security) Department's network of government scientists and contractors."

The paper quoted Milton Leitenberg, a weapons expert at the University of Maryland stating, "If we saw others doing this kind of research, we would view it as an infringement of the bioweapons treaty. You can't go around the world yelling about Iranian and North Korean programs ---about which we know very little ---when we've got all this going on."

The Post reported the operation would encompass about 160,000 gross square feet of working area and accommodate a staff of about 120. The Post noted, "Fort Detrick's history as the incubator of germ

warfare research casts a long shadow over the new lab. When the fort held the Pentagon's very highly classified and long abandoned biological warfare program, it was a magnet for antiwar protests in the Vietnam War era." In such labs, scientists can create new strains of disease for which those attacked would have no ready defense. Such weapons, once loosed, are notoriously difficult to control, and could ignite epidemics to sicken and terrify civilian populations.

Hammond believes there are about 400 bioweapons agents labs across the U.S., some of which encounter unexpected difficulty when they try to comply with the law.

David Perlin, president of the Public Health Research Institute(PHRI) of Newark, N.J., told Sunshine the FBI requested PHRI to enter into an agreement with them to "not publicly disclose which specific select agent pathogens and/or strains are stored at our facility."

Those who tend to dismiss NIH's laxity about enforcing its own regulations have only to recall the October, 2001, anthrax attacks on Congress and the media. The deadly strain released is believed to have come from a U.S. germ warfare lab at Fort Detrick although there is no certainty as the FBI has never solved the murders. Since then, the vast proliferation of such labs by the Bush administration has educated many new employees --- in some cases undergraduate students --- in germ warfare ops. Four employees at Fort Detrick are known to have died after performing lab work. Lack of transparencey is cause for concern if only because of the history of secret CIA and Pentagon experiments in germ warfare that used the American people as guinea pigs. In " Rogue State," (Common Courage Press) reporter William Blum noted those agencies over two decades "conducted tests in the open air in the United States, exposing millions of Americans to large clouds of possibly dangerous bacteria and chemical particles."

Between 1949 and 1969, the Army tested the spread of dangerous chemical and bacterial organisms over 239 U.S. populated areas including San Francisco, New York and Chicago with no warnings to the public or regard for the health consequences, Blum wrote. The Pentagon even sprayed navy warships to test the impact of germ warfare on U.S. sailors. Even deadlier cocktails were secretly provided to dictator Saddam Hussein for his war of aggression against Iran. Washington denied supplying them but as Robert Fisk reported in Great Britain's "The Independent" last December 31st, "prior to 1985 and afterwards, US companies had sent government-approved shipments of biological agents to Iraq," including anthrax. Fisk gives this eye-witness account of what he saw on a military hospital train carrying stricken men from the front back to Tehran:

"I found hundreds of Iranian soldiers coughing blood and mucus from their lungs --- the very carriages stank so much of gas that I had to open the windows--- and their arms and faces were covered with boils. Later, new bubbles of skin appeared on top of their original boils. Many were fearfully burnt. These same gases were later used on the Kurds of Halabja."

Thus, the Reagan administration, which escalated germ warfare research and allowed the sale of the pathogens to Hussein, took its place in the dark annals of military history along with Italy under Benito Mussolini, whose aviators dumped mustard gas on the Ethiopians and Japan under Emperor Hirohito, whose Imperial Army's germ warfare attacks killed thousands of Chinese civilians.

Because of their comparative cheapness to manufacture, biological weapons have been dubbed "the poor man's nuclear bomb." Yet their potential may be even deadlier.

Jeremy Rifkin, author of "The Biotech Century"(Penguin), noted a government study in 1993 found "the release of just 200 pounds of anthrax spores from a plane over Washington DC could kill as many as three-million people."

The secret operations of the labs' would be less ominous if the Bush administration hadn't led the fight to demolish the international inspection system. Jackie Cabasso, executive director of Western States Legal Foundation, Oakland, Calif., warned, "Last year (2001), the U.S. single-handedly blew apart an international system for inspections of these kinds of (biological) laboratories, a system that would have

made great strides toward ensuring that biodefense labs aren't abused for offensive purposes. Having thumbed our nose at the world, the US is now massively expanding its biodefense program, mostly in secretive facilities."

According to Boyle, President Bush "sabotaged the Verification Protocol for the BWC" as it was on the verge of conclusion and success. He said the U.S. "fully intended to get back into the research, development and testing of illegal and criminal offensive biowarfare programs."

Boyle is the author of "Biowarfare and Terrorism," Clarity Press. And Elisa Harris, former arms control official under President Clinton, told The New York Times in 2003 "It (the administration's actions) will raise concerns in other capitals in part because the United States has fought tooth and nail to prevent the international community from strengthening the germ treaty."

Among pharmaceutical houses not in compliance with NIH disclosure requirements are Abbott Laboratories of Abbott Park and Worchester, Agencourt Bioscience Corp.; Antibody Science, Inc.; BASF Plant Science, Bristol-Myers Squibb and its Pharmaceutical Research Institute of Connecticut; Centocor, Inc.; Chiron; Discovery Genomics Inc.; DuPont Central Research and Development; Embrex, Inc.; Genentech, Inc., Genzyme Corp. of Cambridge and Framingham, Mass.; GlaxoSmithKline, Merck & Co., Inc. and its Rahway, N.J., research site; Integral Molecular; Introgen Therapeutics; L2 Diagnostics LLC; Merck & Co. Inc., West Point; Merck Research Laboratories, Rahway, N.J.; Meridian Bioscience Inc.; Monsanto Co. Mystic, Conn.,research; New Link Genetics; NovaFlora, Inc.; NovoBiotic Pharmaceuticals; OSI Pharmaceuticals; Pfizer Inc., and Pfizer Pharmaceuticals of St. Louis, Roche Bioscience, Schering-Plough Research Institute; SelectX Pharmaceuticals; Serono Research Institution; Third Wave Technologies; and Vaxin, Inc. Federal entities involved include the Center for Disease Control, the Walter Reed Army Medical Center, VA hospitals in Stratton, Va.; the Jerry Pettis Memorial hospital and the VA Pittsburgh Healthcare System. Also, the Idaho National Laboratory, Lawrence Livermore National Laboratory, the Oak Ridge National Laboratory, Plum Island Animal Disease Center of the U.S. Department of Homeland Security, the U.S. Department of Agriculture, and Walter Reed Army Institute of Research and Navy Medical Research Center.

Other fund recipients include AERAS Global TB Vaccine Foundation, Battelle, CBR Institute for Biomedical Research, Inc.; Children's Hospital Oakland Research Institute, Children's National Medical Center, Cincinnati Children's Hospital Medical Center, Columbus Children's Research Institute, Hadassah Medical Organization, Lovelace Respiratory Research Institute, Memorial Sloan-Kettering Cancer Center, Mystic Aquarium & Institute for Exploration, and Scripps Clinic.

Among universities in non-compliance: Alabama A&M, Albany Medical College, Ball State, Brigham Young, Bucknell, Central Michigan, Drexel College of Medicine, Hackensack University Medical Center, Hunter College, Indiana State University, Purdue University, Loma Linda, Missouri State, New York Medical College, and Queens College of City University of New York.Also, Rider, Rockefeller University, Rosalind Franklin University of Medicine and Science, South Dakota State University, St. John's University, State University of New York at Binghamton, Brockport, and Buffalo; Towson, Robert Wood Johnson Medical School(UMDNJ), and University Medical Center of Southern Nevada. Also, the universities of Arizona, California at San Francisco, Maryland, Massachusetts, Miami, Fla.; Mississippi; Puerto Rico, Rhode Island, Southern Mississippi, Texas at Arlington and San Antonio, Tulsa, Utah State, Wake Forest, Washington University in St. Louis, Western Kentucky and Wilkes.

Foreign institutions include the University of Sydney, Australia; the University of British Columbia , and University of Witwatersrand, Johannesburg, South Africa . This listing covers most, but not all, of the names submitted to NIH by the Sunshine Project. Three years ago, Sunshine said if it had to pick the labs with the worst biosafety record-keeping, he would choose Princeton University, the University of Texas Southwestern at Dallas; the University of Vermont at Burlington and the University of Delaware at Newark.

Sunshine's Hammond said there has yet to be any formal response to his letter of last November from NIH. He added, "I doubt I will ever get one."

The NIH was asked to respond to the charges contained in this article but has yet not done so.

In sum, the costliest, most grandiose research scheme ever attempted having germ warfare capability is going forward today under President Bush and in apparent defiance of international treaties such as the Geneva Convention of 1925 that bans biological agents. What's more, where once the use of germ warfare was an isolated happenstance -- such as when an English general in 1767 gave smallpox-laced blankets to the Indians that decimated their tribes -- research in this grim area today suggests it has been elevated to an instrument of national policy. And this program, involving some of the world's deadliest and most loathsome pathogens, many of which could trigger plagues and epidemics, is being conducted largely in secret without adequate oversight and in flagrant contempt of NIH's own rules. Why? (Infowars, 2007).

Title: Engineering Warfare: A Close Look At Biological And Chemical Warfare
Date: February 20, 2008
Source: Natural News

Abstract: In this article, we will take a closer look at biological and chemical warfare from a global perspective as well as the use of pesticides and insecticides and how they helped pioneer these deadly toxins used in modern warfare and bio-terrorism as we know it today. I want to discuss the different types of diseases and viruses that are commonly used and researched today and of the past. I also want to discuss what kind of chemical weapons are used in modern warfare. We shall take a quick look at the science of genetic modification and engineering to create a virus from scratch using the most rudimentary tactics and the diseases that pose the largest threat to man-kind.

There is a real danger to our generation and even more-so to up-and-coming generations as the populations grow exponentially and governments grow more and more powerful and look for ways to reduce population size and or keep the masses in line. These threats can be seen in scare tactics across the globe and I want to inform you on the validity of these different areas so you may better understand what very-near future may come.

Biological weapons (BWs) deliver toxins and microorganisms, such as viruses and bacteria, so as to deliberately inflict disease among people, animals, and agriculture. Biological attacks can result in destruction of crops, temporarily discomforting a small community, killing large numbers of people, or other outcomes. Several differences set BWs apart from other weapons of mass destruction like nuclear and chemical weapons. The release of an agent is not immediately detectable. There are systems that detect biological agents, but most have a delay between acquiring the agent and identifying it. The effects of an attack also are not immediately detectable. People may become exposed to an agent soon after its release, but the infection requires time to cause illness (the incubation period). Thus, one of the first indicators of a BW attack could be disease outbreaks. The effect of Biological Weapons, disease, can continue after its release. If a transmissible agent, such as the smallpox or Ebola virus, infects a person at the site of its release, that person could travel and spread the agent to others. This would result in secondary infections at areas far from initial release and unprepared for the disease.

Biological weapons have been a problem for society ever since their first recorded use in the sixth century B.C. According to the U.S. government, the earliest recorded uses of biological weapons goes back to the ancient Assyrians and the ancient Greeks, who used medicinal herbs to wreak havoc before the Christian era began. Another early adopter was the Mongol horde, which threw plague-infested corpses over the walls of a Crimean fortress they happened to be besieging in the 14th century. This was perhaps history's most devastating use of biological warfare, seeing as it may have caused the Great Plague in addition to very effectively wiping out its target.

Biological weapons have a long history of use. In 1346, the invading Tartar army catapulted the bodies of plague victims into the Crimean Peninsula city of Kaffa and infected its citizens. Granted, there's a limit to the effective delivery of plague corpses, especially in the age of intercontinental ballistic missiles. In 1763,

British troops under General Jeffrey Amherst gave the Delaware Indians blankets used by people with smallpox, possibly infecting the susceptible native population. Japan contaminated food and released plague-infected ticks during their conflict with China during World War II. The 2001 anthrax letter attacks in the United States infected 22 people and killed five.

As you can see, the use of biological weapons has occurred sporadically for centuries, culminating in sophisticated research and testing programs run by several countries. Biological weapons proliferation is a serious problem that is increasing the probability of a serious bioterrorism incident. The accidental release of anthrax from a military testing facility in the former Soviet Union in 1979 and Iraq's admission in 1995 to having quantities of anthrax, Botulinum toxin, and aflatoxin ready to use as weapons have clearly shown that research in the offensive use of biological agents continued, despite the 1972 Biological Weapons Convention. Of the seven countries listed by the U.S. Department of State as sponsoring international terrorism, at least five are suspected to have biological warfare programs. There is no evidence at this time, however, that any state has provided biological weapons expertise to a terrorist organization.

A wide range of groups or individuals might use biological agents as instruments of terror. At the most dangerous end of the spectrum are large organizations that are well-funded and possibly state-supported. They would be expected to cause the greatest harm because of their access to scientific expertise, biological agents, and most importantly, dissemination technology, including the capability to produce refined dry agent, deliverable in milled particles of the proper size for aerosol dissemination. The Aum Shinrikyo in Japan is an example of a well-financed organization that was attempting to develop biological weapons capability. However, they were not successful in their multiple attempts to release anthrax and Botulinum toxin. On this end of the spectrum, the list of biological agents available to cause mass casualties is small and would probably include one of the classic biological agents. The probability of occurrence is low; however, the consequences of a possible successful attack are serious.

The North Atlantic Treaty Organization handbook dealing with biological warfare defense lists 39 agents, including bacteria, viruses, rickettsiae, and toxins, that could be used as biological weapons. Examining the relationship between aerosol infectivity and toxicity versus quantity of agent illustrates the requirements for producing equivalent effects and narrows the spectrum of possible agents that could be used to cause large numbers of causalities. For example, the amount of agent needed to cover a 100-km2 area and cause 50% lethality is 8 metric tons for even a "highly toxic" toxin such as ricin versus only kilogram quantities of anthrax needed to achieve the same coverage. Thus, deploying an agent such as ricin over a wide area, although possible, becomes impractical from a logistics standpoint, even for a well-funded organization.

The potential impact on a city can be estimated by looking at the effectiveness of an aerosol in producing downwind casualties. The World Health Organization in 1970 modeled the results of a hypothetical dissemination of 50 kg of agent along a 2-km line upwind of a large population center. Anthrax and tularemia are predicted to cause the highest number of dead and incapacitated, as well as the greatest downwind spread. A government study estimated that about 200 pounds of anthrax released upwind of Washington, D.C., could kill up to 3 million people. Here is a list of all of the recognized Biological Weapons.

Traditional biological warfare agents and agents associated with biocrimes and bioterrorism

Pathogens

1. Bacillus anthracisb
2. Ascaris suum
3. Brucella suis
4. Bacillus anthracisb
5. Coxiella burnetiib
6. Francisella tularensis
7. Giardia lamblia

8. Smallpox
9. HIV
10. Viral encephalitides
11. Rickettsia prowazekii
12. Viral hemorrhagic feversb(typhus)
13. Yersinia pestisb
14. Salmonella Typhimurium
15. Salmonella typhi
16. Shigella species
17. Schistosoma species
18. Vibrio cholerae
19. Viral hemorrhagic
20. Fevers (Ebola)b
21. Yellow fever virus
22. Yersinia enterocolitica
23. Yersinia pestisb

Toxins

1. Botulinumb
2. Ricinb
3. Cholera endotoxin
4. Staphylococcal enterotoxin B
5. Diphtheria toxin
6. Nicotine
7. Ricinb
8. Snake toxin
9. Tetrodotoxin

Anti-Crop Agents

1. Rice blast
2. Rye stem rust
3. Wheat stem rust

(Includes agents which were used, acquired, attempted to acquire, involved in a threat of use or an expressed interest in using. Reprinted with permission from Carus WS. Table 6: Biological agents involved. In: Carus WS. Bioterrorism and biocrimes: the illicit use of biological agents in the 20th Century. Working Paper, Center for Counterproliferation Research, National Defense University. August 1998, revised March 1999.)

Now We Need to Take a Look at Chemical Warfare

A chemical agent is a substance which is intended for use in military operations to kill, seriously injure or incapacitate a person because of its physiological effects. This definition does not include riot control agents, herbicides, smoke or flame. When a chemical agent is used in a wartime situation, it is generally used to effect the ability of the enemy combatants to fight to be weakened either by slowing the combatant down with protective gear or through diminishing their health. Most chemical agents are not used with the strict intention to kill. There are three categories of chemical agents. There are Nerve Agents, Blister Agents and Choking Agents. The nerve agents are a group of particularly toxic chemical warfare agents. They were developed just before and during World War II and are related chemically to the organ phosphorus insecticides.

The principle agents in this group are:

1. GA - Tabun
2. GB - Sarin
3. GD - Soman
4. GF - Cyclosarin
5. VX - Methylphosphonothioic acid

The "G" agents tend to be non-persistent whereas the "V" agents are persistent. Some "G" agents may be thickened with various substances in order to increase their persistence, and therefore the total amount penetrating intact skin. At room temperature, GB is a comparatively volatile liquid and therefore non-persistent. GD is also significantly volatile, as is GA though to a lesser extent. VX is a relatively non-volatile liquid and therefore persistent. It is regarded as presenting little vapor hazard to people exposed to it. In the pure state, nerve agents are colorless and mobile liquids. In an impure state, nerve agents may be encountered as yellowish to brown liquids. Some nerve agents have a faint fruity odor.

GB and VX doses which are potentially life-threatening may be only slightly larger than those producing least effects. Death usually occurs within 15 minutes after absorption of a fatal VX dosage. Although only about half as toxic as GB by inhalation, GA in low concentrations is more irritating to the eyes than GB. Symptoms appear much more slowly from a skin dosage than from a respiratory dosage. Although skin absorption great enough to cause death may occur in 1 to 2 minutes, death may be delayed for 1 to 2 hours. Respiratory lethal dosages kill in 1 to 10 minutes, and liquid in the eye kills almost as rapidly.

Blister or vesicant agents are likely to be used both to produce casualties and to force opposing troops to wear full protective equipment thus degrading fighting efficiency, rather than to kill, although exposure to such agents can be fatal. Blister agents can be thickened in order to contaminate terrain, ships, aircraft, vehicles or equipment with a persistent hazard. Vesicants burn and blister the skin or any other part of the body they contact. They act on the eyes, mucous membranes, lungs, skin and blood-forming organs. They damage the respiratory tract when inhaled and cause vomiting and diarrhea when ingested.

The Vesicant Agents Include:

1. HD - Sulfur mustard, or yperite
2. HN - Nitrogen mustard
3. L - Lewisite (arsenical vesicants may be used in a mixture with HD)
4. CX - Phosgene (properties and effects are very different from other vesicants)

HD and HN are the most feared vesicants historically, because of their chemical stability, their persistency in the field, the insidious character of their effects by attacking skin as well as eyes and respiratory tract, and because no effective therapy is yet available for countering their effects. Since 1917, mustard has continued to worry military personnel with the many problems it poses in the fields of protection, decontamination and treatment. It should be noted that the ease with which mustard can be manufactured and its great possibilities for acting as a vapor would suggest that in a possible future chemical war, HD will be preferred to HN.

Due to their physical properties, mustards are very persistent in cold and temperate climates. It is possible to increase the persistency by dissolving them in non-volatile solvents. In this way thickened mustards are obtained that are very difficult to remove by decontaminating processes. Exposure to mustard is not always noticed immediately because of the latent and sign-free period that may occur after skin exposure. This may result in delayed decontamination or failure to decontaminate at all. Whatever means is used has to be efficient and quick acting. Within 2 minutes contact time, a drop of mustard on the skin can cause serious damage. Chemical inactivation using chlorination is effective against mustard and lewisite, less so against HN, and is ineffective against phosgene oxime.

Chemical agents which attack lung tissue, primarily causing pulmonary edema, are classed as lung damaging agents. To this group belong:

1. CG - Phosgene
2. DP - Diphosgene
3. Cl - Chlorine
4. PS – Chloropicrin

The toxic action of phosgene is typical of a certain group of lung damaging agents. Phosgene is the most dangerous member of this group and the only one considered likely to be used in the future. Phosgene was used for the first time in 1915, and it accounted for 80% of all chemical fatalities during World War I. Phosgene is a colorless gas under ordinary conditions of temperature and pressure. Its boiling point is 8.2°C, making it an extremely volatile and non-persistent agent. Its vapor density is 3.4 times that of air. It may therefore remain for long periods of time in trenches and other low lying areas. In low concentrations it has a smell resembling new mown hay. The outstanding feature of phosgene poisoning is massive pulmonary edema. With exposure to very high concentrations death may occur within several hours; in most fatal cases pulmonary edema reaches a maximum in 12 hours followed by death in 24-48 hours. If the casualty survives, resolution commences within 48 hours and, in the absence of complicating infection, there may be little or no residual damage.

During and immediately after exposure, there is likely to be coughing, choking, a feeling of tightness in the chest, nausea, and occasionally vomiting, headache and lachrymation. The presence or absence of these symptoms is of little value in immediate prognosis. Some patients with severe coughs fail to develop serious lung injury, while others with little sign of early respiratory tract irritation develop fatal pulmonary edema. A period follows during which abnormal chest signs are absent and the patient may be symptom-free. This interval commonly lasts 2 to 24 hours but may be shorter. It is terminated by the signs and symptoms of pulmonary edema. These begin with cough (occasionally substantially painful), dyspnea, rapid shallow breathing and cyanosis. Nausea and vomiting may appear.

As the edema progresses, discomfort, apprehension and dyspnea increase and frothy sputum develops. The patient may develop shock-like symptoms, with pale, clammy skin, low blood pressure and feeble, rapid heartbeat. During the acute phase, casualties may have minimal signs and symptoms and the prognosis should be guarded. Casualties may very rapidly develop severe pulmonary edema. If casualties survive more than 48 hours they usually recover.

Scientists have now assembled the first synthetic virus. The U.S. researchers built the infectious agent from scratch using the genome sequence for polio. Scientists are divided about whether a virus is alive. For those that think it is, then this synthetic artifact would constitute a simple form of life. Responding to criticisms that such research could lead to bioterrorists engineering new lethal viruses, the scientists behind the experiment said that only a few people had the knowledge to make it happen.

To construct the virus, the researchers say they followed a recipe they downloaded from the internet and used gene sequences from a mail-order supplier. Having constructed the virus, which appears to be identical to its natural counterpart, the researchers, from the University of New York at Stony Brook, injected it into mice to demonstrate that it was active. The animals were paralyzed and then died. The reason they did it was to prove that it can be done and it now is a reality. Dr. Eckard Wimmer is the leader of the biomedical research team and co-author of the study published in the journal Science. Dr. Wimmer stated this approach has been talked about, but people didn't take it seriously.

Now people have to take it seriously. Progress in biomedical research has its benefits and it has its down side. There is a danger inherent to progress in sciences. This is a new reality, a new consideration. The polio virus assembled in the laboratory is one of the simplest known viruses. It was very easy to do. The more dangerous smallpox virus would be complex and difficult to assemble. It would probably in the future be possible. Smallpox has been eradicated in the wild, but specimens are stored in the United States and in Russia. Assembling the polio virus showed that eradicating a virus in the wild might not

mean it was gone forever because biochemists could now reconstruct those viruses from blueprints.

Following the terrorist and anthrax-by-mail attacks, U.S. officials became concerned about the threat of smallpox and arranged for the manufacture of enough vaccine to protect the U.S. population. He added that it was possible that viruses like Ebola could be assembled in laboratories, but there were only a few people in the world with that skill. Polio is on the brink of being eradicated worldwide and there are plans to stop inoculations against the disease after it disappears from nature. Dr. Wimmer said that this policy should be reconsidered. Stopping vaccination could lead to a generation of people highly susceptible to polio, enhancing its appeal as a weapon. The World Health Organization is planning to stockpile vaccines against a return of polio and Dr. Wimmer said that policy should be followed everywhere.

Some say that the AIDS virus was engineered. There is a close connection between the rise of genetic engineering and mixing of viruses in the early 1970s and the outbreak of HIV in the late 1970s. This connection persists in the form of the many unprecedented "emerging diseases" caused by "new viruses" that continue up to the present time.

In 1970 the discovery of a cell enzyme, called "reverse transcriptase" by Howard Temin and David Baltimore, allowed molecular biologists to detect so-called retroviruses in some animal cancers. It was soon recognized that retroviruses could be found normally in the genes of many animal cells, and that scientists could manipulated these viruses to produce detrimental effects on the immune system. In "species jumping" laboratory experiments, many viruses were transferred between different animal species and were also adapted to human cells.

As part of President Richard Nixon's "War on Cancer," genetic engineering of viruses became an integral part of the now largely forgotten Special Virus Cancer Program, conducted under the auspices of the NCI. Nixon also transferred part of the Army's biological warfare unit at Fort Detrick, Maryland, over to the NCI, thereby allowing secret biowarfare experimentation to be carried out under cover of bona fide cancer research. All this virus transfer and molecular manipulation was a biologic disaster waiting too happen. This culminated in a historic conference entitled "Biohazards in Biological Research" held at Asilomar, near Pacific Grove in California in 1973. Despite the biologic dangers, it was decided to continue this research.

By the late-1970s the War against Cancer and the Virus Cancer Program proved a failure with no cancer-causing retroviruses found in humans. The Program was winding down in 1978, at the exact time when government scientists were also enrolling thousands of gay men in New York City to serve as guinea pigs in the hepatitis B experiment that took place that same year at the New York Blood Centre in Manhattan. In 1979 the first cases of AIDS in gay men were reported from Manhattan. Five years later, Gallo, who had worked for the Virus Cancer Program, "discovered" the retrovirus that causes AIDS; and Duesberg, who also worked for the Virus Cancer Program, continues to declare that HIV is harmless.

The earliest AIDS cases in America can be clearly traced back to the time period when the hepatitis B experiment began at the New York Blood Centre. The Centre began injecting gay men with multiple doses of the experimental vaccine in November 1978. The inoculations ended in October 1979, less than two years before the official start of the epidemic. Most importantly, the vaccine was developed in chimpanzees – the primate now thought to contain the "ancestor" virus of HIV. Also downplayed is the Centre's pre-AIDS connection to primate research in Africa and also to a primate centre in the New York City area. The final experimental vaccine was also made by Merck and the NIH from the pooled serum specimens of countless gay men who carried the hepatitis B virus in their blood.

The New York Blood Centre is the largest independent blood supplier and distributor in the USA. In 1970, Alfred M Prince, M.D., head of the New York Blood Centre Laboratory of Virology, began his hepatitis research with chimps housed at Laboratory for Experimental Medicine and Surgery in downstate Tuxedo, NY. Until disbanded in 1997, Laboratory for Experimental Medicine and Surgery supplied New York area scientists with primates and primate parts for transplantation and virus research.

Founded in 1965, Laboratory for Experimental Medicine and Surgery was affiliated with New York

University Medical Centre, where the first cases of AIDS-associated Kaposi's sarcoma were discovered in 1979. NYU Medical Centre researchers were also heavily involved in the development of the experimental hepatitis B vaccine, and the Centre received government grants and contracts connected with biological warfare research beginning in 1969, according to Dr. Leonard Horowitz, author of Emerging Viruses: AIDS and Ebola (1996).

In 1974 Prince, with the support of Aaron Kellner, President of the New York Blood Centre moved the chimp hepatitis research to a new primate centre called Vilab II in Robertsfield, Liberia, in Africa. Chimps were captured from various parts of West Africa and brought to VILAB. The lab also prides itself by releasing "rehabilitated" chimps back into the wild. One cannot help but wonder if some of the purported "ancestors" of HIV in the African bush have their origin in chimpanzees held in African primate labs for vaccine and medical experimentation.

The hepatitis B experiment, which inoculated over 1,000 healthy gay men, was a huge success with 96% of the men developing antibodies against the hepatitis virus. This high rate of success could not have been achieved if the men were immune suppressed, because immune suppressed people do not easily form antibodies to the vaccine. The experiment was followed by similar hepatitis B experiments using gay men in Los Angeles, San Francisco, Chicago, Denver and St. Louis, beginning in March 1980 and ending in October 1981, the same year the epidemic became official.

In the mid-1980s the many blood specimens donated by the gay Manhattan men during the experiment were retrospectively examined for HIV infection by researchers at the NYBC. It was determined that 6% of the specimens donated in-between 1978 - 1979 was positive for HIV. By 1984 (the end of the study period) over 40% of the men tested positive for HIV.

The final fate of all the men in the experiment has never been revealed. However, the blood donated by these men is the oldest HIV-positive blood tests on record in the United States. The full story of this experiment and its aftermath are contained in my two books on man-made AIDS: AIDS and the Doctors of Death (1988), and Queer Blood (1993). One fact is obvious: There was no AIDS in America until the exact year the government began experimenting with gay men.

The most dangerous disease known to man is actually one that has not received much attention aside form the scare earlier this decade. It is the Avian Influenza. This is an infection caused by avian (bird) influenza (flu) viruses. There are many different subtypes of type "A" influenza viruses. These subtypes differ because of changes in certain proteins on the surface of the influenza "A" virus (hem agglutinin [HA] and neuraminidase "NA" proteins). There are 16 known "HA" subtypes and 9 known NA subtypes of influenza "A" viruses. Many different combinations of "HA" and "NA" proteins are possible. Each combination represents a different subtype. All known subtypes of influenza "A" viruses can be found in birds.

Usually, "avian influenza virus" refers to influenza A viruses found chiefly in birds, but infections with these viruses can occur in humans. The risk from avian influenza is generally low to most people, because the viruses do not usually infect humans. However, confirmed cases of human infection from several subtypes of avian influenza infection have been reported since 1997. Most cases of avian influenza infection in humans have resulted from contact with infected poultry (e.g., domesticated chicken, ducks, and turkeys) or surfaces contaminated with secretion/excretions from infected birds. The spread of avian influenza viruses from one ill person to another has been reported very rarely, and has been limited, inefficient and unsustained.

"Human influenza virus" usually refers to those subtypes that spread widely among humans. There are only three known A subtypes of influenza viruses (H1N1, H1N2, and H3N2) currently circulating among humans. It is likely that some genetic parts of current human influenza "A" viruses came from birds originally. Influenza "A" viruses are constantly changing, and they might adapt over time to infect and spread among humans. During an outbreak of avian influenza among poultry, there is a possible risk to people who have contact with infected birds or surfaces that have been contaminated with secretions or excretions from infected birds.

Symptoms of avian influenza in humans have ranged from typical human influenza-like symptoms (e.g., fever, cough, sore throat, and muscle aches) to eye infections, pneumonia, severe respiratory diseases (such as acute respiratory distress), and other severe and life-threatening complications. The symptoms of avian influenza may depend on which virus caused the infection. Studies done in laboratories suggest that some of the prescription medicines approved in the United States for human influenza viruses should work in treating avian influenza infection in humans. However, influenza viruses can become resistant to these drugs, so these medications may not always work. Additional studies are needed to demonstrate the effectiveness of these medicines.

There are many other threats out there like Severe Acute Respiratory Syndrome or SARS, the "Superbug" staph infection or sexually transmitted diseases. None of this may ever come to fruition, or we could all die tomorrow in a freak accident. This paper is not to incite panic but to merely inform of the potential dangers we are faced with today, whether engineered by the very governments that protect and serve or whether nature will battle us with bacteria's and viruses. The preemptive strike is knowledge (Natural News, 2008).

Title: Bioterror In Context
Date: May 19, 2008
Source: Miller-McCune

Abstract: How and why the threat of bioterrorism has been so greatly exaggerated. A Miller-McCune interview of UCLA's William R. Clark.

William R. Clark, professor and chair emeritus of immunology at the University of California, Los Angeles, has been a research scientist for 30 years and has written a string of books for the general public. His latest, *Bracing for Armageddon?*, published by Oxford University Press in May, examines the science and politics of bioterrorism in the United States.

His conclusion: We shouldn't be so worried. Although the United States will have spent $50 billion on defense against a bioterrorism attack by the end of 2008, Clark argues that we have much more to fear from natural pandemic outbreaks, such as the viruses causing SARS and H5N1 avian flu. He reviews all the worst-case bioterror scenarios — from agricultural terrorism to poisoning the water supply; from genetically engineered pathogens to the Centers for Disease Control and Prevention's official list of bioterrorist weapons — and writes: "It is almost inconceivable that any terrorist organization we know of in the world today, foreign or domestic, could on their own develop, from scratch, a bioweapon capable of causing mass casualties on American soil."

Clark chronicles the few (failed) attempts at launching large-scale bioterror attacks, beginning with the Rajneesh cult in Oregon, which slipped salmonella into salad bars in an attempt to influence a local election in 1984; the cult's efforts sickened more than 700 people but killed none. The Aum Shinrikyo cult in Japan earned worldwide headlines in 1995 for releasing sarin nerve gas into the Tokyo subway system, killing 12 people. But this was a chemical attack, and despite millions of dollars in funding and a staff of scientists, Aum Shinrikyo's several attempts at producing biological weapons, including the development of a relatively harmless anthrax strain normally used for animal vaccinations, produced no significant casualties. In the early 1990s, a militia group called the Minnesota Patriots Council made some ricin — a potent poison derived from castor beans — and stored it in a jar but never figured out how to use it. And the 2001 postal anthrax attacks spurred the government to develop a host of expensive countermeasures that are, Clark writes, largely unnecessary. These include the creation of a Strategic National Stockpile of vaccines and antidotes; the CDC's "push packages," cargo containers weighing a total of 94 tons whose medicine contents are constantly replenished and ready to be shipped to an emergency site; Project Bioshield, which funds research for new vaccines; and the Biowatch and Biosense programs, which are early-warning systems of sensors and laboratories in major U.S. cities.

Miller-McCune talked to Clark about his book and his rather reassuring overview of the bioterror threat.

Miller-McCune: You've written a lot of other books for a mass audience, but you haven't written one about bioterrorism before. What piqued your interest in the subject?

William Clark: I'd just finished updating my latest book on immunology for the general public, *In Defense of Self*. I was thinking, "What could I throw in at the end of this that would make people more curious about immunology?" Well, for 48 to 72 hours after a bioterrorism attack, should one happen, the only thing standing between us and instant death is our immune system. So I thought, well, OK, how would the immune system handle these various different putative bioterrorism agents? So the last chapter in that book is about your immune system and these various agents.

M-M: When did you begin suspecting that our bioterrorism fears might be a tad exaggerated?

Clark: The more I looked into it, I thought, "Jeez, what are these guys talking about?" What are the odds that a terrorist group, no matter how well financed, would be able to create a bioterror weapon? I began looking into what it takes to really make a successful bioterrorism agent, and I just became very skeptical of this whole thing. The (United States) military gave up bioweapons 30 years ago. They're too undependable; they're too hard to use; they're too hard to make. Then I started checking around, and I found there's a whole literature out there of people who've been screaming for years that this whole bioterrorism thing is really overblown; it's not practical; it's never going to work. Aum Shinrikyo couldn't get it to work; those guys put millions and millions of dollars into it. So you think of a bunch of guys sitting in a cave in Afghanistan — they're sure as hell not going to do it. Is any government going to do it? No. So that made me very skeptical, and I went back to Oxford and said, "This whole thing's a crock." And they said, "But that's even more interesting!"

M-M: Thus the question mark at the end of the title, *Bracing for Armageddon?*

Clark: Yeah, exactly. Scientifically, it is a crock. And this really verges into the political, but we've spent $50 billion on it. So Oxford paid for me to take a trip back East and talk to a bunch of these voices that haven't been heard and interview them.

M-M: How much research was involved?

Clark: A couple of years. The science is pretty straightforward on paper. The kind of an organization you'd have to put together, with the varying expertise that is required to make one of these things and deploy it, takes a whole group of people with all kinds of different skills, from engineers to meteorologists. That's just not going to happen. You can run an airplane into an office tower, and you get instant everything you could ever possibly hope for. So why would anybody sit around for years and years? The Aum Shinrikyo guys tried for six, seven years and couldn't get it to work. And a lot of them had Ph.D.s.

M-M: But you start the book with the Dark Winter scenario, a simulated smallpox outbreak that was performed in June 2001 for 50 government officials at Andrews Air Force Base. This was an exercise staged by several prestigious institutes and government agencies, and it paints an awfully grim portrait of our ability to counter the outbreak, with 100,000 deaths forecast and 1.6 million people coming in contact with smallpox. Was that the scariest thing you stumbled across?

Clark: Absolutely. As soon as I read that, I said, "Sign me up, I'm going to join the Army." But then, following through on it, I saw the number of people out there who had been basically debunking it — at higher government levels, in scientific journals, think tanks, white papers — and the government just blew them off. I spent a whole year and a half backtracking on Dark Winter, and I realized this is an industry. There are about a dozen of these exercises or workshops, and they scare the crap out of politicians, who go to these things and realize how little they know. I mean, look, some good stuff has come out of it; there's no doubt about that. Public health has been upgraded; communications among people who would be managing an attack like that have been improved. But I think there's a hell of a lot more to worry about from an avian influenza pandemic, by a factor of 100 or so. They're very different situations. A

bioterrorism attack is something that happens in a specific locality and requires a certain response, whereas pandemics just spread all over the whole freakin' country.

M-M: Reading your book, it does make one wonder whether we're fighting the last war. In this day and age, it seems like we face a much bigger danger from chemical weapons …

Clark: … Or from planes being flown into towers. These (terrorists) want immediate impact on television. The Dark Winter scenario is pretty graphic television, but the smallpox vaccines that are on hand now make it unlikely. That Dark Winter scenario really stretched things, cherry-picking some of the worst-case scenarios. So many experts have torn that thing apart. The idea that each person infected would infect 20 to 30 other people — that's just not realistic. They'd be quarantined immediately.

M-M: So why create the Dark Winter scenario?

Clark: It's just an ego thing on the part of the scientific types involved. It's all a game: This is how you get grant money, and the more impact (the exercise) has, the more likely you'll get funding the following year. But I think they've kind of run through their prime. Now, people are moving on to influenza pandemic ideas. There's now a national plan — sort of like all the bioterror plans we came up with — for influenza pandemic. So they're putting the same kind of energy and scare tactics into that now and finally starting to dump some money into it. It might be taking over from bioterrorism.

M-M: You mention that you came in contact with scientists who have been screaming for years that this is all overblown. Why can't they be heard over the "industry" voices?

Clark: It's very clear that the current administration is just cherry-picking, and even (former President Bill) Clinton got on board with it. It's the same thing with Iraq: You've got all this information out there, and you take what you want according to your political-social leanings.

M-M: But it's a thorny problem for a politician who says there's nothing to worry about. One bioterror attack, and your credibility is shot. Politically, how do you think we're dealing with that issue?

Clark: I think attention is starting to be diverted into preparing for something like an avian flu pandemic. I also paint a pretty grim picture in the book of the 1918 influenza pandemic. If the 1918 influenza virus were unleashed again, it wouldn't be nearly as grim as it was in 1918. Medicine is much more efficient now. But whereas in 1918 something like 3 percent of infected people died, with avian influenza virus, of the 300 people that have gotten infected, 60 percent have died. So it could be as bad as the 1918 influenza pandemic just because the virus is 25 to 30 times more deadly.

M-M: But when you say in the book that it's very hard to imagine anyone doing this, in the popular imagination, they jump to the ricin found in the Las Vegas hotel room earlier this year, and they say, "If one guy is that far along, why couldn't a terrorist group pull off some kind of bioterror attack?"

Clark: It's a question of quantity and purity — and efficiency of delivery. It's not just having it on hand; it has to be pure. The stuff that those guys in the Minnesota Patriots Council made was 4 to 5 percent pure. It could have caused some health problems, but that's when you get into the question of biocrime versus bioterrorism. Is ricin something that terrorists would use? Maybe. But it's not a contagious agent; only the people who come into contact with it would die. Whether terrorists would find that more effective than a bomb, I don't know. The threat is not zero from bioterrorism. But these dark scenarios where 10 million people die are just not going to happen.

M-M: And I also wanted to go back to the 2001 anthrax attacks. With all that we still don't know about what exactly happened, what can we take away from that episode?

Clark: Again, whether that's bioterrorism or biocrime, we don't know. If you multiplied (the mailings) by a factor of a thousand, that could really have an impact. One of the things that's come from it is developing an anthrax vaccine. We don't have one yet, but we have (the antibiotic) Cipro in these push packages. You could get half a million doses of Cipro to any spot in the United States in less than 24 hours. But if people had anthrax for two or three days, then Cipro's not going to help them. You could prevent other people from getting it. It's not contagious from person to person. If they blew powder into a building, you could quarantine everyone and shut it down with Cipro.

M-M: Is there a consensus as to what person or group the scientific community thinks was responsible for the 2001 anthrax attacks?

Clark: There's no way al-Qaeda could have gotten their hands on it. It's got to be an American. And if it was al-Qaeda, why wouldn't they say so? And why wouldn't they have done more? What's the point of terrorism if you don't take credit? You want to intimidate people, cow them. If it was al-Qaeda, they would have said so.

M-M: So is the danger of a rogue U.S. scientist one of the more frightening scenarios?

Clark: Yes, but it's like a Timothy McVeigh thing. You're going to have domestic terrorists. We call them terrorists, but they're basically criminals. People could do all kinds of things. Some rogue American Airlines pilot could decide to take his plane into another building — who knows?

M-M: I did want to ask about some of the countermeasures the United States has developed. For instance, these 12 push packages, which are stashed in secret, climate-controlled locations. All states have to have a dedicated, 12,000-square-foot facility to be ready for one of these push packages …

Clark: I talked to people here in Los Angeles County who are involved in managing the county's response to a bioterrorism attack. They're not too impressed by push packages.

M-M: Oh, really. Why not?

Clark: The problem is they're not just for bioterror; they're loaded with antidotes for nuclear, chemical, all kinds of events. These are enormously complex packages. By the time you sorted through that damn thing and figured out where the stuff was, there's no time. I mean, these people have to organize cops and firefighters and paramedics and doctors and nurses — boom, boom, boom. We don't have time to be dealing with a 94-ton push package. I think the government is starting to worry a little about the cost of maintaining these things because there are so many medicines and drugs in there that have different shelf lives. They have to be replaced periodically, and that's expensive.

M-M: But that must be wonderful for the drug companies — to have to replenish the contents every six months.

Clark: Right, which is why I think a vendor-managed inventory is going to be much more effective. Drug companies can just build a slight backup in their warehouse, so they always have 1,000 or 10,000 doses of a particular vaccine on hand. You can imagine a conveyer belt that goes from the drug or vaccine manufacturer out into the medical community. And they've just put an additional loop into that conveyor belt, so it's not sitting in a warehouse rotting someplace. It's a bigger conveyer belt with an extra loop in it. Between the different manufacturers, nobody's got an exclusive on these drugs. Several companies are making "X" vaccine; several companies are making "that" drug. They've got contracts to maintain this extra supply; that's going to be the way to go.

M-M: And the Department of Homeland Security has also installed secret biosensors in cities around the country …

Clark: Yeah, these biosensors — they're supposed to be secret, but I saw one the other day in the Beverly Center (in Los Angeles) under the escalator. If you look around, they're there.

M-M: Did it say "biosensor" on it?

Clark: No, but you could tell. It had a collecting device, and you could see a port coming in where the filter would trap stuff. I think you have to know what you're looking for, but still …

M-M: And the government has also built labs in different cities, to test what these biosensors are trapping, right?

Clark: Yes, the CDC contracts with local labs and oversees labs in all the major cities. But they've had so many false alarms. They race out, double-check the data and find it's just some cross-reacting bug or something like that. They're trying now to get automated — basically robots — so the sensor itself could analyze the filter on the spot. That can take a couple of days otherwise. They're not collecting the filters every day, I'm sure. By that time, you've already got a problem.

M-M: So you mention that this book became political as you explored the subject. Did you go into the project having a particular political slant?

Clark: Only that as a scientist, I thought, "You've gotta be kidding me." Who's gonna have the combined expertise from so many areas — microbiology, bioengineering — so many things? I've spent all my life in a lab as a scientist. Things are just not that easy to do. They're bloody hard. If you're at a place like UCLA, you've got 500 other people around you, so you can usually solve a problem. But for a person working on their own, not in a university environment, I just don't see how they can do that.

M-M: But we've spent $50 billion against bioterrorism.

Clark: Yeah, $50 billion. And there has been some spillover. We're better prepared for a pandemic because what they're doing for bioterror would also prepare us somewhat for a pandemic attack. It's the tail wagging the dog. Before, bioterrorism was the dog and pandemics were the tail; now it's the other way around. Pandemics are now the dog, and you get a little bit of spillover to help in a bioterror attack.

M-M: So the mindset is changing?

Clark: I think so. Some of the more sober, sophisticated, knowledgeable scientists have been looking into this a bit more deeply, realizing that while they may not be entirely convinced that bioterrorism is not a threat, they're starting to get the notion that avian influenza — or some other natural outbreak — is almost a slam-dunk. We get two or three of those a century, historically, as far back as we have records. There are these outbreaks of natural human pathogens that wreak utter havoc. … So those numbers start to sink in, and we've spent $50 billion on something that's killed five people. Influenza could kill tens of thousands at the very least.

And I hope this book will get the general public to keep the pressure going on the government to pay more attention to things that present a much more serious threat to us, like infectious diseases or global warming (Miller-McCune, 2008).

Title: Biological Terror Attack Likely By 2013, Panel Says
Date: December 2, 2008
Source: CNN

Abstract: Terrorists are likely to use a weapon of mass destruction somewhere in the world in the next five years, a blue-ribbon panel assembled by Congress has concluded.

They are more likely to use a biological weapon than a nuclear one -- and the results could be devastating, the chairman of the commission told CNN.

"The consequences of a biological attack are almost beyond comprehension. It would be 9/11 times 10 or a hundred in terms of the number of people who would be killed," former Sen. Bob Graham said.

He cited the flu virus that killed millions of people in 1918 as an example.

"Today it is still in the laboratory, but if it should get out and into the hands of scientists who knew how to use it for a violent purpose, we could have multiple times the 40 million people who were killed 100 years ago," he said. Watch how officials worry about a biological terror attack »

The U.S. government "needs to move more aggressively to limit" the spread of biological weapons, the commission said in its report.

Graham warned that such measures would be costly, but were necessary.

"The leadership of this country and the world will have to decide how much of a priority ... they place on avoiding the worst weapons in the world getting in the hands of the worst people in the world," he said.

"It is not going to be cheap. It is not going to be accomplished without some sacrifices. It won't be accomplished without putting this issue ahead of some other competing national and international goals. But I think our safety and security depend upon doing so," he added.

Graham said a biological attack was more likely than a nuclear one because it would be easier to carry out.

Biological weapons "are more available," he said. "Anthrax is a natural product of dead animals. Other serious pathogens are available in equally accessible forms."

"There are so many scientists who have the skills to convert a pathogen from benign, helpful purposes into an illicit, very harmful weapon," he added.

But the commission warned that there is also a threat of nuclear terrorism, both because more countries are developing nuclear weapons and because some existing nuclear powers are expanding their arsenals.

"Terrorist organizations are intent on acquiring nuclear weapons," said the report, which was published Tuesday on the Internet and will be officially released Wednesday.

CNN obtained a copy of the report Monday evening.

It cited testimony before the commission from former Sen. Sam Nunn, who said that the "risk of a nuclear weapon being used today is growing, not receding."

The report recommends a range of measures, including increased security and awareness at biological research labs and strengthening international treaties against the spread of biological and nuclear weapons.

"Many biological pathogens and nuclear materials around the world are poorly secured -- and thus vulnerable to theft by those who would put these materials to harmful use, or would sell them on the black market to potential terrorists," the report warned.

The commission expressed particular concern about the nuclear programs of Iran and North Korea, and about Pakistan, which it described as "the intersection of nuclear weapons and terrorism."

While observing that Pakistan is a U.S. ally, the report said, "the next terrorist attack against the United States is likely to originate from within the Federally Administered Tribal Areas" in Pakistan. The tribal areas lie in northwest Pakistan where the government exerts little control; the United States says it is a haven for militants from both Pakistan and neighboring Afghanistan.

Congress created the commission to investigate and report on WMD and terrorism in line with a recommendation from the 9/11 Commission, which compiled a report on the September 11, 2001, terrorist attacks on the United States. Commissioners heard testimony from more than 250 experts from around the world over the course of their six-month investigation (CNN, 2008).

Title: Swine Flu Attack Likely A Beta Test
Date: April 16, 2009
Source: Prison Planet

Abstract: The latest bioterrorism attack by the New World Order is likely a beta test. Yes, it is a bioterrorism attack. It was a hybrid strain created from human, swine, and bird flu from North America, Europe, and Asia. It was created in a laboratory. This doesn't happen in nature.

Baxter was caught shipping a weaponized avian bird flu mixed strain in their vaccines last month in Europe. Again, this is proof that this deadly virus was created in a laboratory because they did exactly that last month. Bayer was caught shipping HIV in their drugs in the 80s. Both of these events are published in mainstream newspapers. You can use Google like everyone else to find them.

I predicted this event last month in my documented and linked article when Baxter was caught. If Baxter was trying to do this, they weren't going to stop trying, especially when Baxter wasn't even prosecuted for the crime, and the television news was completely silent about it.

It seems someone wasn't caught this time before they were able to make delivery of the virus. Not that anyone would be prosecuted for bioterrorism. They weren't prosecuted the previous numerous times where they were caught.

This latest flu hasn't been widespread and not that deadly. It seems to be just a beta test and not the real release to drastically reduce the population of the world.

Yes, the ruling elite want to reduce the population of the world. They write about it in their books, in their think tank documents, in government documents, and at their conferences. You won't hear about it on television news because they're part of the mainstream media trust, along with AP and Reuters, which are all owned by the same people.

They add the industrial waste and active ingredient of rat poison, known as fluoride, in your water, causing your brain, liver, and bones to rot and decay. They add mercury, which is as toxic as lead or arsenic, to the vaccines as a preservative, causing autism and sudden infant death syndrome, among several other things. Yes, the government hates you and wants to kill you. Government loves war and death.

Before any scientist does anything very drastic they always do a beta test. They are studying several different things such as how far it spreads and how fast. They are studying if it mutates. They are studying if they'll get away with the crime.

Mexico seems like an ideal distribution point since they know it would spread to the United States. There are less safeguards in Mexico than the United States, but the United States is the primary target. Americans have a Second Amendment right, which makes Americans a big threat to the New World Order and the ruling elite's power.

It is your duty not to make the latest beta test a success by screaming about it. Scream about it to your elected representatives and to the media. Demand justice.

The sick part about this is that they are using vaccines to spread the virus. The cure for the bioterrorism attack is the method of delivery so take vaccines at your own risk. Take a rat or your local politician to the doctor with you to beta test the vaccine before you take it.

Just be aware they may switch the delivery mechanism to something like food, water, or aerial spraying to drastically reduce the population. I'm not an expert, but I believe injections are the most effective delivery mechanism for spreading such a biological weapon and is why they were caught doing just that.

The real test will be much more deadly and much more widespread. They'll bring in martial law when it happens and take the rest of our rights away if we happen to survive a large scale bioterror attack.

This is why you must awaken everybody that the government and big corporations are the terrorists, not Islamic brown people hiding in caves. Switch the word "Islamic" with the word "Jew", and you'll understand how Hitler came to power in a democratic society. I can't believe people haven't caught onto the race baiting by the national socialists running this nation and the world. You're bigots and don't even realize it. You're a bunch of Nazis and don't even realize it.

This is why you must demand justice for these crimes against humanity by the evil terrorist tyrants in power. This is a big deal. Your life and the lives of your friends, family, and children depend on fighting it.

You might want to question who is making a profit on this as well. I believe Obama even own shares of the company who makes the drug to treat this virus. Illinois-based Baxter working on swine flu vaccine.

This is not a hoax. Dead bodies are not a hoax. What is happening now is not a hoax. It is fact. What Baxter and Bayer did is fact. If you deny these facts, I can't help you. You're beyond help (Prison Planet, 2009).

Title: Journalist Files Charges Against WHO And UN For Bioterrorism And Intent To Commit Mass Murder
Date: June 24, 2009
Source: Natural News

Abstract: As the anticipated July release date for Baxter's A/H1N1 flu pandemic vaccine approaches, an Austrian investigative journalist is warning the world that the greatest crime in the history of humanity is underway. Jane Burgermeister has recently filed criminal charges with the FBI against the World Health Organization (WHO), the United Nations (UN), and several of the highest ranking government and corporate officials concerning bioterrorism and attempts to commit mass murder. She has also prepared an injunction against forced vaccination which is being filed in America. These actions follow her charges filed in April against Baxter AG and Avir Green Hills Biotechnology of Austria for producing contaminated bird flu vaccine, alleging this was a deliberate act to cause and profit from a pandemic.

Summary of Claims and Allegations Fled with FBI in Austria on June 10, 2009

In her charges, Burgermeister presents evidence of acts of bioterrorism that is in violation of U.S. law by a group operating within the U.S. under the direction of international bankers who control the Federal Reserve, as well as WHO, UN and NATO. This bioterrorism is for the purpose of carrying out a mass

genocide against the U.S. population by use of a genetically engineered flu pandemic virus with the intent of causing death. This group has annexed high government offices in the U.S.

Specifically, evidence is presented that the defendants, Barack Obama, President of the U.S, David Nabarro, UN System Coordinator for Influenza, Margaret Chan, Director-General of WHO, Kathleen Sibelius, Secretary of Department of Health and Human Services, Janet Napolitano, Secretary of Department of Homeland Security, David de Rotschild, banker, David Rockefeller, banker, George Soros, banker, Werner Faymann, Chancellor of Austria, and Alois Stoger, Austrian Health Minister, among others, are part of this international corporate criminal syndicate which has developed, produced, stockpiled and employed biological weapons to eliminate the population of the U.S. and other countries for financial and political gain.

The charges contend that these defendants conspired with each other and others to devise, fund and participate in the final phase of the implementation of a covert international bioweapons program involving the pharmaceutical companies Baxter and Novartis. They did this by bioengineering and then releasing lethal biological agents, specifically the "bird flu" virus and the "swine flu virus" in order to have a pretext to implement a forced mass vaccination program which would be the means of administering a toxic biological agent to cause death and injury to the people of the U.S. This action is in direct violation of the Biological Weapons Anti-terrorism Act.

Burgermeister's charges include evidence that Baxter AG, Austrian subsidiary of Baxter International, deliberately sent out 72 kilos of live bird flu virus, supplied by the WHO in the winter of 2009 to 16 laboratories in four counties. She claims this evidence offers clear proof that the pharmaceutical companies and international government agencies themselves are actively engaged in producing, developing, manufacturing and distributing biological agents classified as the most deadly bioweapons on earth in order to trigger a pandemic and cause mass death.

In her April charges, she noted that Baxter's lab in Austria, one of the supposedly most secure biosecurity labs in the world, did not adhere to the most basic and essential steps to keep 72 kilos of a pathogen classified as a bioweapon secure and separate from all other substances under stringent biosecurity level regulations, but it allowed it to be mixed with the ordinary human flu virus and sent from its facilities in Orth in the Donau.

In February, when a staff member at BioTest in the Czech Republic tested the material meant for candidate vaccines on ferrets, the ferrets died. This incident was not followed up by any investigation from the WHO, EU, or Austrian health authorities. There was no investigation of the content of the virus material, and there is no data on the genetic sequence of the virus released.

In answer to parliamentary questions on May 20th, the Austrian Health Minister, Alois Stoger, revealed that the incident had been handled not as a biosecurity lapse, as it should have been, but as an offence against the veterinary code. A veterinary doctor was sent to the lab for a brief inspection.

Burgermeister's dossier reveals that the release of the virus was to be an essential step for triggering a pandemic that would allow the WHO to declare a Level 6 Pandemic. She lists the laws and decrees that would allow the UN and WHO to take over the United States in the event of pandemic. In addition, legislation requiring compliance with mandatory vaccinations would be put into force in the U.S. under conditions of pandemic declaration.

She charges that the entire "swine flu" pandemic business is premised on a massive lie that there is no natural virus out there that poses a threat to the population. She presents evidence leading to the belief that the bird flu and swine flu viruses have, in fact, been bioengineered in laboratories using funding supplied by the WHO and other government agencies, among others. This "swine flu" is a hybrid of part swine flu, part human flu and part bird flu, something that can only come from laboratories according to many experts.

WHO's claim that this "swine flu" is spreading and a pandemic must be declared ignores the fundamental

causes. The viruses that were released were created and released with the help of WHO, and WHO is overwhelmingly responsible for the pandemic in the first place. In addition, the symptoms of the supposed "swine flu" are indistinguishable from regular flu or from the common cold. The "swine flu" does not cause death anymore often than the regular flu causes death.

Burgermeister notes that the figures for deaths reported for the "swine flu" are inconsistent and there is no clarity as to how the number of "deaths" has been documented.

There is no pandemic potential unless mass vaccinations are carried out to weaponize the flu under the guise of protecting the population. There are reasonable grounds for believing that the mandatory vaccines will be purposely contaminated with diseases that are specifically designed to cause death.

Reference is made to a licensed Novartis bird flu vaccine that killed 21 homeless people in Poland in the summer of 2008 and had as its "primary outcome measure" an "adverse events rate", thereby meeting the U.S. government's own definition of a bioweapon (a biological agent designed to cause an adverse events rate, i.e death or injury) with a delivery system (injection).

She alleges that the same complex of international pharmaceutical companies and international government agencies that have developed and released pandemic material have positioned themselves to profit from triggering the pandemic with contracts to supply vaccines. Media controlled by the group that is engineering the "swine flu" agenda is spreading misinformation to lull the people of the U.S. into taking the dangerous vaccine.

The people of the U.S. will suffer substantial and irreparable harm and injury if they are forced to take this unproven vaccine without their consent in accordance with the Model State Emergency Health Powers Act, National Emergency Act, National Security Presidential Directive/NSPD 51, Homeland Security Presidential Directive/HSPD-20, and the International Partnership on Avian and Pandemic Influenza.

In the U.S. since 2008, Burgermeister charges that those named in her allegations have implemented new and/or accelerated the implementation of laws and regulations designed to strip the citizens of the U.S. of their lawful constitutional rights to refuse an injection. These people have created or allowed provisions to remain in place that make it a criminal act to refuse to take an injection against pandemic viruses. They have imposed other excessive and cruel penalties such as imprisonment and/or quarantine in FEMA camps while barring the citizens of the U.S. from claiming compensation from injury or death from the forced injections. This is in violation of the laws governing federal corruption and the abuse of office as well as of the Constitution and Bill of Rights. Through these actions, the named defendants have laid the groundwork for mass genocide.

Using the "swine flu" as a pretext, the defendants have preplanned the mass murder of the U.S. population by means of forced vaccination. They have installed an extensive network of FEMA concentration camps and identified mass grave sites, and they have been involved in devising and implementing a scheme to hand power over the U.S. to an international crime syndicate that uses the UN and WHO as a front for illegal racketeering influenced organized crime activities, in violation of the laws that govern treason.

She further charges that the complex of pharmaceutical companies consisting of Baxter, Novartis and Sanofi Aventis are part of a foreign-based dual purpose bioweapons program, financed by this international criminal syndicate and designed to implement mass murder to reduce the world's population by more than 5 billion people in the next ten years. Their plan is to spread terror to justify forcing people to give up their rights, and to force mass quarantine in FEMA camps. The houses, companies and farms and lands of those who are killed will be up for grabs by this syndicate.

By eliminating the population of North America, the international elite gain access to the region's natural resources such as water and undeveloped oil lands. And by eliminating the U.S. and its democratic constitution by subsuming it under a North American Union, the international crime group will have total control over North America.

Highlights from the Complete Dossier

The complete dossier of the June 10th action is a 69 page document presenting evidence to substantiate all charges. This includes:

Factual background that delineates time lines and facts that establish probable cause, UN and WHO definitions and roles, and history and incidents from the April, 2009 "swine flu" outbreak.

Evidence the "swine flu" vaccines are defined as bioweapons as delineates in government agencies and regulations classifying and restricting vaccines, and the fear of foreign countries that "swine flu" vaccines will be used for biological warfare.

Scientific evidence the "swine flu" virus is an artificial (genetic) virus.

Scientific evidence the "swine flu" was bioengineered to resemble the Spanish flu virus of 1918 including quotes from *Swine Flu 2009 is Weaponized 1918 Spanish Flu* by A. True Ott, Ph.D., N.D., and a *Science Magazine* report from Dr. Jeffrey Taubenberger et.al.

The genome sequence of the "swine flu"

Evidence of the deliberate release of the "swine flu" in Mexico

Evidence as to the involvement of President Obama that delineates his trip to Mexico which coincided with the recent "swine flu" outbreak and the death of several officials involved in his trip. Contention is made that the President was never tested for "swine flu" because he had been previously vaccinated.

Evidence as to the role of Baxter and WHO in producing and releasing pandemic virus material in Austria includes a statement from a Baxter official stating the accidentally distributed H5N1 in the Czech Republic was received from a WHO reference center. This includes delineation of evidence and allegations from Burgermeister's charges filed in April in Austria that are currently under investigation.

Evidence Baxter is an element in a covert bioweapons network

Evidence Baxter has deliberately contaminated vaccine material.

Evidence Novartis is using vaccines as bioweapons

Evidence as to WHO's role in the bioweapons program

Evidence as to WHO's manipulation of disease data in order to justify declaring a Pandemic Level 6 in order to seize control of the USA.

Evidence as to the FDA's role in covering up the bioweapons program

Evidence as to Canada's National Microbiology Lab's role in the bioweapons program.

Evidence of the involvement of scientists working for the UK's NIBSC, and the CDC in engineering the "swine flu".

Evidence vaccinations caused the Spanish killer flu of 1918 including belief of Dr. Jerry Tennant that the widespread use of aspirin during the winter that followed the end of World War I could have been a key factor contributing to the earlier pandemic by suppressing the immune system and lowering body temperatures, allowing the flu virus to multiply. Tamiflu and Relenza also lower body temperatures, and therefore can also be expected to contribute to the spread of a pandemic.

Evidence as to manipulation of the legal framework to allow mass murder with impunity.

Constitutional issues: the legality vs. illegality of jeopardizing the life, health and public good by mass vaccinations.

The issue of immunity and compensation as evidence of intent to commit a crime.

Evidence as to the existence of an international corporate crime syndicate.

Evidence of the existence of the "Illuminati".

Evidence as to the depopulation agenda of the Illuminati/Bilderbergs and their involvement in the engineering and release of the artificial "swine flu" virus.

Evidence that weaponized flu was discussed at the annual Bilderberg meeting in Athens from May 14-17, 2009, as part of their agenda of genocide, including a list of attendees who, according to a statement once made by Pierre Trudeau, view themselves as genetically superior to the rest of humanity.

Media is Keeping Americans Clueless about the Rhreat They are Under

Jane Burgermeister is a dual Irish/Austrian who has written for *Nature*, the British Medical Journal, and *American Prospect*. She is the European Correspondent of the *Renewable Energy World* website. She has written extensively about climate change, biotechnology, and the ecology.

In addition to the charges currently under investigation that she filed against Baxter AG and Avir Green Hills Biotechnology in April, she has filed charges against WHO and Baxter among others concerning a case of exploding "swine flu" vials meant for a research lab on a busy IC train in Switzerland.

In her view, control of the media by the ruling elite has allowed the world crime syndicate to further its agenda unabated while the rest of the people remain in the dark about what is really going on. Her charges are an attempt to get around this media control and bring the truth to light.

Her greatest concern is that "in spite of the fact Baxter has been caught red handed nearly triggering pandemic, they are also moving ahead, together with allied pharma companies, with supplying the vaccine for pandemics." Baxter is hurrying to get this vaccine to market some time in July (Natural News, 2009).

Title: Biological Threats: A Matter Of Balance
Date: January 16, 2010
Source: Center For Arms Control And Non-Proliferation

Abstract:

The bioterrorist threat has been greatly exaggerated.

New bioweapons assessments are needed that take into account the complex set of social and technical issues that shape bioweapons development and use by state and non-state actors, and that focus on more plausible threats than the worst-case scenarios that have largely driven discussion to date.

Continuing to emphasize and spend billions of dollars on measures to specifically counter bioterrorist threat scenarios distorts our national understanding of the important issues in public health, and diverts scarce scientific talent and resources away from more pressing public health and natural disease threats.

While it has been argued that spin-offs from biodefense programs contribute to countering natural diseases, the converse is more likely: direct targeting of effort and expenditure on natural disease threats

would provide much greater public health benefit, and spin-offs from these programs would significantly strengthen resistance to bioterrorism.

Bioterrorist threats need to be seen and addressed within a wider public health context--as just one of the many possible ways in which infectious agents may harm human, animal, and plant health.

How Serious is the Bioterrorist Threat?

Beginning in the early 1990s, an increasing amount was written about the threat of bioterrorism. Prior to 2001 most examples of “bioterrorism” were in fact hoaxes or were only tenuously related to actual threats, with the single exception of the use of Salmonella to contaminate salad bars in Oregon in 1984. Much was made of the Japanese group Aum Shinrykio’s unsuccessful attempts to use anthrax and botulinum toxin without drawing the simple and obvious lesson that achieving success in such attempts is difficult.

The 2001 anthrax letters were seen as validating large scale and catastrophic threat scenarios, despite the very real difficulties that isolated individuals or small groups would have had in making such material. By the time the source of those letters was identified in August 2008 as a government laboratory with capabilities vastly in excess of those of any terrorist organization, biodefense programs costing tens of billions of dollars were already established, producing a potent and vocal constituency for continued and increased funding.

Offensive, including terrorist, use of biological agents presents major technical problems. This is why the Soviet Union, United States, United Kingdom and others needed to spend vast sums for decades in order to research and develop biological weapons. Even then the results were considered an unreliable form of warfare, and there was little opposition to their elimination by international agreement (indeed the US unilaterally eliminated its biological weapons stockpiles).

Fictional bioterrorism exercises such as Atlantic Storm and Dark Winter routinely used unrealistic values for critical parameters and were unrealizable by putative perpetrators. They tended to gloss over the very real problems involved in acquiring, growing and disseminating smallpox virus on a sufficient scale to represent a major threat. They also posited unreasonable assumptions about issues such as the rate of disease spread, which skewed the outcomes towards inflated and unlikely results.

The effects of using biological materials, whether on a large scale or a smaller terrorist scale, are highly uncertain. Although the 2001 anthrax letters created panic and had a significant economic impact, the number of deaths and serious illnesses was very small.

Existing bioweapons assessments focus on a narrow set of assumptions about potential adversaries and their technical capabilities. New bioweapons threat assessments are needed that take into account the more complex set of social and technical issues that shape bioweapons capabilities of state and non-state actors and that critically examine existing assumptions.

How Effective Are Bioterrorism Counter Measures?

Much time, effort and money has been spent since 2001 trying to identify possible threats, create detection capabilities in government facilities and public spaces, and enact measures to prevent dangerous agents from falling into the wrong hands. Yet, threat scenarios are speculative and rely on too many unjustified assumptions, thus providing poor policy guidance. Detection systems continue to suffer many defects of sensitivity and specificity that so far make them unreliable as triggers for immediate countermeasures. And the enormous expansion of high-containment laboratories has greatly increased the numbers of people with access to dangerous pathogens and toxins, ironically increasing the likelihood of an attack by a rogue insider.

In addition, agencies and programs have been set up at great expense, with the aim of having available stocks of vaccines against potential bioweapons agents. Many questions remain about these programs

with respect to vaccine efficacy, safety, shelf life and the ability to perform mass immunizations at short notice. Until these issues are resolved the effectiveness of vaccines as countermeasures remains in doubt.

Countermeasures effective after exposure to anthrax and the smallpox virus, the bioterrorist threat agents of greatest concern, have been developed and stockpiled— antibiotics for anthrax and a vaccine for smallpox. Efforts to accumulate stockpiles of more novel therapeutics, or ones targeted to even less likely bioterrorist threats, are not cost-effective unless they would also serve clear public health goals.

The actual dollar costs of responding to the perceived bioterrorism threat includes creating new agencies and programs, funding research & development into threat evaluation, detection, diagnosis, prophylaxis and treatments. These costs approach $60 billion since FY 2001 and continue to rise. Of this, roughly $15 billion has gone to state and local public health capacity building, hospital preparedness, and other efforts aimed at directly strengthening public health.

There are additional opportunity costs that are much harder to quantify: the diversion of technical, scientific and administrative talent away from more real and immediate infectious disease and other public health problems. For example the amount of research being conducted on anthrax (of which there are only a handful of cases per year in the US) has skyrocketed since 2001, due largely to the attraction of scientists away from work on other diseases of greater public health importance. Biomedical research is expensive and requires substantial levels of funding; accordingly, funding decisions made for political purposes can easily distort the direction of scientific effort into less useful although still scientifically interesting avenues.

These bioterrorism-specific programs are unnecessary and inefficient if the bioterrorist threat has been exaggerated or overestimated, and they divert scarce resources from much more pressing public health threats.

What Is The Impact On Public Health?

To put this in perspective, since 2000 bioterrorism has killed 5 Americans. In the same time period, influenza-related deaths alone have likely exceeded 300,000 based on CDC estimates, and other natural infectious diseases have killed hundreds of thousands more. Annual US morbidity & mortality figures from AIDS (14,000 deaths), opportunistic infections such as MRSA (19,000 deaths/year) and C. difficile (350,000 infections and up to 20,000 deaths) speak to unmet and pressing public health need.

Consequently the threat of bioterrorism, which does exist but which is almost certainly minor, needs to be seen as only one element in the wider and larger public health war on infectious diseases.

While deaths and morbidity from these and other infectious diseases are unlikely to be entirely eliminated no matter how lavish the funding, modest increases in funding and effort (relative to that currently invested in bioterrorism prevention and mitigation) could greatly decrease their impact, and save orders of magnitude more lives than are likely to ever be lost in any plausible bioterrorist attack. There is a clear imbalance between funding for biodefense and funding for research on and prevention of natural infectious diseases.

Diverting scarce resources, money, and scientific, medical and organizational talent away from the general public health effort to address the narrower bioterrorism issue is likely to be self-defeating in the longer term because:

1. Highly specific threat predictions lead to specific countermeasures and mitigation strategies, many of which may be useless for everyday public health purposes, or even to counter a bioterrorist attack that differs from the threat assumed.

2. Development and production of bioterrorism countermeasures may present

uncertainties and risks compared with pharmaceuticals manufactured according to strict quality assurance standards, and are subject to constant scrutiny of their efficacy and safety through post-market research. Such is not the case with bioterrorism countermeasures, which would be used only rarely if at all.

3. In comparison with investments in routine public health activities, countermeasures targeted against specific bioterrorism threats are unlikely to ever be used and their manufacture, stockpiling and turnover thus represent a probable waste of scarce resources.

A Better Approach

The public health problem of infectious diseases requires a more generic approach that addresses a variety of issues, including the following:

1. Information about morbidity and mortality in terms of disease incidence and causes is critical in deciding which problems are most important and where intervention would provide the greatest benefit. A risk-based and data-driven approach should guide the allocation of scarce public health resources.

2. The nation's epidemiological workforce must be adequate to investigate and address all public health issues: infectious disease outbreaks whether due to natural, deliberate, or accidental causes; chronic diseases; environmental health; consequences of nutritional and life-style choices; etc. Only by ensuring adequate staffing in all program areas will we build a sustainable public health infrastructure that can reliably provide adequate surge capacity in the event of a large-scale emergency.

3. Animal disease epidemiology capability needs to be enhanced. This would improve the ability rapidly to detect and diagnose not only animal, but also zoonotic infections. Such enhanced capability would provide both a defense against natural disease outbreaks as well as a capability for early recognition of a bioterrorist threat originating in the animal population.

4. Effective, ongoing training for epidemiologists, which has reached a plateau or has even been reduced since 2004, is essential.

5. Provision of the basic tools necessary to support routine public health surveillance and epidemiology - including skilled personnel, public health laboratories, and data collection, management and analytic systems - are also critical. In this respect, public health preparedness funding, increased out of concern about terrorism in general and bioterrorism in particular, has been important and needs to be maintained and enhanced.

6. Disaster preparedness needs to be improved—the ability to respond rapidly and effectively to an event that produces a large number of casualties needing hospitalization or sanitary burial is common to handling large natural outbreaks of infectious disease, a bioterrorism event, or a natural disaster such as earthquake or tsunami.

7. Research is a key component of any program to improve public health and by extension the ability to deal with deliberately created outbreaks. The most obvious areas of need are in new antibiotics and antivirals for emerging or established diseases that cause significant mortality or morbidity. The role of vaccines in dealing with the bioterrorism problem is more controversial since vaccines are highly diseasespecific (often even strain-specific), usually need to be given prior to exposure, tend to have a limited shelf life, and suffer from a problem of public acceptability. Research into immune system stimulation and enhancement which could have wide application may be a more fruitful investment.

8. Measures that enhance access by more people to preventive healthcare are likely to strengthen individual resistance to disease and improve early detection and effective treatment and containment of disease outbreaks.

Fundamentally, improving the capability to respond to natural disease outbreaks, which currently present the major problem, almost automatically improves the capability to deal with any bioterrorist attack (Center For Arms Control And Non-Proliferation, 2010).

Title: Germany Requests Assurances On Virus Export
Date: August 30, 2011
Source: Wikileaks

Abstract: We would like to bring the following issue to the attention of your government. A German firm has applied for the approval of the export of 184 genetic elements with nucleic acid sequences of viruses for the production of recombinant viruses. The viruses will be used in optical imaging to identify host factors required for viral replication. The recipient in the USA is, according to the enclosed end use certificate, the Department of the Army "US Army Medical Research Institute for Infectious Diseases (USAMRIID)" Fort Detrick, Maryland.

Specifications in English about the goods, the recipient and end use can be seen from the end use certificate. The goods are controlled by the Australia Group and are subject to compulsory export approval (List position C1C353A). This matter concerns the complete genome of viruses such as the Zaire Ebola virus, the Lake Victoria Marburg virus, the Machupo virus and the Lassa virus, which are absolutely among the most dangerous pathogens in the world. The delivery would place the recipient in the position of being able to create replicating recombinant infectious species of these viruses. Because of the particular criticality of these goods, the German federal government practices an exceptionally restrictive approval policy for such exports (Wikileaks, 2011).

Read Full Text Below:

"For Official Use Only"
Against the background of our partnership in the area of non-proliferation and our excellent cooperation in the matters of export controls, we would like to bring the following issue to the attention of your government.
A German firm has applied for the approval of the export of 184 genetic elements with nucleic acid sequences of viruses for the production of recombinant viruses. The viruses will be used in optical imaging to identify host factors required for viral replication. The recipient in the USA is, according to the enclosed end use certificate, the Department of the Army "US Army Medical Research Institute for Infectious Diseases (USAMRIID)" Fort Detrick, Maryland.
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The goods are controlled by the Australia Group and are subject to compulsory export approval (List position C1C353A). This matter concerns the complete genome of viruses such as the Zaire Ebola virus, the Lake Victoria Marburg virus, the Machupo virus and the Lassa virus, which are absolutely among the most dangerous pathogens in the world. The delivery would place the recipient in the position of being able to create replicating recombinant infectious species of these viruses.
Because of the particular criticality of these goods, the German federal government practices an exceptionally restrictive approval policy for such exports. An approval here can only be issued if an improper end use in association with the development or production of biologic weapons approaches can be foreclosed with a probability approaching certainty.
The enclosed end use certificate is on the letterhead of the U.S. Army. The required official seal is missing, however.
A decision about the export has not yet been made. Given the foregoing, we would appreciate confirmation that the end use certificate really is from the Department of the Army and of the accuracy of the data contained therein.
We look forward to the continuation of our excellent cooperation in matters of non-proliferation and export controls.
End text of informal translation of German MFA non-paper.
¶4. (SBU) Action Request. Post requests guidance on responding to the GOG request in the non-paper.

Title: Should Scientists Create Deadly Viruses? Yes, Says Bioethicist
Date: December 27, 2011
Source: MSNBC

Abstract: One of the predictable consequences of science's rapidly growing knowledge of genetics is that the knowledge can be put to use to kill, harm or terrorize. Controlling dangerous knowledge is not easy and rarely foolproof—just look at the history of successful spying to get the secrets to make nuclear weapons or crack secret codes. The ability to make a new nasty class of biological weapons that could be used against us raises two important questions — should scientists try to make dangerous microbes and, if they do, who should they tell about their work?

Recently, scientists working for the U.S. government made a deadly flu virus, H5N1, even more contagious by making it airborne. In its natural form, H5N1 kills more than half the people it infects, but almost never spreads from person to person. The new modified strain changes that. Last week, there was a kerfuffle when government advisers asked the details be kept secret and not published in scientific journals to keep the information from falling into the wrong hands.

The scientists who tweaked the H5N1 virus say their work was necessary because they had to see if it was possible for the virus to mutate – and if it was, so that countries could take more dramatic steps to eradicate it, reported the New York Times.

But others say it should never have been created in the first place, it's too dangerous and could get out of the lab and into the population. So should scientists even be studying or making nasty microbial critters? The answer is yes. The only way to anticipate and respond to changes in nature that convert a relatively harmless strain of flu to a pandemic killer or to figure out ways to deal with horrors like flesh eating bacteria is to create and study them.

The second question becomes the key one—who should have access to this knowledge?

We need to do all we can to keep dangerous information out of the hands of both the bad and the irresponsible guys. This means not publishing the full formula for lethal microbes. It also means keeping an eye on where biological samples are shipped, who is invited to study at key laboratories and teaching ethical responsibility over and over again to budding scientists. It also means issuing government guidelines that journals, publishers, website managers and meeting organizers can follow to restrict what is made public that is obviously dangerous.

Some will sneer and say censorship has absolutely no place in science. But given the ways in which patents and trade secrets shape who has access to findings and data, that view is simply naïve. Others will say once the government starts dictating who can know what, the slope gets very slippery. But, the government should not make the rules — scientists, in consultation with other experts, should.

Some say no restrictions will work—information always gets out in the end. But we don't have to make the end easy to reach. The dangerous uses of genetic knowledge should be kept as restricted as we can make them (MSNBC, 2011).

Title: Sorry, But Bird Flu Bioterrorism Is Much Harder Than It Sounds
Date: January 24, 2012
Source: Huffington Post

Abstract: Information wants to be free, the aphorism goes, especially when it comes to science. But when it comes to explaining how a lethally airborne avian influenza pandemic transmits among humans, freed information evidently crosses over into terrorism. This is in spite of the fact that, when it comes to the evidence that science demands daily, the existential threat of faceless terrorists furtively scurrying around in search of soft targets pales into comparison to the daily apocalypses doled out by governments waging unaffordable wars and occupations.

If bioterrorism has a real face, then it's a familiar one.

No wonder Ron Fouchier is frustrated. The Rotterdam-based virologist and his team recently mutated a strain of deadly H5N1 bird flu for simpler transmission among mammals, an achievement whose alarming data nevertheless leads us inexorably closer to possible solutions for future pandemics. Which is nice, because we've had more than our share in the past. But last month, publication of Fouchier's research in *Science* and *Nature* was sidelined at the urging of the United States' National Science Advisory Board for Biosecurity (NSABB), and last week 39 avian flu researchers, including Fouchier's team, agreed to a 60-day moratorium on research and testing altogether.

"NSABB has said that the risks outweigh the benefits, and now many people are saying: In that case, you shouldn't do this research at all," Fouchier told *Science*. "But the infectious disease community doesn't agree with NSABB on this. What NSABB should explain better is what the risks are exactly. How much bioterrorism have we seen in the past? What are the chances that bioterrorists will recreate these viruses? And is it really true that publication of this research would give bioterrorists or rogue nations an advantage? That's what I would like to hear from the NSABB."

Welcome to Terrordome

"Science always moves faster when information is freely available, there's no doubt about that," Dr. Paul Keim, acting chairman of the NSABB, told me by phone last month after Fouchier agreed to the NSABB and U.S. government's historic request to redact portions of his methodology.

"But on the other hand, in this particular case, we felt that the information could be used to repeat the experiments in a very short period of time, and that might be done by groups of individuals that we wouldn't want to be doing that," he added. "So it's a balance. It's possible that freely released information would give us a slight advantage in the case of an outbreak. But it was the board's opinion that the advantage was overweighed by the potential for that information being used for harm."

Trying to safeguard America from harm has become an unhinged political and cultural obsession ever since 9/11, which gave subsequent birth to the first bioterror threat of the new millennium. The 2001 anthrax attacks killed five and infected 17, but its arguments for unintended consequences -- in which "bioterrorism warrior" Keim's research team played a "crucial role," according to his employer Northern Arizona University -- are instructive. A decade later, they still remain unsolved, after spending precious time and taxpayer dollars pursuing and harassing scientists without any convictions.

Once targeted by America's bioterorism authorities, Steven Hatfill has since committed $1.5 million to building a floating genetic laboratory far from civilization as we know it. And he's got the funding: The Justice Department agreed to pay a $4.6 million settlement for routinely violating his civil rights, money that he plans to use cruising his lab ark through the Amazon in search of undiscovered plants and animals that could help combat diseases increasingly immune to antibiotics. He has agreed to license whatever he finds to pharmaceutical companies, but on the condition that developing nations receive the resultant medicines at cost.

The other anthrax suspect America haunted in the name of defeating terrorism is Bruce Ivins, who died of an apparent suicide in 2008, five years after receiving the Department of Defense's highest civilian decoration for his work on an anthrax vaccine. To date, no formal charges have been levied against him and no direct evidence linking him to the 2001 anthrax attacks has surfaced.

Given that sloppy track record, redactions and moratoriums stop looking like smart protocol and start looking more like authoritarian paranoia. It certainly doesn't help the United States' case that avian flu sucks as weaponized bioterror. It has zero targeting capability, and can't kill with extremist prejudice. That may make it more of an existential threat than current global pandemics like AIDS or climate change, but it doesn't make it a workable bioweapon. Unless, of course, the objective is to bring about a massive die-off that climate change will likely take care of by itself.

"I agree," Keim told *AlterNet*. "At this point, it would be a doomsday weapon. Unfortunately, we already have these types of weapons in the world already."

Home Is Where the Hurt Is

Today, as before, the potential for apocalypse is found too close to home. The anthrax used in the 2001 attacks evidently originated from the United States Army Medical Research Institute of Infectious Diseases (USAMRIID), where Ivins worked and whose birth emerged from the closure of United States

Army Biological Warfare Laboratories, started in 1943 at the peak of America's involvement in World War II.

In 2014, construction will be completed on USAMRIID's new facility, which the Manhattan Construction Group called "the largest, most complex biocontainment facility ever designed." Fingers crossed that it's not only designed to safely house anthrax and perhaps also vaccine-free nightmares like the Ebola virus, but immune to whoever actually controls the scientists tinkering with apocalypse and its avoidance. Because it is likely them and not terrorists -- like the alleged Al-Qaeda cell in Algeria that wiped itself out while trying to weaponize the Black Death -- who will unleash plagues upon us.

"I have no way of knowing whether a combined Ebola-smallpox agent has been created, but it is clear that the technology to produce such a weapon now exists," former Soviet biological warfare researcher Colonel Kanatzhan Alibekov, known since his defection to the U.S. as Dr. Ken Alibek, wrote in his controversial book 1999 *Biohazard*. "To argue that these weapons won't be developed simply because existing armaments will do a satisfactory job contradicts the history and the logic of weapons development, from the invention of the machine gun to the hydrogen bomb."

Like other death-bringing viral hemorrhagic fevers, Ebola probably has fearsome weaponization potential, as do antibiotic-resistant superbugs, SARS and of course the flu, which has been history's nastiest pandemic. Doubtless there are further viral horrors awaiting a new millennium with dramatically enhanced genetic and chemical engineering capabilities.

But AIDS is the pandemic at hand, even though it is avian flu that has made history by hamstringing the very scientific community that mutated it.

"There have been pandemics throughout history, and it is certain that there will continue to be pandemics in the future as microbes continue to emerge and re-emerge," the NIH's Anthony S. Fauci, director of the National Institute of Allergy and Infectious Diseases, told me last month. "There are microbes that could newly emerge and with which we have had no prior experience, as was the case in 1981 when the first cases of AIDS were recognized. In the 30 years since the medical community first became aware of it, AIDS has claimed at least 30 million lives and is among history's leading infectious disease killers."

Yet we are terrorized by bird flu, with a government that says we should be. And where we once felt safe as houses when it came to influenza pandemics, now we've suddenly flipped our minds and found in our midst just more terrorists with potential for transmission. Even if we're actually safe as houses, which we never have been and never will be. I bet you feel better already (Huffington Post, 2012).

Title: Scientists: 'Look, One-Third Of The Human Race Has To Die For Civilization To Be Sustainable, So How Do We Want To Do This?'
Date: January 26, 2012
Source: The Onion

Abstract: Saying there's no way around it at this point, a coalition of scientists announced Thursday that one-third of the world population must die to prevent wide-scale depletion of the planet's resources—and that humankind needs to figure out immediately how it wants to go about killing off more than 2 billion members of its species.

Representing multiple fields of study, including ecology, agriculture, biology, and economics, the researchers told reporters that facts are facts: Humanity has far exceeded its sustainable population size, so either one in three humans can choose how they want to die themselves, or there can be some sort of government-mandated liquidation program—but either way, people have to start dying.

And soon, the scientists confirmed.

"I'm just going to level with you—the earth's carrying capacity will no longer be able to keep up with population growth, and civilization will end unless large swaths of human beings are killed, so the question is: How do we want to do this?" Cambridge University ecologist Dr. Edwin Peters said. "Do we want to give everyone a number and implement a death lottery system? Incinerate the nation's children? Kill off an entire race of people? Give everyone a shotgun and let them sort it out themselves?"

"Completely up to you," he added, explaining he and his colleagues were "open to whatever." "Unfortunately, we are well past the point of controlling overpopulation through education, birth control, and the empowerment of women. In fact, we should probably kill 300 million women right off the bat."

Because the world's population may double by the end of the century, an outcome that would lead to a considerable decrease in the availability of food, land, and water, researchers said that, bottom line, it would be helpful if a lot of people chose to die willingly, the advantage being that these volunteers could decide for themselves whether they wished to die slowly, quickly, painfully, or peacefully.

Additionally, the scientists noted that in order to stop the destruction of global environmental systems in heavily populated regions, there's no avoiding the reality that half the world's progeny will have to be sterilized.

"The longer we wait, the higher the number of people who will have to die, so we might as well just get it over with," said Dr. Chelsea Klepper, head of agricultural studies at Purdue University, and the leading proponent of a worldwide death day in which 2.3 billion people would kill themselves en masse at the exact same time. "At this point, it's merely a question of coordination. If we can get the populations of New York City, Los Angeles, Beijing, India, Europe, and Latin America to voluntarily off themselves at 6 p.m. EST on June 1, we can kill the people that need to be killed and the planet can finally start renewing its resources."

Thus far, humanity has been presented with a great variety of death options, among them, poisoning the world's water supply with cadmium, picking one person per household to be killed in the privacy of his or her home, mass beheadings, and gathering 2.3 billion people all in one place and obliterating them with a single hydrogen bomb.

Sources confirmed that if a death solution is not in place by Mar. 31, the U.N., in the interest of preserving the human race, will mobilize its peacekeeping forces and gun down as many people as necessary.

"I don't care how it happens, but a ton of Africans have to go, because by 2025, there's no way that continent will be able to feed itself," said Dr. Henry Craig of the Population Research Institute. "And by my estimation, three babies have to die for every septuagenarian, because their longer life expectancy means babies have the potential to release far more greenhouse gases going forward."

While the majority of the world's populace reportedly understands this is the only option left to save civilization, not all members of the human race are eager to die.

"I personally would rather live, but taking the long view, I can see how ensuring the survival of humanity is best," said Norwich, CT resident and father of three Jason Atkins. "I guess if we were to do it over again, it would make sense to do a better job conserving the earth's finite resources."

"Hopefully, the people who remain on the planet will use the mass slaughter of their friends and loved ones as an incentive to be more responsible going forward," he added (The Onion, 2012).

Title: Lab-Engineered H5N1 Not Fatal, Lead Scientist Says
Date: January 26, 2012
Source: Bio Prep Watch

Abstract: According to the lead scientist of the lab-engineered airborne strain of avian flu in Wisconsin, the strain is not lethal and can be defeated with existing medicines.

Yoshihiro Kawaoka, a professor of virology at the University of Wisconsin, said that while the mutated virus was contagious among ferrets in the lab, it did not kill any of them. In a commentary published on Wednesday in the journal Nature, Kawaoka said that more research is needed urgently on transmissible bird-flu strains, Bloomberg reports.

"(There is an urgent need) to expand development, production and distribution (of bird-flu vaccines) and to stockpile antiviral compounds," Kawaoka said, according to Bloomberg. "(Censoring the findings) will make it harder for legitimate scientists to get this information while failing to provide a barrier to those who would do harm."

Kawaoka was among the scientists who ceased their experiments for 60 days in response to the widespread media fear that the virus could escape from labs and infect humans. The research team in Wisconsin agreed to not publish certain details of their research after being requested to do so by a U.S. biosecurity panel.

The U.S. National Science Advisory Board for Biosecurity recommended that the studies done by Kawaoka's group and a Dutch team led by Ron Fouchier of the Erasmus Medical Center not be published in full. The panel determined the risks of publishing the complete research would outweigh the benefits (Bio Prep Watch, 2012).

Title: Bedrock Of Vaccination Theory Crumbles As Science Reveals Antibodies Not Necessary To Fight Viruses
Date: March 27, 2012
Source: Natural News

Abstract: While the medical, pharmaceutical, and vaccine industries are busy pushing new vaccines for practically every condition under the sun, a new study published in the journal *Immunity* completely deconstructs the entire vaccination theory. It turns out that the body's natural immune systems, comprised of both innate and adaptive components, work together to ward off disease without the need for antibody-producing vaccines.

The theory behind vaccines is that they mimic infection by spurring B cells, one of the two major types of white blood cells in the immune system, to produce antibodies as part of the adaptive immune system. It is widely believed that these vaccine-induced antibodies, which are part of the more specific adaptive immune system, teach the immune system how to directly respond to an infection before the body becomes exposed to it.

But the new research highlights the fact that innate immunity plays a significant role in fighting infections, and is perhaps more important than adaptive immunity at preventing or fighting infections. In tests, adaptive immune system antibodies were shown unable to fight infection by themselves, which in essence debunks the theory that vaccine-induced antibodies serve any legitimate function in preventing or fighting off infection.

"Our findings contradict the current view that antibodies are absolutely required to survive infection with viruses like VSV (vesicular stomatitis virus), and establish an unexpected function for B cells as custodians of macrophages in antiviral immunity," said Dr. Uldrich H. von Andrian from *Harvard Medical School*. "It will be important to further dissect the role of antibodies and interferons in immunity against similar viruses that attack the nervous system, such as rabies, West Nile virus, and Encephalitis."

As explained by Dr. Russell Blaylock in a recent interview with Mike Adams, the Health Ranger, vaccines not only do not work as advertised, but they actually damage the body's innate immunity. Rather than teach the body how to respond to infections, vaccines actually inhibit the immune system's ability to produce TH2-type cytokines, and suppress cellular immunity, which is how the body protects itself against deadly viruses and bacteria.

So once again, the myth that vaccinations serve any sort of legitimate medical purpose has been deconstructed by breakthrough science. Regardless of whether or not the mainstream medical community wants to admit it, pro-vaccine ideology is increasingly finding itself in the dustheap of outmoded pseudoscience (Natural News, 2012).

Title: Real Or Fake? Pentagon Proposal To Lobotomize 'Terrorists' Using Virus
Date: April 2, 2012
Source: Prison Planet

YouTube: http://www.youtube.com/watch?feature=player_embedded&v=nADFJlAggnY

Abstract: A video on You Tube appears to show a Pentagon briefing in which the idea of lobotomizing terrorists to remove their religious fanaticism using a manufactured virus containing a vaccine is seriously proposed, although debate has raged about whether the clip is authentic or not.

The footage shows a speaker giving a lecture to a handful of attendees and is accompanied by authentic-looking Department of Defense project ID numbers. According to the text on the clip, the lecture took place inside a Pentagon briefing room.

The speaker discusses how certain people are predisposed to be religious fundamentalists because they have an aggressive VMAT 2 (God) gene which causes them to act on their beliefs in fanatical ways.

After a member of the audience asks the speaker if the idea is to "by spreading this virus….eliminate individuals who are going on to a bomb fest, who are going into a market and blowing it apart," the speaker confirms, "by vaccinating them against this, we'll eliminate this behavior."

The question of how to implement the vaccine is answered by the speaker when he responds to the man in the audience, who raises doubts over the feasibility of performing CT scans on suspected terrorists rather than just "putting a bullet in their head".

"The virus would immunize against this VMAT 2 gene and that would….essentially turn a fanatic into a normal person, and we think that would have major effects in the Middle East," states the speaker.

The audience member then asks, "How do you suggest this can be dispersed, via an aerosol?" – to which the speaker responds, "The present plan and the tests we've done so far have used respiratory viruses such as flu and we believe that's a satisfactory way to get the exposure of the largest part of the population."

The speaker confirms that the name of the proposal is "Funvax – the vaccine for religious fundamentalism."

Debate over the video's authenticity has raged over the course of the past year since the video was uploaded to You Tube.

Skeptics argue that the image of the brain scan used in the lecture, which according to the time stamp on the video took place in June 2005, is actually taken from a 2010 Neurology.org article on a completely

different subject. The two images are also clearly the same brain, whereas the speaker in the clip claims they are from two different people.

The other point made by skeptics to illustrate that the clip is a hoax is the claim that the audio is not in time with the speakers on the video. This is a weaker argument – the audio would not be in perfect sync on a You Tube clip anyway, plus the back and forth exchanges between the two speakers allied with their hand gestures do appear to be authentic, in that the audience member is expressing genuine shock at the scope of the idea.

The only information about 'Funvax' comes from a single source, a website run by "supporters" of an individual named Joey Lambardi. There is no other confirmation or discussion of 'Funvax' from any official source or mainstream website.

Whatever the true providence of the video clip, the fact that brain eating vaccines which alter brain chemistry to perform a de facto lobotomy on the subject have been developed are now being promoted to the general public is a fact.

Back in 2010, Dr Robert Sapolsky, professor of neuroscience at Stanford University in California, announced that he had created a vaccine to impose a state of "focused calm" by altering brain chemistry.

The proposals ominously hark back to George Lucas' 1971 dystopian chiller *THX 1138*, in which the population is controlled and subjugated through the use of special drugs to suppress emotion.

Feeling stress, getting angry, expressing emotion and displaying passion are all innate, natural and vital aspects of human behavior. Reacting with stress to dangerous or uncomfortable situations is an essential and healthy response, and is one shared by just about every living thing on the planet.

However, scientists are now telling us that getting angry, upset and passionate is abnormal and needs to be "treated" through a fresh dose of pharmaceutical drugs and injections that will virtually lobotomize us into submissive compliance.

Likewise, the notion that populations should be unwillingly vaccinated to lobotomize them of their religious beliefs is also clearly an abomination against free will and represents the ultimate tool of a scientific dictatorship (Prison Planet, 2012).