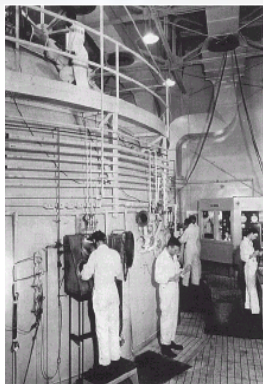


# Biological Safety: A tool of international diplomacy?

David R. Franz  
Midwest Research Institute  
Kansas State University & University of Alabama at Birmingham  
Frederick, MD  
24 May 07

## State-sponsored BW Programs

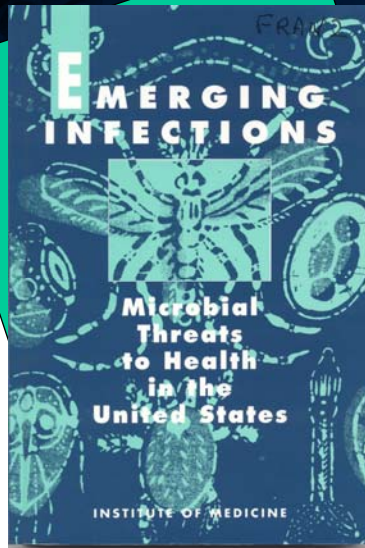


*United States*



*The Soviet Union*

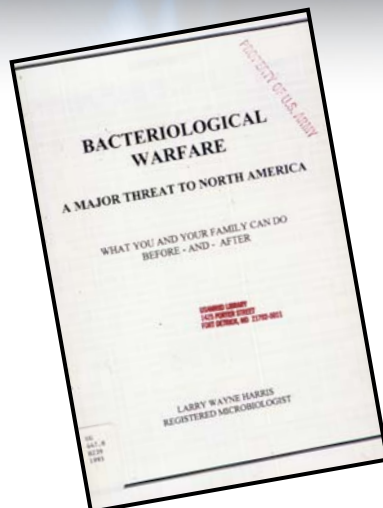




Joshua Lederberg, Robert E. Shope,  
and Stanley C. Oaks, Jr., Editors

1992

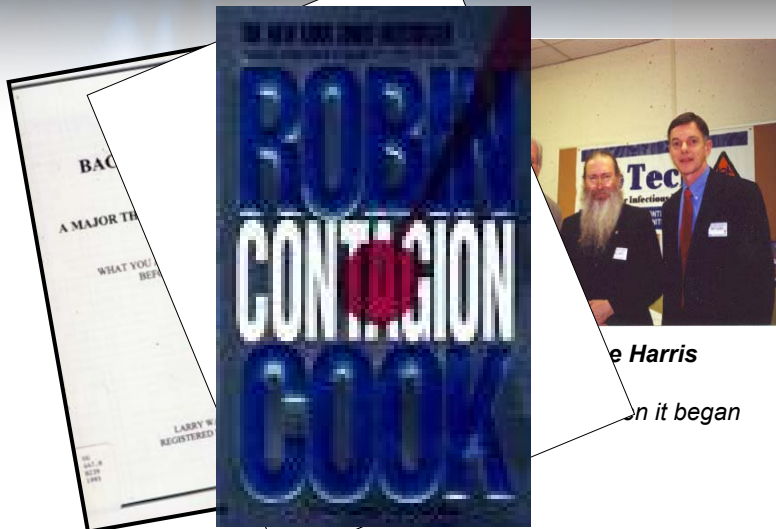
## 1997--The Select Agent Rule



**Larry Wayne Harris**

*\$80M / year when it began*

## 1997--The Select Agent Rule



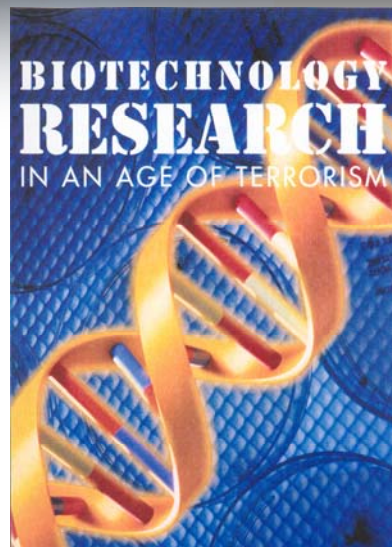
the Harris

on it began

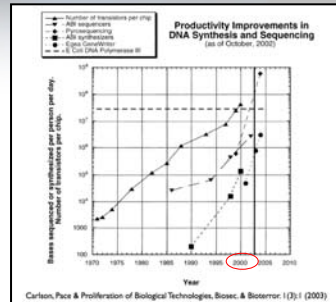
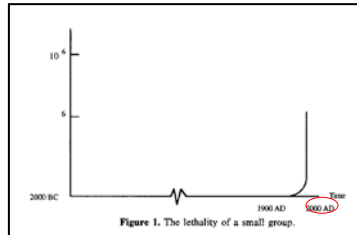
## The NRC Report on Dual-Use Research

Report of the National  
Research Council of the  
National Academies:

*"Biotechnology  
Research in an Age of  
Terrorism: Confronting  
the Dual Use Dilemma"*  
(October 2003)



# Carlson Meets Shubik...and Fink



Martin Shubik, Terrorism, Technology, and the Socioeconomics of Death

=



## The Fink Report in Context

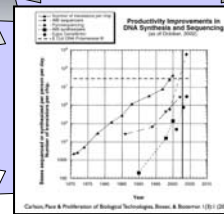
2000 – Mouse pox and IL-4



9-11-01



10-4-01

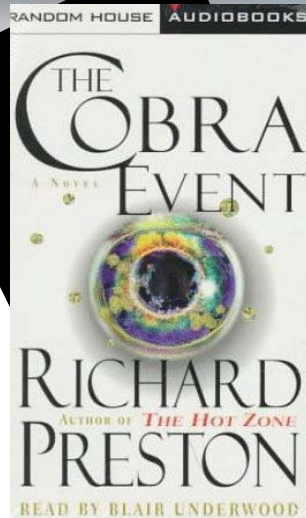


2002 – Synthesis of Poliovirus  
2002 – Smallpox "SPICE"





## DoJ and FEMA ....pre DHS



"Crisis Management"

"Consequence Management"

1998

## 27 September 1999

### New York Outbreak Gets New Diagnosis

*West Nile Fever Has Made Its U.S. Debut*

By LYNNE DUKE  
*Washington Post Staff Writer*

NEW YORK, Sept. 27—The mosquito-borne viral outbreak that has killed four people and sickened at least 33 others in the New York City area has been reclassified as a rare African and Asian virus that never before has been diagnosed in the Western Hemisphere.

have turned up in Connecticut, no human cases have been reported there.

The New York metropolitan area, and parts of Connecticut where dead crows were diagnosed, now have become laboratories for scientists tracking the course of a virus that first surfaced in Africa 60 years ago, became endemic to Asia and surfaced in Europe three years ago, but never had

Courtesy: Tracey McNamara

# Bioterrorism: *The “Unique” Threat ?*

- Dual-use facilities, equipment and people
  - Lack of real time detection capabilities
  - Extremely small work-space and weapon
  - Difficult forensics and potentially no attribution
- } *BW* } *BT*

*Intent is very important...*

## “No technical solution...”

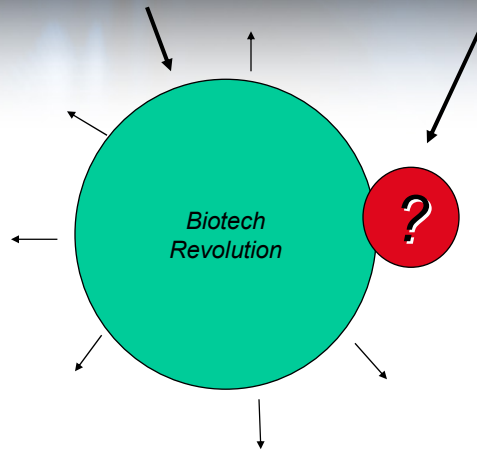
“There is no technical solution to the problem of biological weapons. It needs an ethical, human, and moral solution if it's going to happen at all. Don't ask me what the odds are for an ethical solution, but there is no other solution.”

*<Then Dr. Lederberg paused and said,>*

“But would an ethical solution appeal to a sociopath?”

*The New Yorker 1998*

# Capability and Intent



*Intent is all important, but we must engage the humans with the capability...*

## The Bio-risk Spectrum

Chronic  
Disease

Infectious  
Disease

Misuse of  
Dual-use  
Technologies

Biological  
Terrorism

Biological  
Warfare

*Japanese attacks on China during  
WWII... "tens of thousands" died  
(testing and use...)*

# The Bio-risk Spectrum

Chronic  
Disease

Infectious  
Disease

Misuse of  
Dual-use  
Technologies

Biological  
Terrorism

Biological  
Warfare

*5 deaths in 2001 (Anthrax letters)*

*16 deaths using food intoxication  
1932-present*

# The Bio-risk Spectrum

Chronic  
Disease

Infectious  
Disease

Misuse of  
Dual-use  
Technologies

Biological  
Terrorism

Biological  
Warfare

*No known intentional deaths*



# The Bio-risk Spectrum

Chronic  
Disease

Infectious  
Disease

Misuse of  
Dual-use  
Technologies

Biological  
Terrorism

Biological  
Warfare

**ca. 17,000,000 deaths annually**

*Influenza and Respiratory Disease  
HIV/AIDS  
Diarrheal Disease  
Tuberculosis  
Vaccine-preventable childhood disease  
Malaria*

# The Bio-risk Spectrum

Chronic  
Disease

Infectious  
Disease

Misuse of  
Dual-use  
Technologies

Biological  
Terrorism

Biological  
Warfare

**35,000,000 deaths annually**

*Cardiovascular (heart and stroke)  
Cancer  
Chronic Respiratory Disease  
Diabetes*

# The Bio-risk Spectrum

Chronic  
Disease

Infectious  
Disease

Misuse of  
Dual-use  
Technologies

Biological  
Terrorism

Biological  
Warfare

- We were focused on this end of the spectrum...

# The Bio-risk Spectrum

Chronic  
Disease

Infectious  
Disease

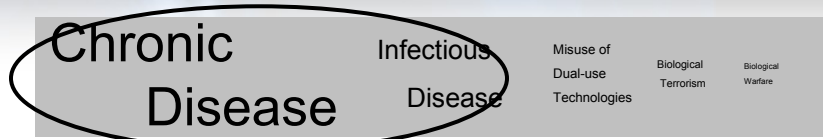
Misuse of  
Dual-use  
Technologies

Biological  
Terrorism

Biological  
Warfare

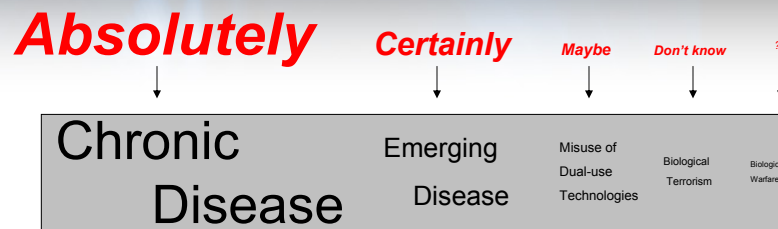
- We have shifted to the left with H5N1

# The Bio-risk Spectrum

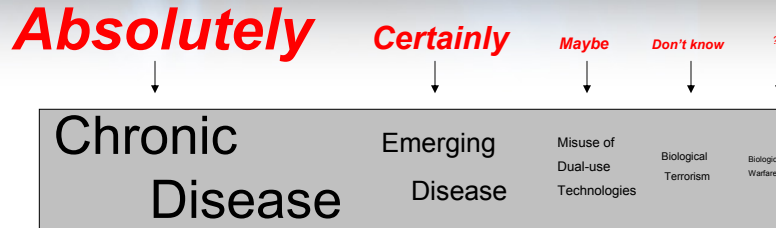


- The distribution of impact is not uniform worldwide
- There is 'room for all of us' on the spectrum

# The Bio-risk Spectrum



# The Bio-risk Spectrum



**Hypothesis:** The **PROCESS** of working together, **INTERNATIONALLY**, **ACROSS THE SPECTRUM** of biological challenges will:

- 1) **Reduce the impact** of the left end of the spectrum,
- 2) **reduce the likelihood** of the right half of the spectrum,
- 3) **undermine the popular support for terrorism** and
- 4) **provide some transparency** regarding intent by the few...

# Sentiment Toward U.S.

Indonesia tsunami aid:

(Heritage Foundation)

	'03	'05
Support for U.S.	23%	40%
Support for bin Laden	58%	23%

Pakistan earthquake aid:

(Pew Trust)

	May '05	Nov '05
Favorable toward U.S.	23%	46%
Support for bin Laden	51%	33%

**81% said US earthquake relief important in opinion**

# The Bio-risk Spectrum

**Absolutely**



Chronic  
Disease



**Biosafety**

**Certainly**



Emerging  
Disease



**Biosafety**

**Maybe**



Misuse of  
Dual-use  
Technologies



**Biosafety**

**Don't know**



Biological  
Terrorism



**Biosafety**

**?**



Biological  
Warfare



*...a neutral wedge into a sometimes contentions spectrum*

## Biosafety ↔ Biosecurity



- Facilities
- Equipment
- Procedures



- Facilities
- Equipment
- Intent to harm

Biosafety plays a dual-use role in security

- Its intended purpose (technical)
- As 'common ground' (behavioral)



*We're all in this together...*



TIME (Europe) April 14, 2003