



Hacking Comes of Age: Climategate, Cyber-Espionage & iWar  
A University Lecture Series Panel

***Carnegie Mellon University,  
Pittsburgh, PA, March 18, 2010***

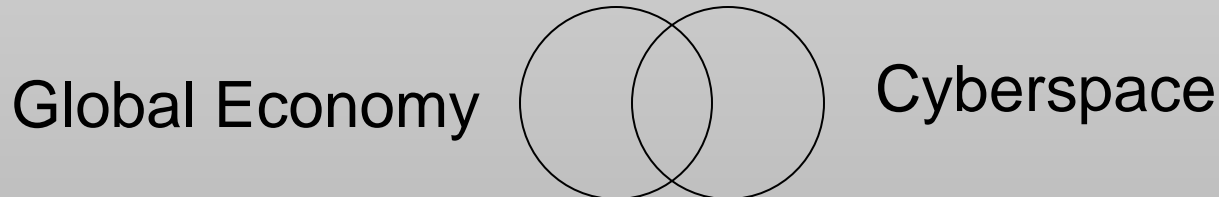
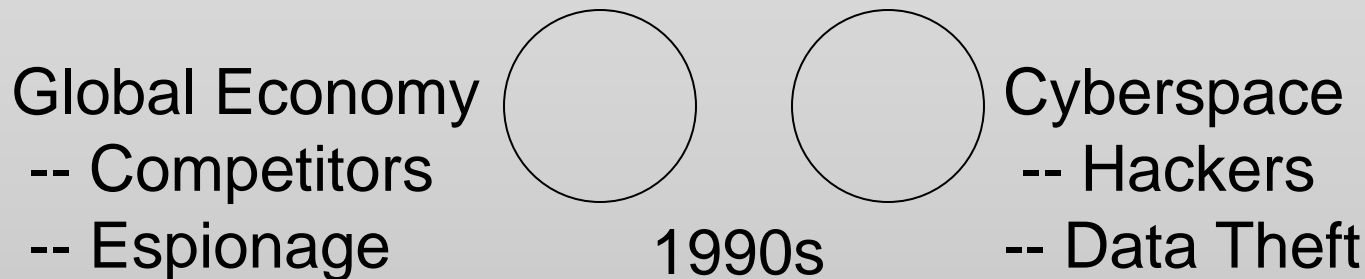
## For the Last 15 Years ...

- To understand cyber risks & threats, you should pay as much attention to front page headlines of Financial Times, Yomiuri Shimbun, Der Spiegel, Asia Times, etc. as you pay to patch bulletins, virus signature updates, and IT security news media
- Not just how, but who, why & when
- 15 years of living in denial ... first, “just juvenile hackers,” now “just cyber criminals”

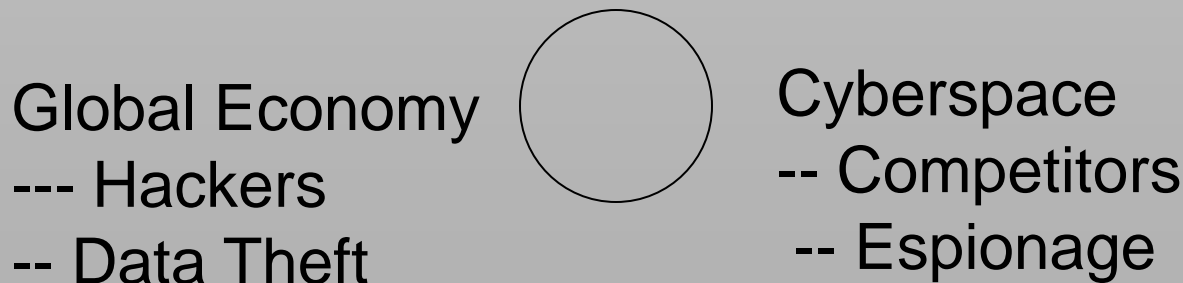


# Global Economy & Cyberspace Evolve & Increasingly Interpenetrate

1980s

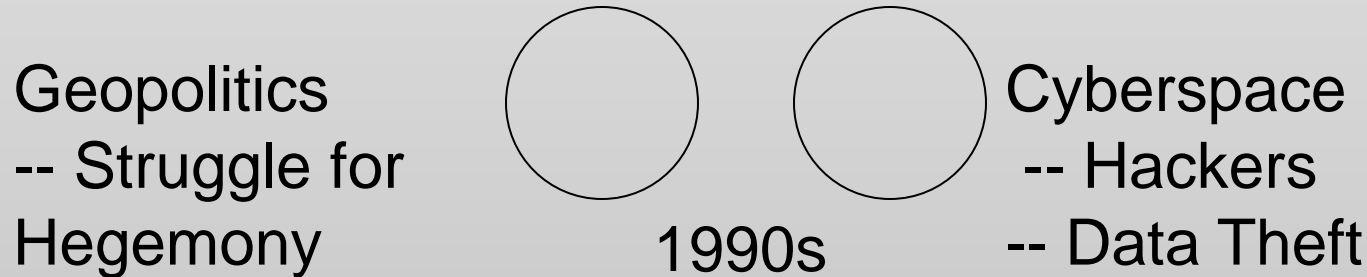


21st Century

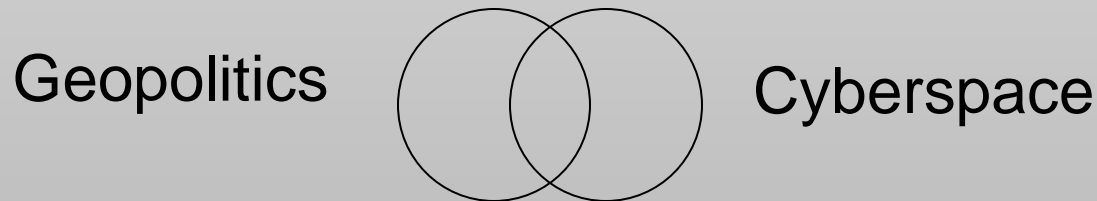


# Not Just the Global Economy ... Geopolitics Permeates Cyberspace

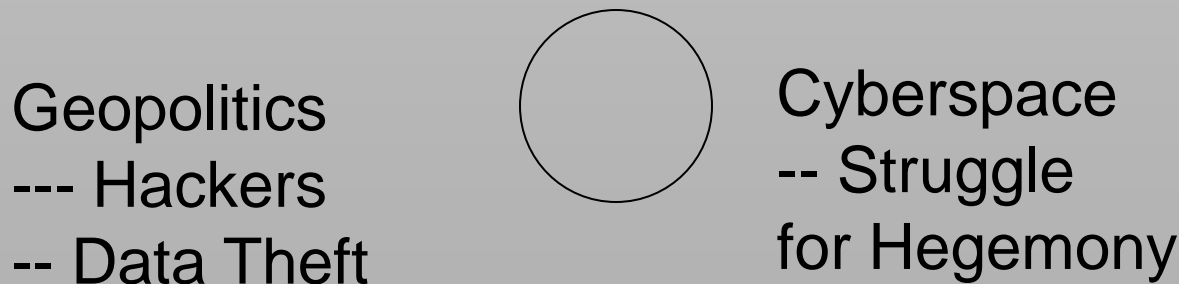
1980s



1990s



21st Century



# Geopolitical & Economic Struggle in Cyberspace – No Longer “What If ...”

- **“Climategate”**

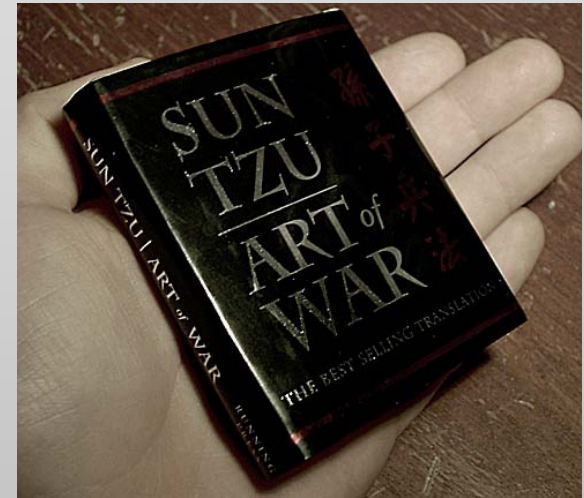
- *Climate emails hacked by spies: Interception bore hallmarks of foreign intelligence agency, says expert, [Independent, 2-1-10](#)*

- **China-Google**

- *Chinese authorities behind Google attack, researcher claims: Forensics expert who examined malware believes it's too good to have come from independent hackers, [Computerworld, 1-15-10](#)*

- **Georgia, Estonia**

- *Georgia blogger blames Russia for mass cyber attack, [Sydney Morning Herald, 8-8-09](#)*
- *In Estonia, what may be the first war in cyberspace, [New York Times, 5-28-07](#)*



## *Consider the implications of these economic news stories ...*



- **China Economy to Overtake U.S. by 2035, Research Institute Says, [Bloomberg, 7-9-08](#)**
- **China The 1.4 Trillion Dollar Question**
  - *“... the vast trade surplus—\$1.4 trillion and counting, going up by about \$1 billion per day—that the Chinese government has mostly parked in U.S. Treasury notes...” [Atlantic Monthly, Jan-Feb. '08](#)*
- **China Corners Market in a High-Tech Necessity**
  - *China supplies about 95 percent of world's consumption of “rare earths” IHT, 1-22-06*

***Consider the implications of these economic news stories ...***



- Economic Tensions Flair Between the U.S. & China, [NPR, 3-17-10](#)
- China losing appetite for U.S. debt, [FT, 2-16-10](#)
- China Tightens Grip on Rare Minerals, [NYT, 8-31-09](#)
- U.S. Clash w/ China of Currency Manipulation Heats Up, [Market News, 3-17-10](#)
- U.S.-China trade imbalance not sustainable: Locke, [Reuters, 7-15-09](#)

*In relation to these cyber security news stories ...*



- **China's global cyber-espionage network GhostNet penetrates 103 countries**  
[Telegraph, 3-29-09](#)
- **More Congressional Computers Hacked from China** [The Hill, 6-21-08](#)
- ***Almost half of malicious sites tied to 10 networks***
  - *6 of 10 are Based in China* [The Register, 6-24-08](#)
- **China Emerges As Leader in Cyberwarfare**
  - *Accused of Hacking Pentagon & Both British & German governments* [CSM 9-14-07](#)

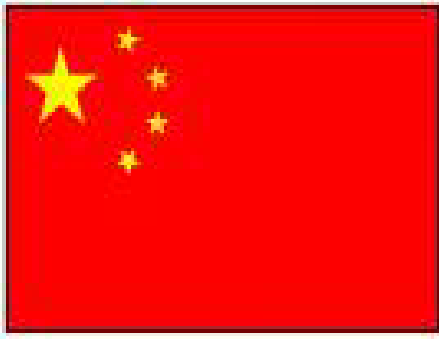


## *In relation to these cyber security news stories ...*



- **PRC is a decade into a sweeping military modernization**
  - *A major element of this modernization effort, known as informationization, is guided by the doctrine of fighting “Local War Under Informationized Conditions,” i.e., the People’s Liberation Army’s efforts to develop a fully networked architecture capable of coordinating military operations on land, in air, at sea, in space and across the electromagnetic spectrum...* [U.S. - China Economic and Security Review Commission, 10-22-09](#)

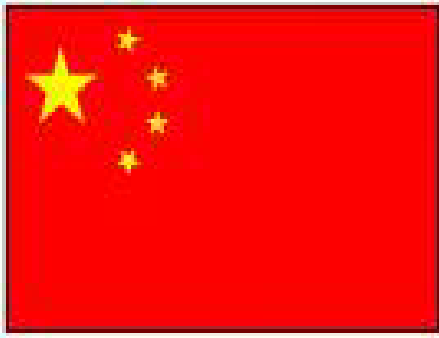
*In relation to these cyber security news stories ...*



- **China bugs and burglies Britain**

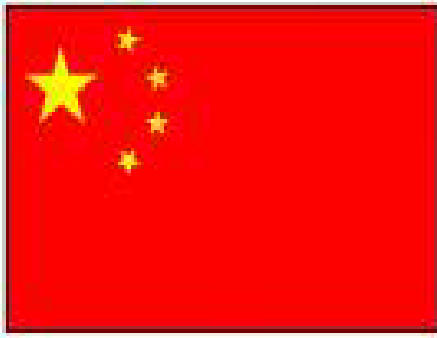
- *MI5 has accused China of bugging and burgling UK business executives and setting up “honeytraps” in a bid to blackmail them into betraying sensitive commercial secrets ... In 2007 Jonathan Evans, the director-general of MI5, had written privately to 300 chief executives of banks and other businesses warning them that their IT systems were under attack from “Chinese state organisations”. [Times \(London\), 1-31-10](#)*

## *In relation to these news stories ...*

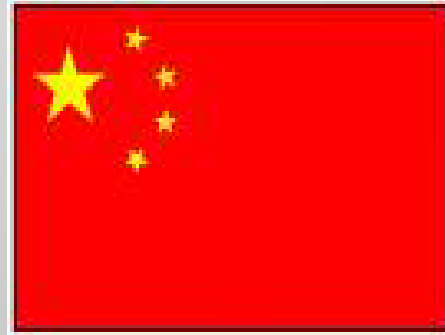


- **China's expansion of economic espionage boils over**
  - *If you read [Google's explanation](#) about why it threatened to withdraw from China, you might think it's all about a recent Chinese cyber-attack and Google's anger over being made complicit in the persecution of human rights activists. But cyber experts and China hands alike point to a much broader issue: The Chinese government has adapted the tactics it has used for military cyber espionage for corporate purposes and is now using them on a wide scale. [Foreign Policy, 1-14-10](#)*

## *In relation to these news stories ...*



- **U.S. electricity grid could suffer cascading blackouts from small attacks**
  - *A Chinese researcher has discovered weaknesses in the U.S. electricity grid that could enable attacks causing cascading blackouts by attacking relatively small parts of the network ... The U.S. has been increasingly worried about the security of its electricity grid following congressional testimony, and recent reports that both China and Russia have already placed malware at critical points in the grid. [Info Security, 9-16-09](#)*



- ***18<sup>th</sup> & 19<sup>th</sup> Century Empire was built largely on Sea Power***
- ***20<sup>th</sup> Century Empire was built largely on Air Power***
- ***Will 21<sup>st</sup> Century Empire be won with Cyber Power?***

# Warnings Unheeded, Lessons Unlearned

## The Problem Isn't Technical ...

- The USA has no national industrial policy, energy policy, climate policy ... so it is no surprise that we have no national cyber security policy
- All of us have seen the images of shuttered factories & read the statistics on job loss to outsourcing, but we are not seeing the invisible cost ... the theft of the intellectual property (i.e., trade secrets, etc.) on which our competitive edge relies



## Security As A Culture, Not A Checklist

- **Intelligent Approach:** Intelligence and Risk Analysis must look at cyber security from the outside in, as well as from the inside out; e.g., dig into the front page stories and look for the cyber security implications, study the geopolitical and economic trends and look for the cyber security dimensions; do not limit your thinking to bits and bytes, or policies and standards, or attacks and countermeasures.
- **Holistic Approach:** Cyber Security, Physical Security & Personnel Security must be integrated – at both the operational and organizational levels
- **Empowerment:** Security Awareness & Education must be revolutionized – to communicate holistic approach at all levels, and engage and empower workforce.
- **Real Governance:** Board room must conduct meaningful oversight of cyber privacy and security
- **Harnessing the Future to Secure the Present:** Academic research into new technologies must receive unprecedented funding to lead in the development of strategies and solutions for mobility, secure home computing, critical infrastructure protection and other vital areas of concern

## Richard Power in CSO Magazine On-Line

- [Industrial Espionage: Secrets Stolen, Fortunes Lost](#)
- [To Govern or Not to Govern](#)
- [A Corporate Strategy for Coping with the Climate Crisis](#)
- [This Profound Moment in Cybersecurity, & Three Challenges that Frame It](#)
- [Red Pill? Blue Pill? Beyond Fear, Doubt, and “Broken.” Ruminations on the Intersection of Inner Space and Cyber Space](#)
- [The Digital Trail of the Maltese Falcon: Private Investigations in the Information Age](#)
- [Corporate Espionage: Tomorrow Arrived Yesterday](#)



# Contact Information

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