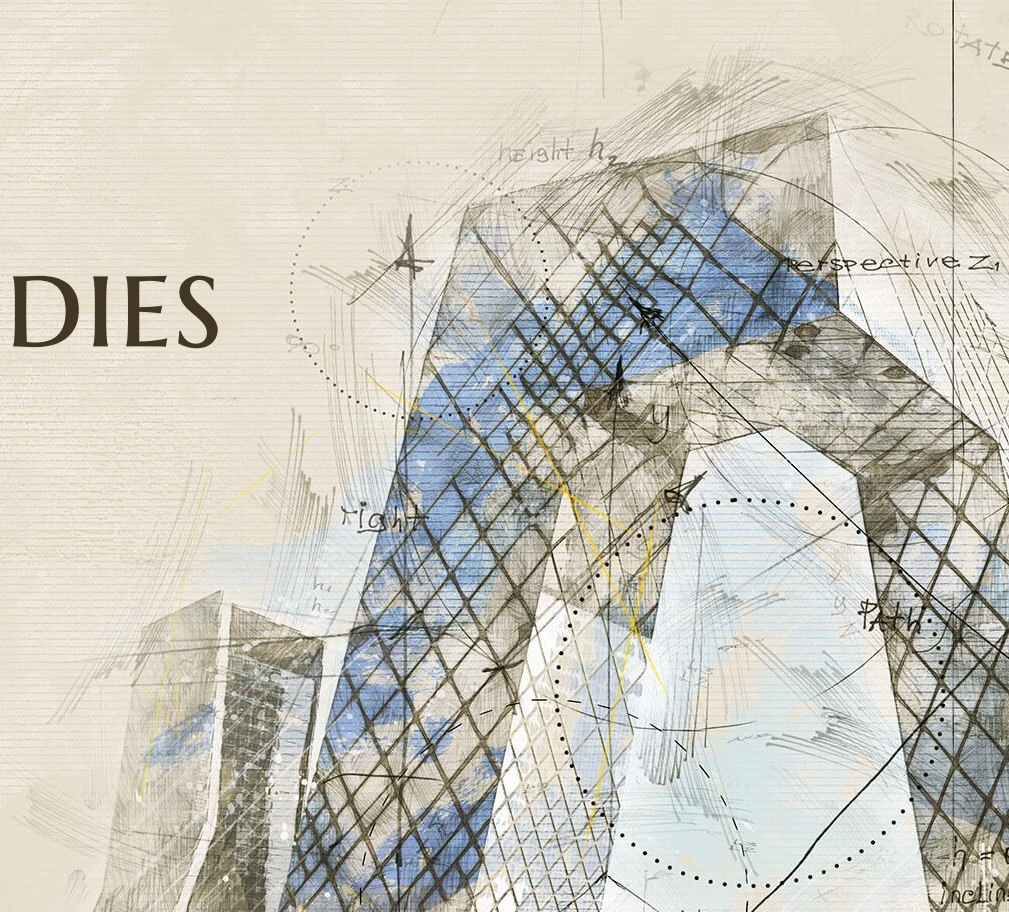


MILITARY AND STRATEGIC STUDIES

ITSC 201 Winter 2021



CYBERWAR



Here at the beginning

A search for models

Arguments over the
fundamentals

A very big basket

ANALOGIES AND THEIR DISCONTENTS

A very useful tool
But:

- ◆ They can limit thought, not enhance understanding



Unknown. (December 7, 1941). The *USS Arizona* burning after the Japanese attack. [Online Image]. Retrieved April 2021 from [https://commons.wikimedia.org/wiki/File:The_USS_Arizona_\(BB-39\)_burning_after_the_Japanese_attack_on_Pearl_Harbor_-_NARA_195617_-_Edit.jpg](https://commons.wikimedia.org/wiki/File:The_USS_Arizona_(BB-39)_burning_after_the_Japanese_attack_on_Pearl_Harbor_-_NARA_195617_-_Edit.jpg)

ANALOGIES AND THEIR DISCONTENTS

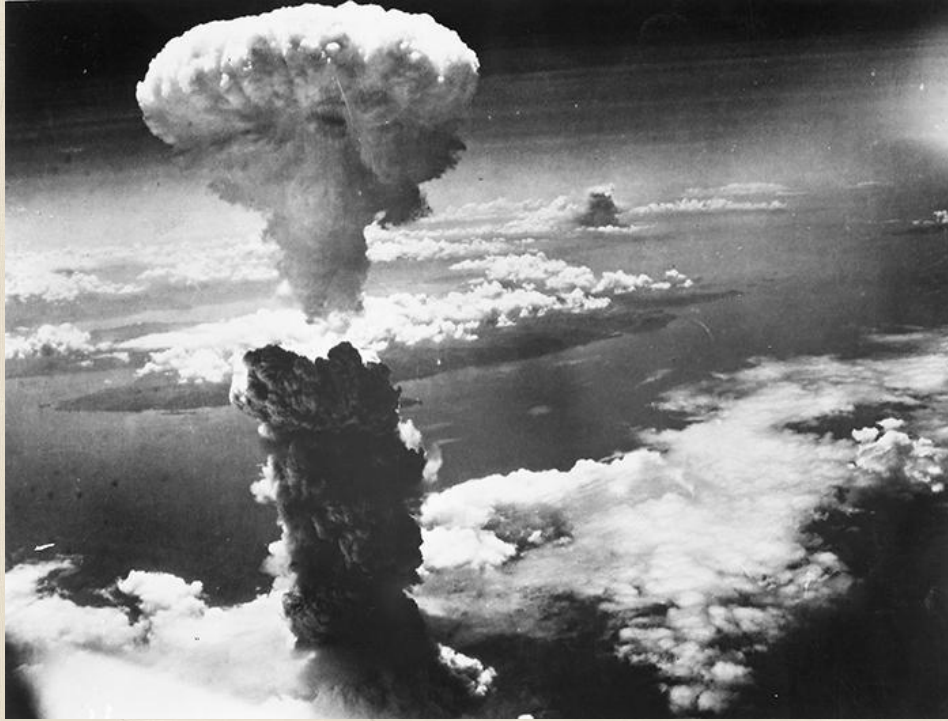


A very useful tool
But:

- ◈ The underlying metaphor may be flawed or inappropriate

Unknown. (December 7, 1941). The *USS Arizona* burning after the Japanese attack. [Online Image]. Retrieved April 2021 from [https://commons.wikimedia.org/wiki/File:The_USS_Arizona_\(BB-39\)_burning_after_the_Japanese_attack_on_Pearl_Harbor_-_NARA_195617_-_Edit.jpg](https://commons.wikimedia.org/wiki/File:The_USS_Arizona_(BB-39)_burning_after_the_Japanese_attack_on_Pearl_Harbor_-_NARA_195617_-_Edit.jpg)

THE NUCLEAR ANALOGY



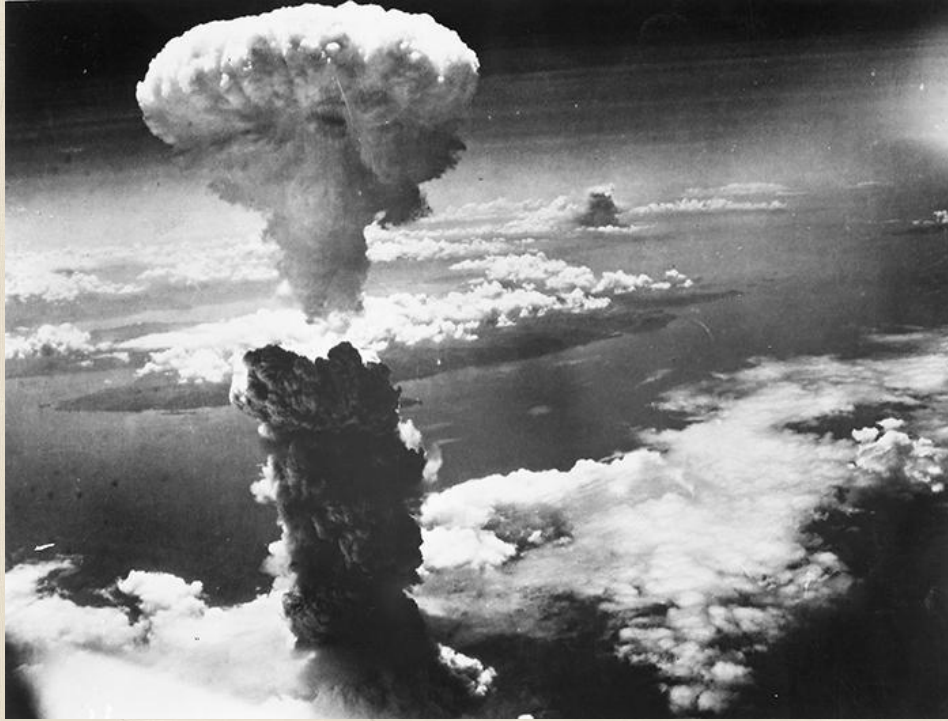
An attractive model

But

- ◊ Deterrence
- ◊ Attribution
- ◊ Cost

USAAF. (August 1945). Atomic Bombing of Nagasaki. [Online Image]. Retrieved November 2017 from <https://thebulletin.org/multimedia/the-troubled-nagasaki-bombing-mission/>

THE NUCLEAR ANALOGY



Non-proliferation

Perishability

Useful primarily to
accentuate the
differences

USAAF. (August 1945). Atomic Bombing of Nagasaki. [Online Image]. Retrieved November 2017 from <https://thebulletin.org/multimedia/the-troubled-nagasaki-bombing-mission/>

THE GUERRILLA WAR ANALOGY

Wither the people?

A war of networks

The Tao of the
guerrilla

Safe harbors



THE SUBMARINE ANALOGY

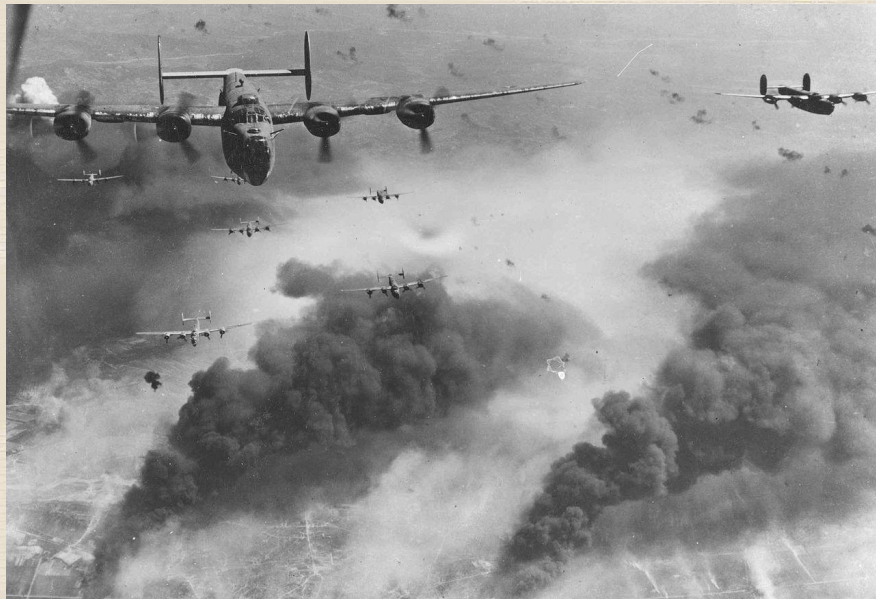


The happy time

A familiar concern

Sufficient, not
masterful

THE AIR WAR ANALOGY



The theoretical
parallels

The same hard road?

THE RAILROAD ANALOGY



Bundesarchiv, Bild 146-1094-022-10A
Foto: Tellmann, Oscar | August 1914

The early
historiography

A brief history

The key instabilities

The wasting German
advantage

O. Tellmann. (August 1914). "Truppentransport, August 1914." [Online Image]. Retrieved October 15, 2018 from https://commons.wikimedia.org/wiki/File:Bundesarchiv_Bild_146-1994-022-19A_Mobilmachung_Truppentransport_mit_der_Bahn.jpg

THE RAILROAD ANALOGY

The correspondences

Compressive
technologies



O. Tellgmann. (August 1914). "Truppentransport, August 1914." [Online Image]. Retrieved October 15, 2018 from https://commons.wikimedia.org/wiki/File:Bundesarchiv_Bild_146-1994-022-19A_Mobilmachung,_Truppentransport_mit_der_Bahn.jpg

THE RAILROAD ANALOGY



Bundesarchiv, Bild 146-1094-022-10A
Foto: Tellgmann, Oscar | August 1914

Important
differences

The inscrutability of
cyberpower

O. Tellgmann. (August 1914). "Truppentransport, August 1914." [Online Image]. Retrieved October 15, 2018 from https://commons.wikimedia.org/wiki/File:Bundesarchiv_Bild_146-1994-022-19A,_Mobilmachung,_Truppentransport_mit_der_Bahn.jpg

THE SECURITY DILEMMA



The Melian model

A well-known
dilemma

A Cold War example

S. Kubrick. (1964). Dr. Strangelove. [Online Image] Retrieved November 27, 2018 from <https://www.theverge.com/2014/1/24/5340768/the-disturbing-truth-of-dr-strangelove>

CYBERWAR BLUES



The fiction

The reality

Attrition in cyberspace

The plasticity of
posture

CYBERWAR BLUES



The problem with
intelligence

Not attacking, just
camping

The problem with fear

CYBERWAR BLUES



The perils and promise
of asymmetry

The mushrooming
infosecurity crisis

Shared hardware,
unbalanced
vulnerabilities

REFERENCES

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