

A History Based Theory of Wargaming

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United States Air Force**

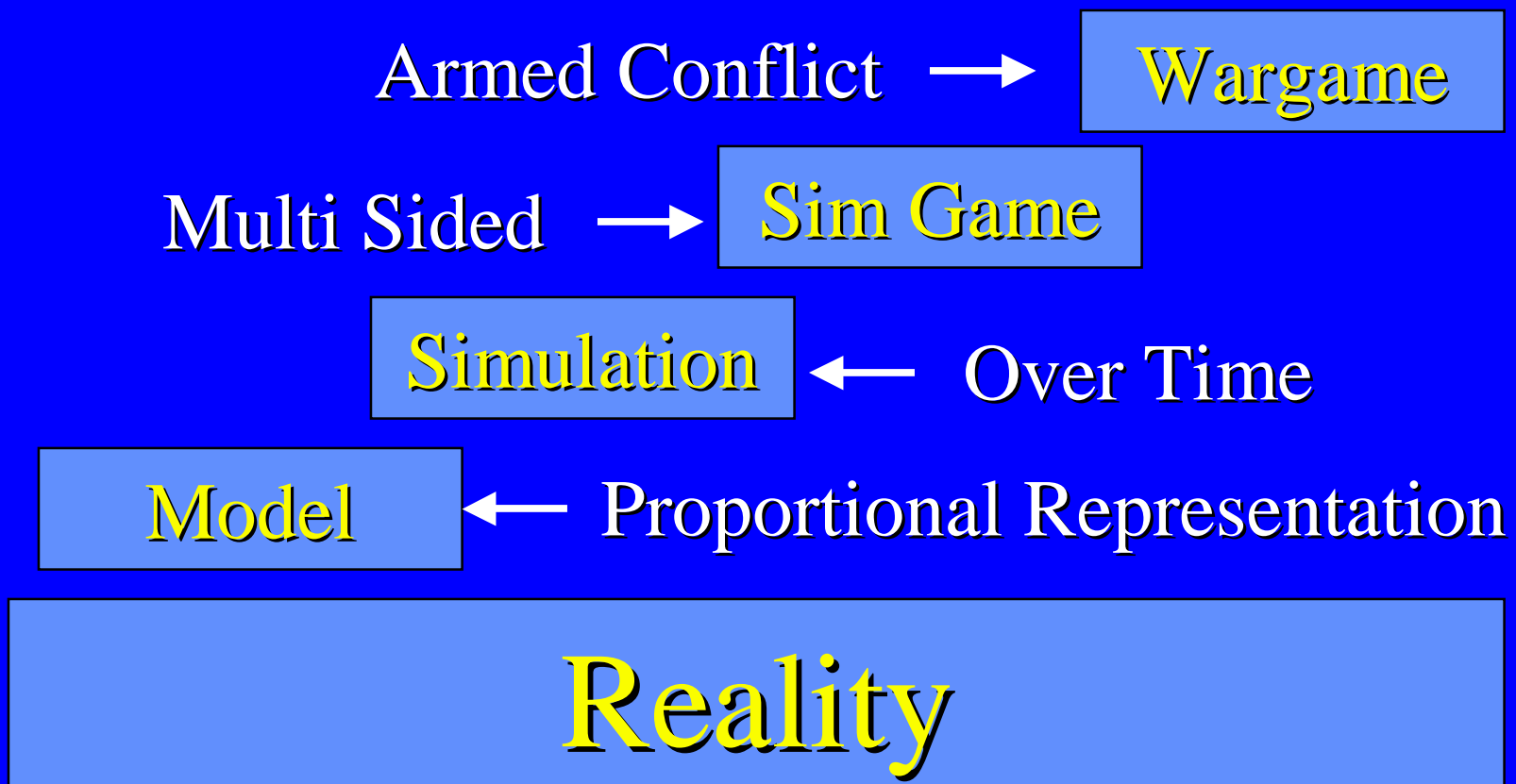
Biography

- ↖ Lt Col USAFR AF/XOOC (CHECKMATE)
- ↖ Professor of Wargaming and Campaign Planning, Air Command and Staff College
- ↖ Co-author Gulf War Fact Book
- ↖ Originator of the Connections Conference
- ↖ Designer of Several Air Force Wargames
- ↖ Originator of the Commercial Wargames db

What is a War Game



What is a War Game



Why Study Wargaming?



Part of future mission and technology



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Provides insights into how
future adversaries may fight

Knowing the history of wargaming
provides a foundation for a process
to increase wargaming effectiveness.

The Strategy Cycle

a.k.a.
The Caffrey Loop

History

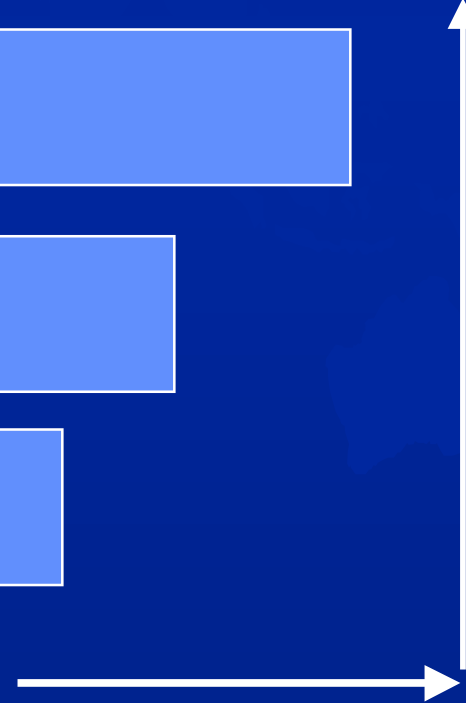


Theory

Doctrine

Strategy

War



The Strategy Cycle

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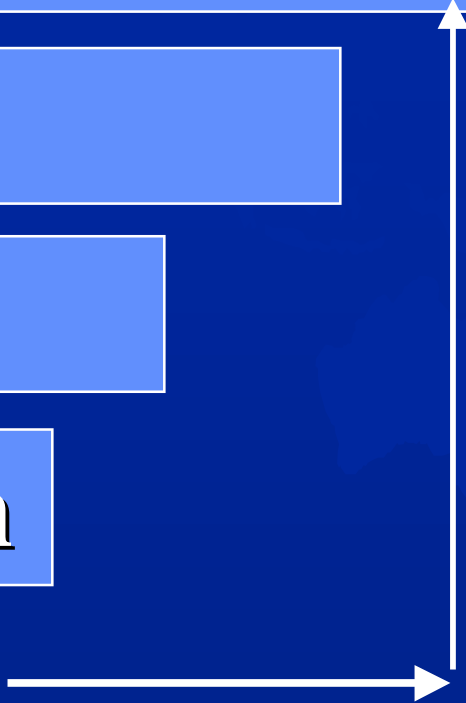
History of Wargaming

Lessons

Principles

Application

Observation



Themes

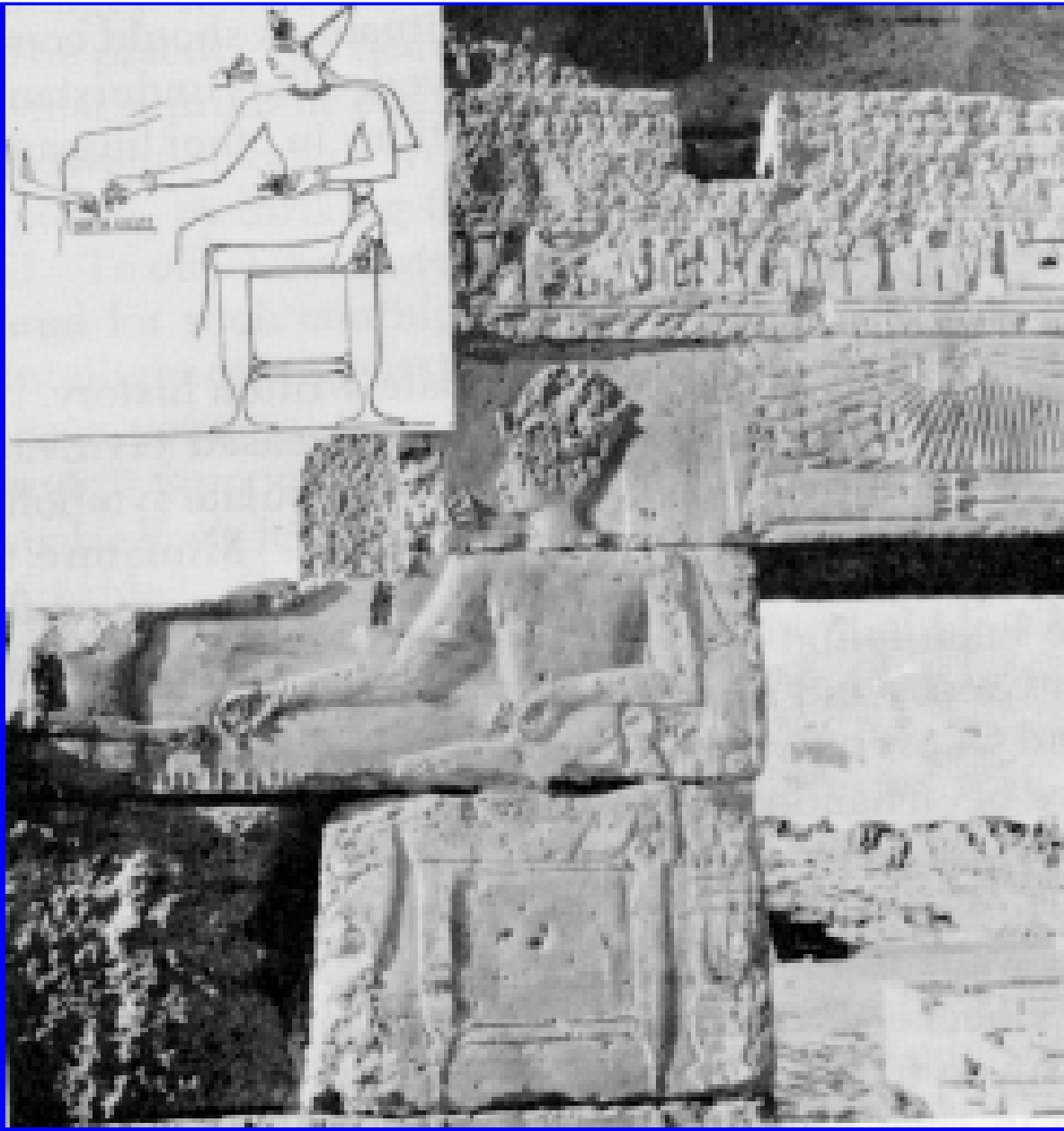
↪ Capabilities and Limitations

↪ Impact on History

↪ Wargaming and Democracy

In the Beginning

- ↪ It all started with language -
and toys
- ↪ The Royal Toys



In the Beginning

Egypt

Rome

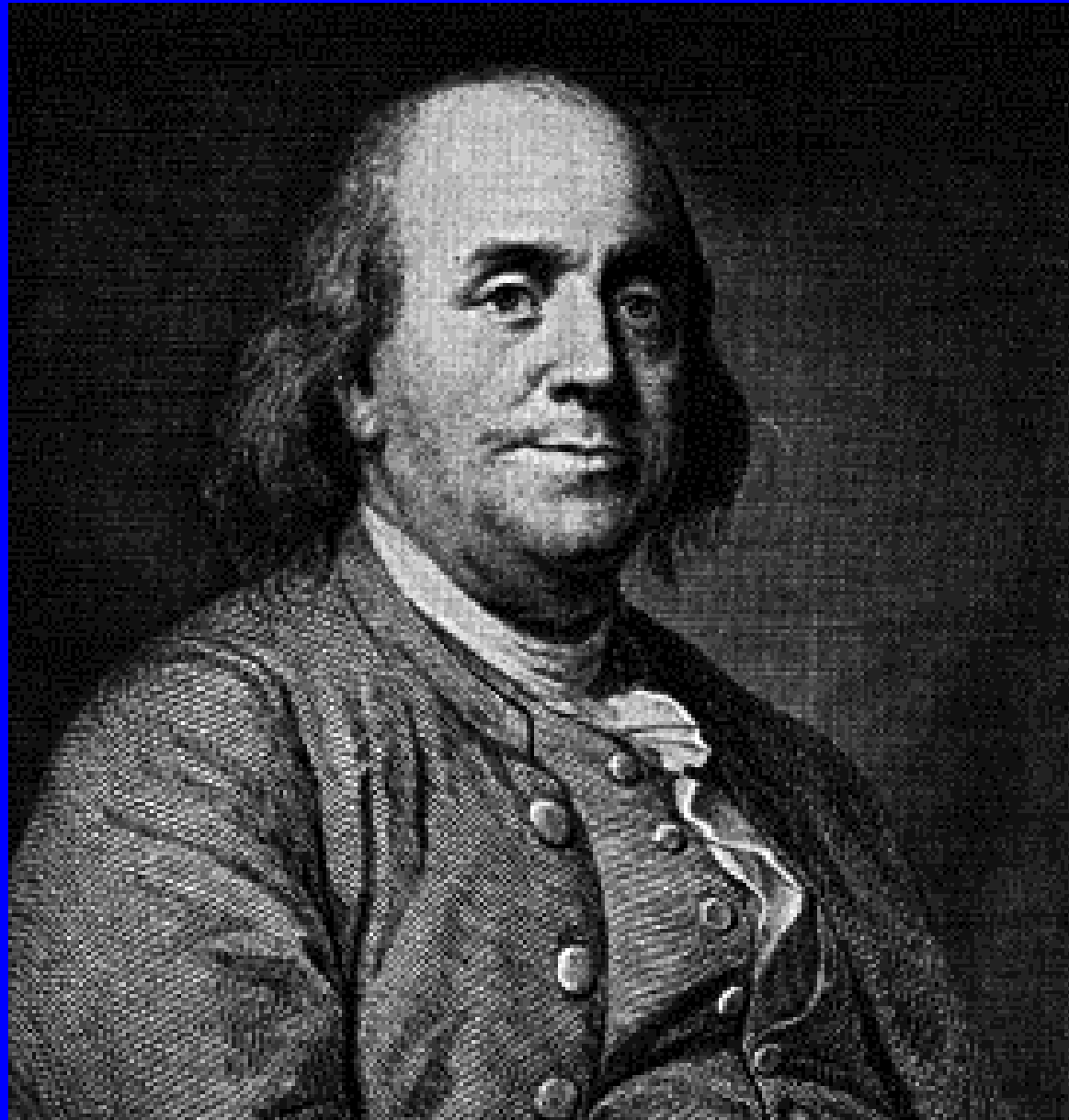
China

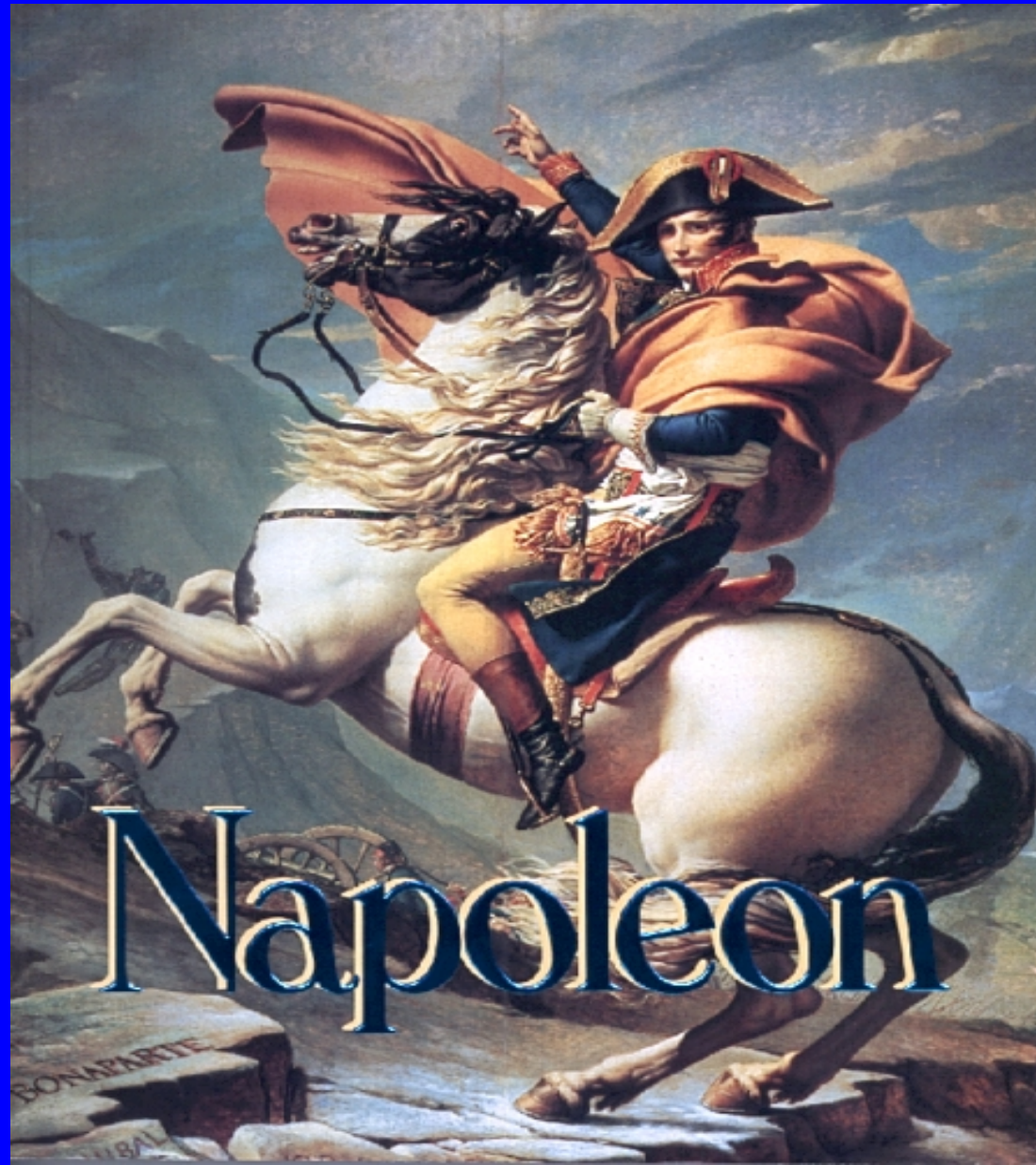
India

On The Brink



- ↪ Fredrick's use of maps
- ↪ Clerk models naval combat
- ↪ Abstract games grow less abstract:
 - ↪ 1664 Koenigspiel
 - ↪ 1780 Kriegschach
 - ↪ 1797 New Kriegspiel





The Origins of Modern Wargaming

- ◆ 1811 - Herr von Reisswitz - a base of sand

The Origins of Modern Wargaming

- ◆ 1811 - Herr von Reisswitz - a base of sand
- ◆ 1824 - Lieut. Reisswitz - the expanding circle



Moltke's Process

- ↪ Staff Rides
- ↪ Brain Storming
- ↪ Map War Game
- ↪ Field Exercise
- ↪ Deliberate Plan



World Wide Wargaming

1866

Austria-Hungary

1872 / 1883

Great Britain

1873

Italy

1874 / 1889

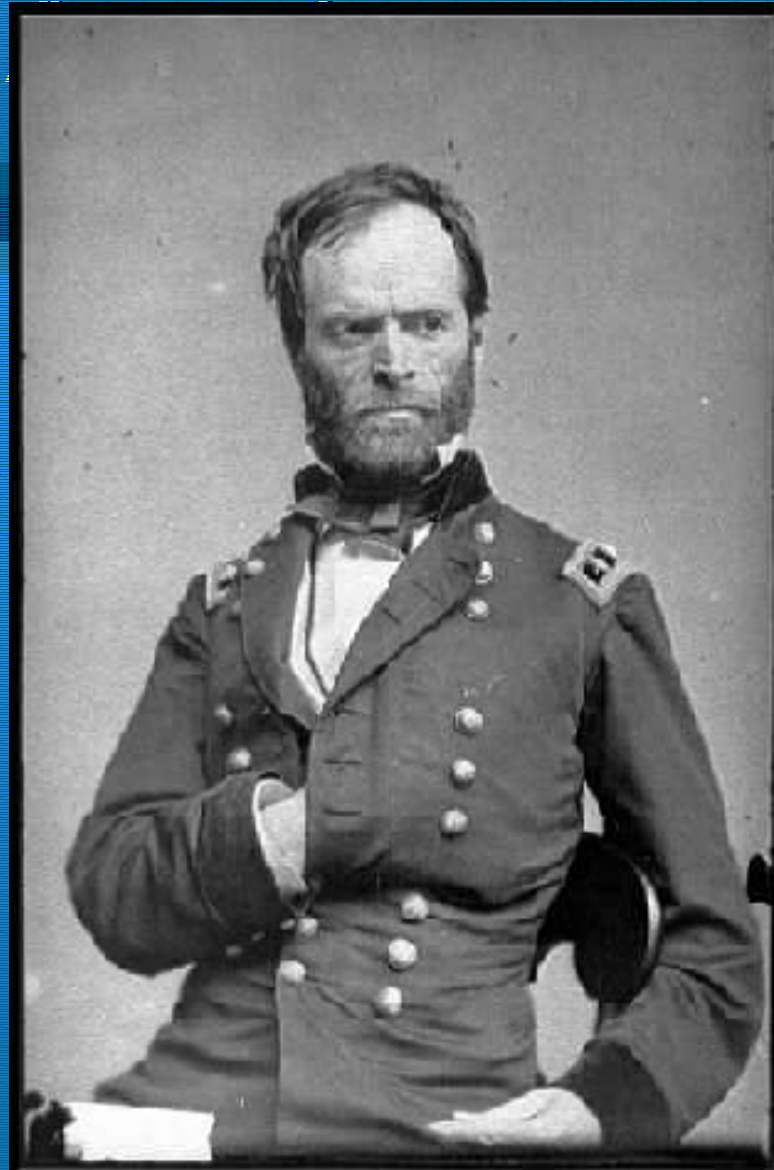
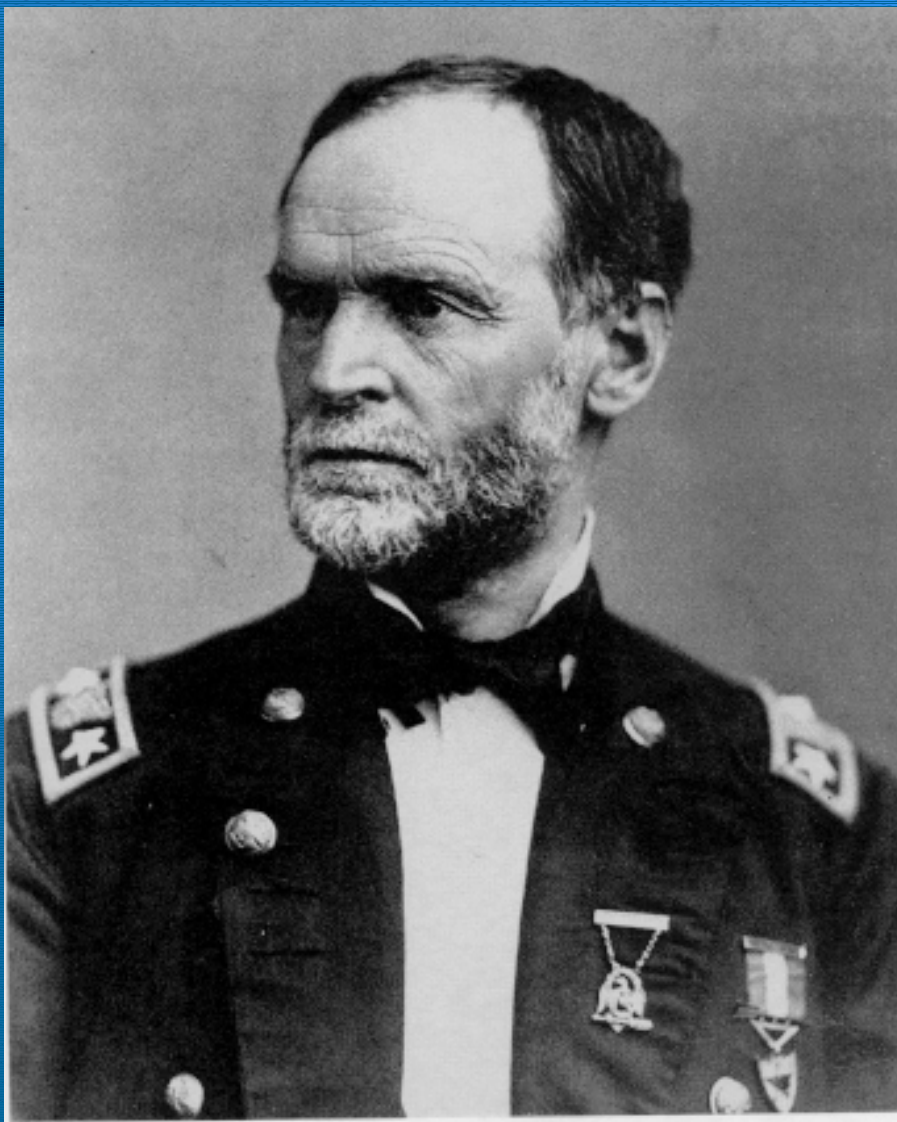
France

1820 / 1875 / 1905

Russia

secondary diffusion

Japan, Turkey, Latin Am.





↙ 1883 - Major Livermore

↙ 1886 - US Naval War College

Coming to America

- ↩ 1883 - Major Livermore
- ↩ 1886 - US Naval War College
- ↩ 1899 - US Army War College
 - ↩ Map Overlays
 - ↩ Orders Format

Innovation & Decline in Germany

↪ Innovation

**Morale
Factors**

**Free
War-
gaming**

↪ Decline

**Cmd
Influ-
ence**

**Face
Time**

Birth of Modern Civilian Wargaming

The Reserve Connection

↪ 1873- Wilkinson - one man's impact

↪ 1890s Delbrück - first duty of the new rulers

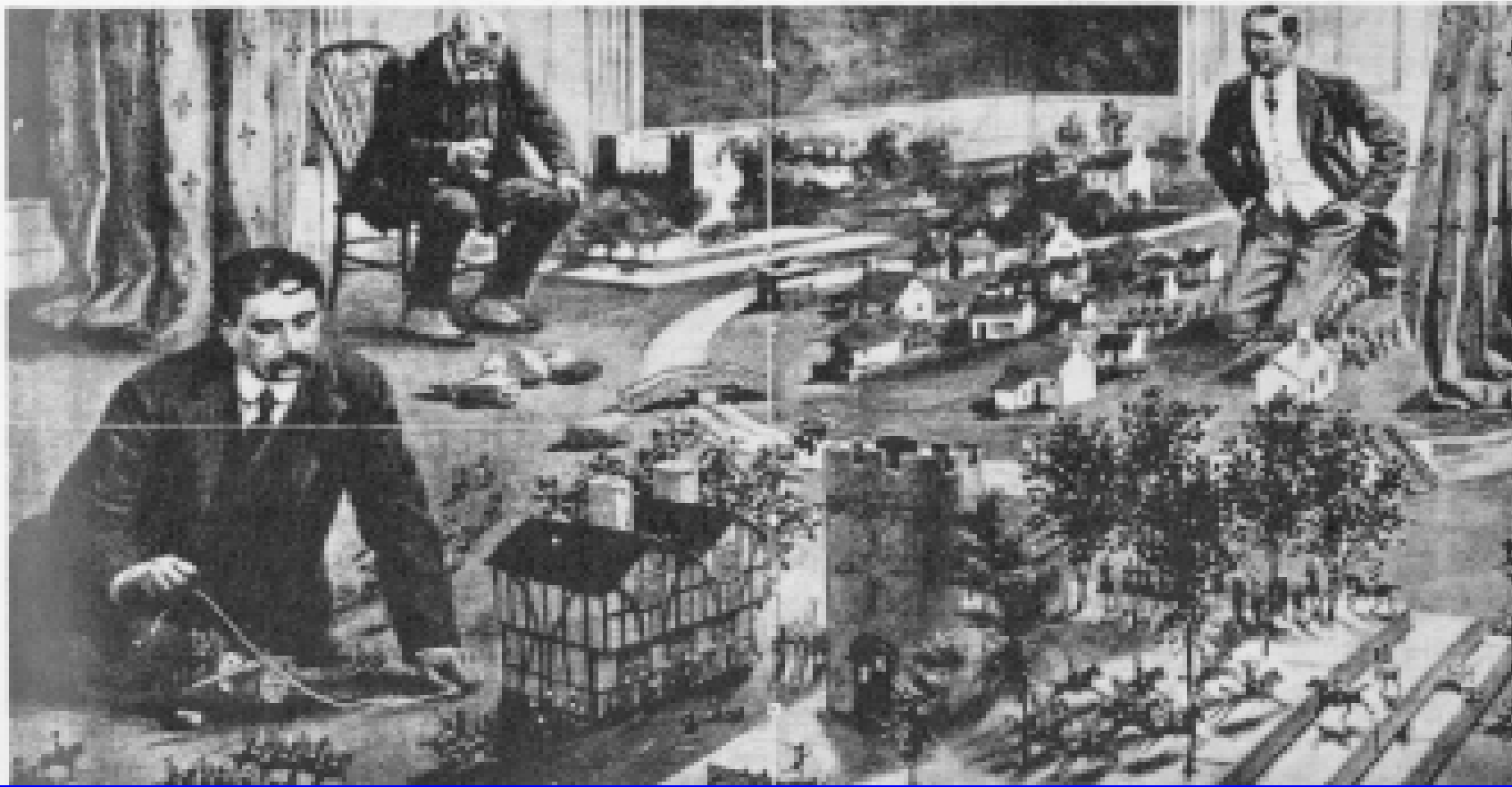
Birth of Modern Civilian Wargaming

The Popularizers



Birth of Modern Civilian Wargaming

The Popularizers



Wargaming the Great War

↪ Pre-war Wargaming

- 1905 The war games that shaped the war
- 1910s Moltke the Younger and the return of rigor
- 1914 The game that didn't change history

↪ Wargaming & the Great War

- The Peace offensive - the limits of “force on force” wargaming
- Edison and Lanchester - foreshadow OR

Inter War Wargaming

↪ Germany -

↪ Strategic - Innovation then Lapse

↪ Operational - Each service getting it right

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Theory

Doctrine

Strategy

Wargame



Inter-war Wargaming

↪ Germany - Strat decline / Operational RMA



US

Navy PME:

- Teach how to learn
- Accelerate MTR

Army: Learn nothing?

Air Corps: A false dawn



UK - Negative example



USSR - Victory through defeat

World War II

Germany

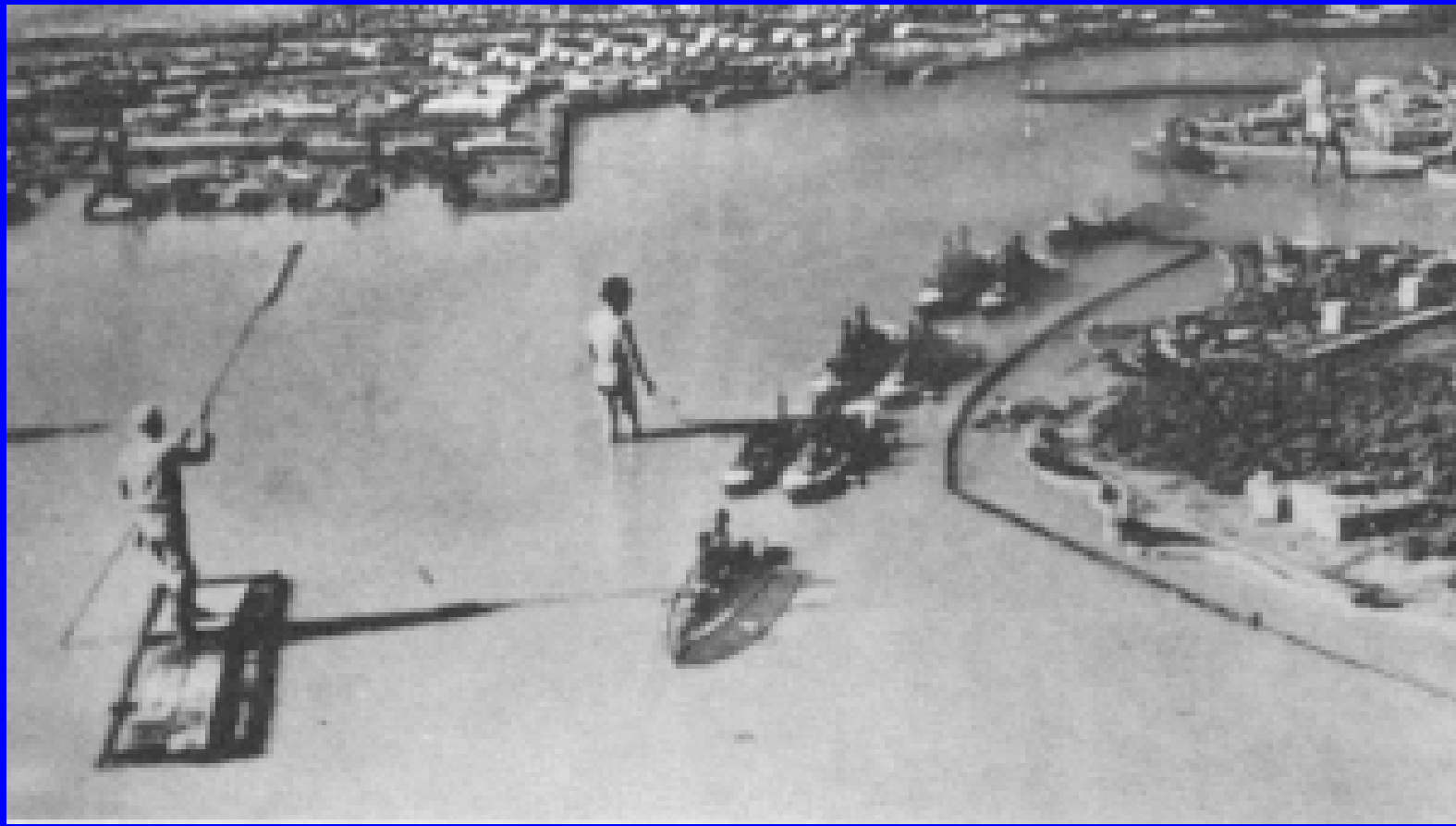
- Manstein makes his case
- Barbarossa - an accurate mistake
- Victory at Normandy - twice

World War II

 Japan

-  ● The Total War Research Institute

World War II

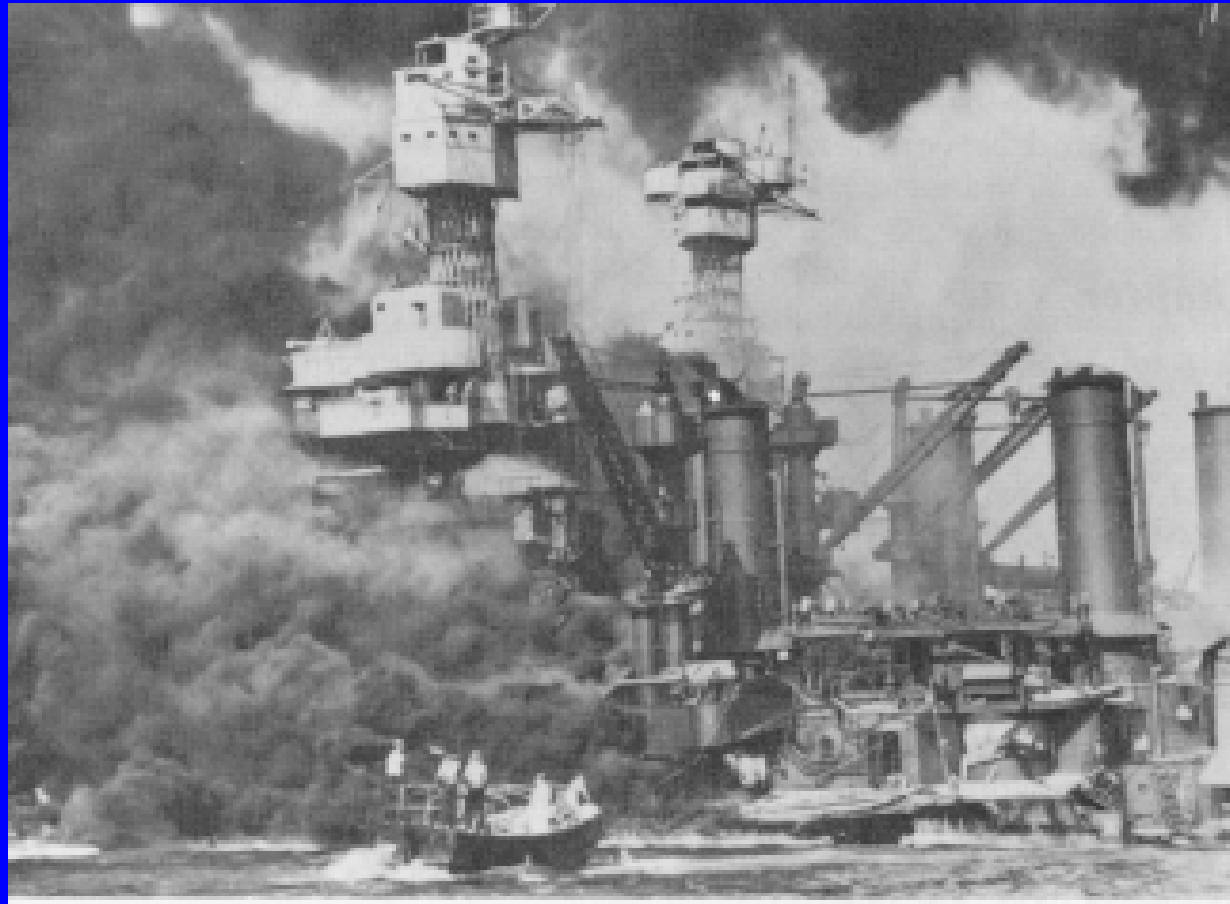


World War II

Japan

-  ● The Total War Research Institute
- Both attacks on Pearl Harbor

World War II



World War II

Japan

-  ● The Total War Research Institute
- Both attacks on Pearl Harbor
- Both battles of Midway
- Why did Japan keep on fighting

World War II

↪ UK

↪ From OR to walk throughs



12A7 Sir Henry Tizard and General Sir Bernard Montgomery, Oxford, March, 1944

World War II

↪ UK

↪ From OR to walk throughs

↪ US

↪ US Army Ground Forces - unknown

↪ US Army Air Forces - sorely missed

↪ USMC “eerie” success, then..

↪ Navy success - but ...

World War II

The war with Japan had been [enacted] in the game room here by so many people in so many different ways that nothing that happened during the war was a surprise, – absolutely nothing except the Kamikaze...”.

Fleet Admiral Chester Nimitz

Eclipse

Decline in the
study of war
at the war colleges

Rise of
deterrence &
the efficient DoD

Did „The Bomb“ make
wargames obsolete?

Korea seen as
an aberration

Why was Wargaming Reborn?

➤ The onset of the Cold War

➤ Credibility of computers

➤ O

➤ H

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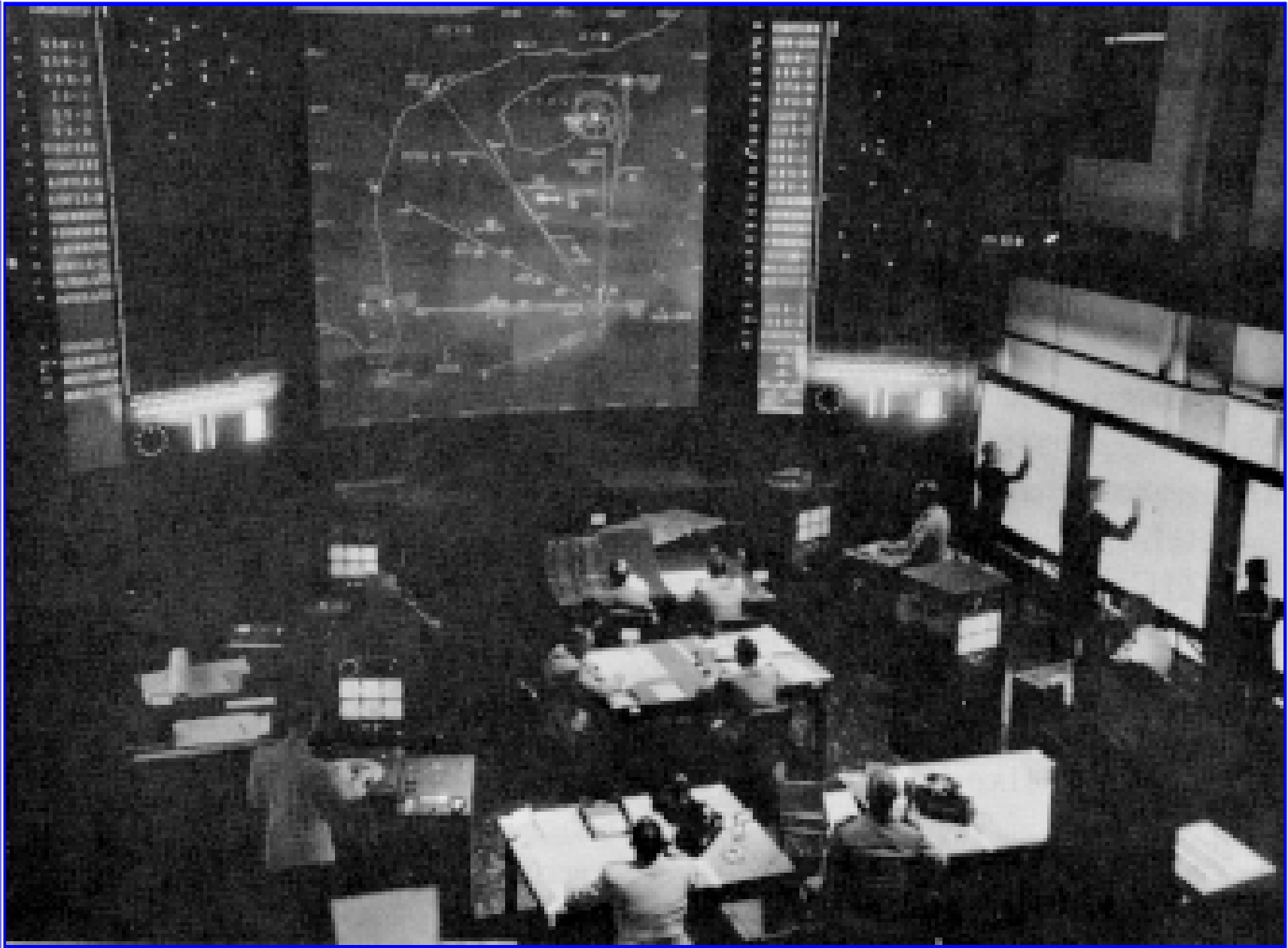
The obsolescence of war had been greatly exaggerated

The 1950s Wargaming Renaissance

↪ US

- ↪ Naval - “NEWS” from the NWC
- ↪ USMC - Landing Force War Game series
- ↪ Army - “Aggressors,” - at least a start
- ↪ Air Force - RAND & wargaming





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↪ International

↪ Soviet rigor

↪ UK OR

The 1960s Pentagon Games

↪ US

↪ Joint - Wargaming at the heart

↪ Naval - NWC goes to “WARS”

↪ Army - Air Mobile, making the case

↪ Air Force - (-) Skybolt, (+) PME WG

↪ International -

↪ UK & Canadian OR

Wargaming - The Vietnam War

↪ North Vietnam

- Soviet method of wargaming
- Partial explanation of lack of radio use, style of fighting

↪ US

- Wargame predicted stalemate -- NOT continued to conflict resolution
- War game predicted victory

The 1970s Education and Training

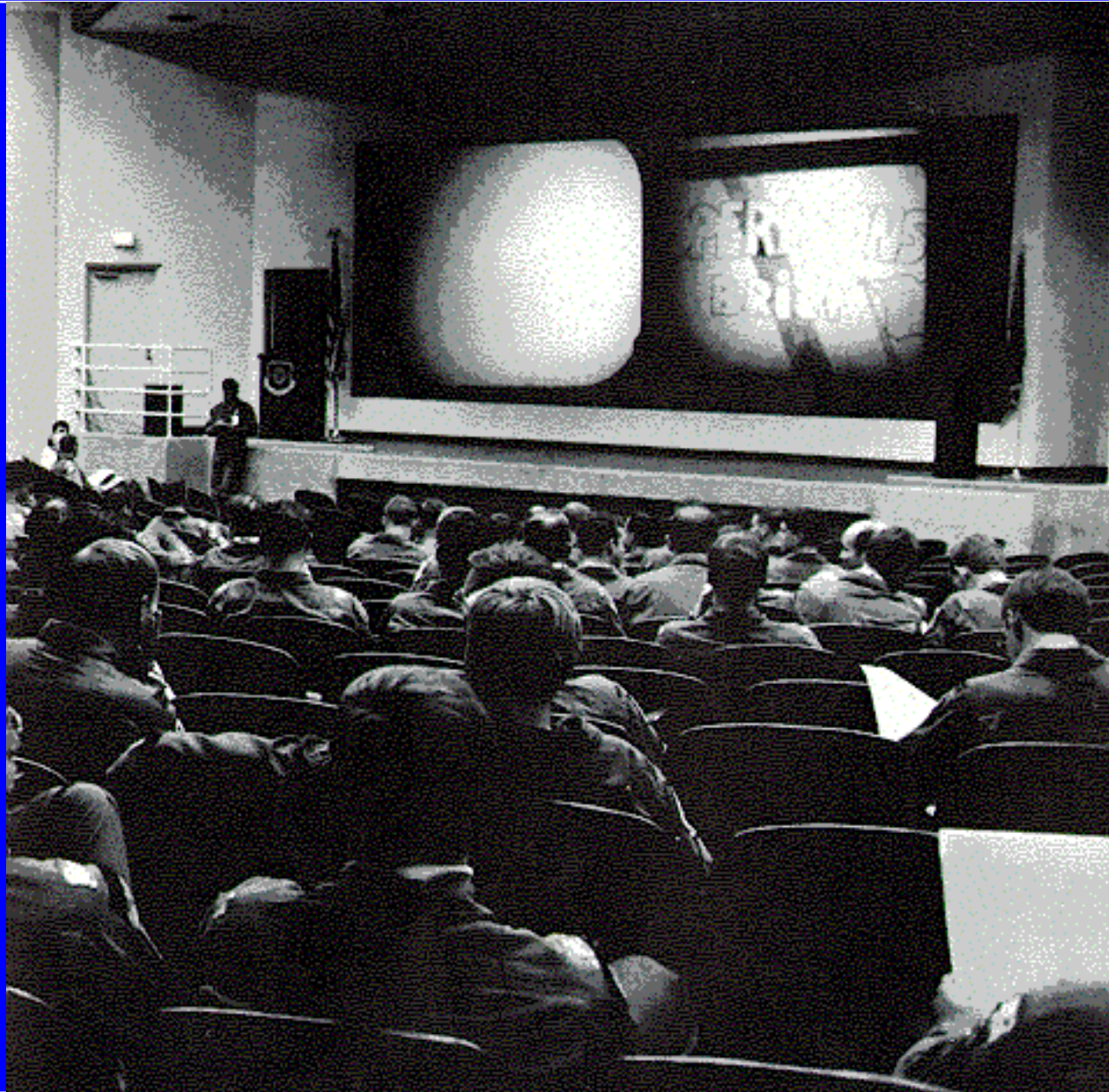


US

↗ Naval - Top Gun, to CRP, to Global

↗ Army - Tech solution to a people problem?

↗ Air Force - Red Flag!



The 1980s: O-Plan Development

↪ US

↪ Naval - The golden age of Global

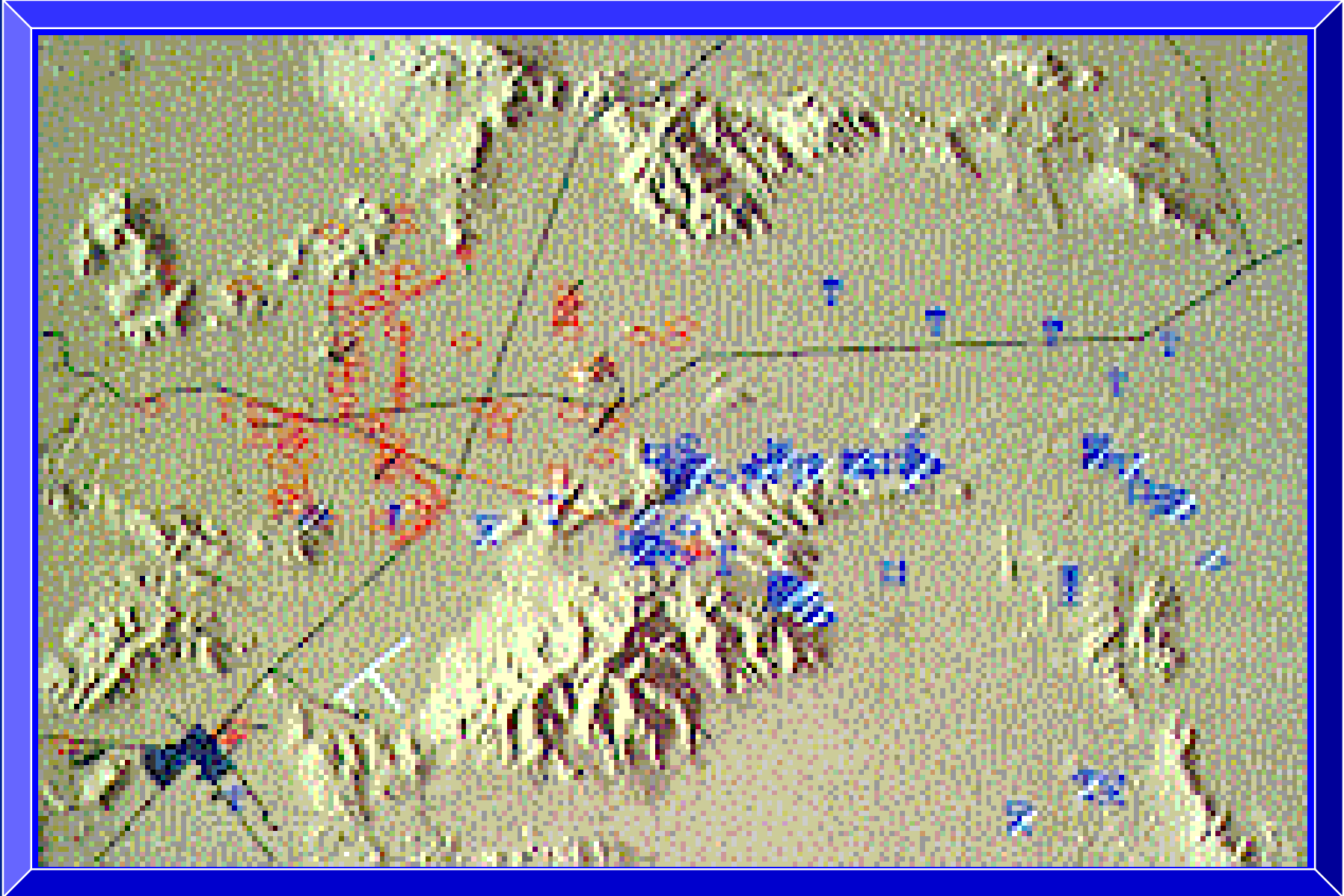
↪ Army - From IIIrd Corps to NTC

↪ Air Force - Air Force Wargaming Center

↪ Joint - CENTCOM takes the lead

↪ International

↪ Limits of Soviet wargaming



Wargaming - The Gulf War

- ↪ Exercise in the Desert - Patriots accelerated
- ↪ Internal Look 90 - a reason we moved so fast?
- ↪ Wargamers at war - the road not taken
- ↪ War Games in the field
- ↪ The US training edge
- ↪ UK Real-Time Wargaming



US

The 1990s Jointness, Expansion & Doubts

↙ US:

↙ Fewer, more efficient, Joint “engines”
JWARS, JSIMS, HLA

↙ Expanded Military Use: Procurement,
Tactics Development, Force Tradeoffs

↙ Breakthrough in Civilian use

↙ International:

↙ Study US

DoD Wargaming at a Crossroads

↪ More money going to wargaming

Relatively
less
expensive

No
environ-
mental
impact

Secure
from
“overhead”
observation

Exploits
more
computing
power for
less money

Credibility
with
Congress

DoD Wargaming at a Crossroads

- ↗ More money going to wargaming
- ↗ More doubts than any time since the late 40s
 - High Desert Storm Casualty Predictions
 - RAND's Base of Sand Paper
 - QDR adds impact to known shortcomings
 - USAF Chief of Staff & XO concerns
 - Kosovo, "FEBA movement" not relevant
 - "Competition" from commercial wargames

DOD / Commercial War Games in 1990

[Bottom Up]
Operational
Research
Models

History Based
Wargames
[Top Down]

Analysis

Training

PME

Prof Dev

Recreation

The Rise of Commercial Wargaming

↪ More Accessible Wargames

- 1950s Charles Roberts
- 1960s Eric Dott & Avalon Hill
- 1970s James Dunnigan & the S&T Staff +
- 1980s Chris Crawford & Gary Grigsby
- 1990s 25 Billion dollar global industry

The Rise of Commercial Wargaming

↪ More Citizens Playing War Games

- 1950s Thousands
- 1960s Tens of Thousands
- 1970s Hundreds of Thousands
- 1980s Millions
- 1990s Tens of Millions

Why Commercial Wargaming COST

DOD in house or DOD contractor:

- \$\$\$, Range:- \$1M to \$1B
- Time, Days to learn and to execute

Commercial:

- \$\$\$, Range: \$9 to \$79, average \$49
- Time, Hours to learn and to execute

FUSION: The Future of Wargaming

↙ Convergence of Hardware

- Old world
 - military: mainframe computers
 - civilians: the kitchen table
- New world
 - military: personal computers
 - civilians: personal computers

↙ Convergence of Interfaces

Facilitating the Integration

↗ “Connections” Conference USAF

↗ Commercial War Games Data Base

↗ 3rd Generation War Game

2000 and Beyond

↪ US

↪ Problems with core models

↪ Rediscovering US way of Peace

↪ Commercial/DoD integration

↪ International

↪ Endorsing with \$\$\$

↪ Global, Democratic, Free market games

Proliferation & Problems

- War Games used at all:
 - PME schools, Army bases,
Naval ships, Theater HQs,
- War Games NOT ready for QDR
 - JSIMS: Budget: \$ 0.7 Billion to ?
IOC: 1999 slips to 2002

The American Way of Peace

- ↗ Win/Win is our Historic Preference
- ↗ Nuclear Stand-off forced
Peace of the Prison
- ↗ Post-Cold War return to tradition
- ↗ New style of war needed:
 - ↗ Fast
 - ↗ Few casualties

Commercial/DOD Integration



International Wargaming

- ↪ Military - endorse with \$\$\$
 - ↪ Germany - 60 Million DMs
 - ↪ Bahrain - \$1 Billion
- ↪ Civilian - popular success
 - ↪ Global sales - \$50 Billion
 - ↪ World-Class publishers

Themes

↪ Capabilities and Limitations

↪ Impact on History

↪ Wargaming and Democracy

The Future

↪ Are we living in the 1920s?

or

↪ Are we at the beginning of a new era of human history?

*“Our Destiny is not in the stars
- but in ourselves”*

The Future

➤ More success-oriented leaders

➤ More agile strategic planning

➤ More knowledge workers

Even after 6,000 years
it is still a
competitive world

To Learn More

◆ History

- “The Art of Wargaming”, Peter Perla, 1990
- <http://www.airpower.maxwell.af.mil/airchronicles/cc/caffrey.html>

◆ News

- <http://www.msrr.dmsso.mil/>
- <http://afmsrr.afams.af.mil/>
- <http://www-leav.army.mil/nsc/warsim/index.htm>

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