Learning the Wrong Lessons? Operational Analysis during a Long Peace

1855~1905 vs. 1945~2014…

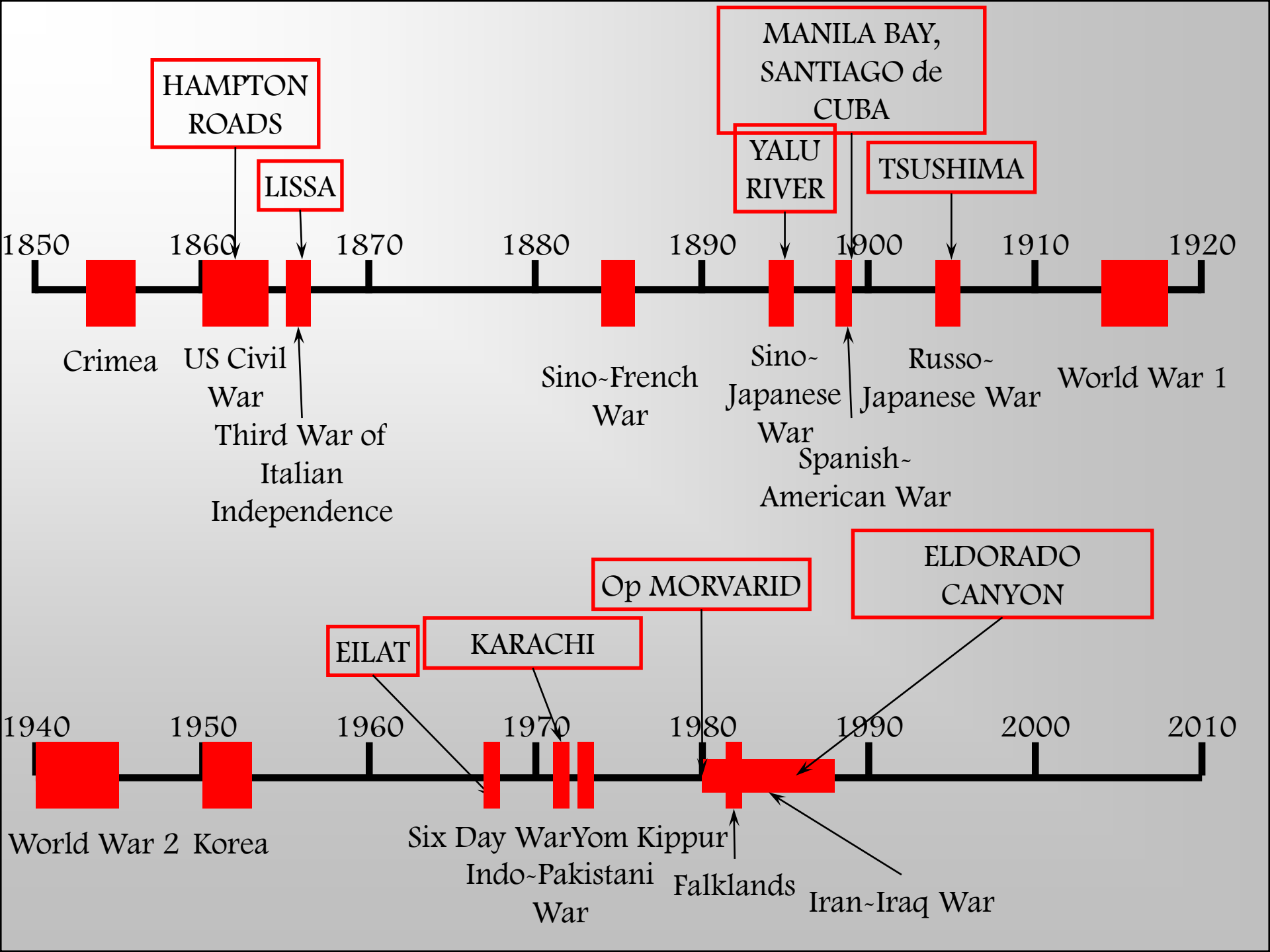
Paul J. Adam
Cassandra Defence Consulting Ltd.

Introduction

- The “Methods of Instruction” slide
  - Who am I?
  - What am I about to tell you?
  - Question policy?
  - Why does this matter?

Two periods of relative peace

- The latter half of the 19th century, and the latter half of the 20th century, were both relatively peaceful
  - Both lacked major naval conflicts
  - Major powers fought very few actions
  - Technology raced ahead without being tested in combat
- How valid were the lessons and doctrine developed during that time?


HAMPTON ROADS
LISSA
MANILA BAY, SANTIAGO de CUBA
YALU RIVER
TSUSHIMA
1850
1860
1870
1880
1890
1900
1910
1920
Crimea
US Civil War
Third War of Italian Independence
Sino-French War
Sino-Japanese War
Spanish-American War
Russo-Japanese War
World War 1
EILAT
KARACHI
Op MORVARID
ELDORADO CANYON
1940
1950
1960
1970
1980
1990
2000
2010
World War 2
Korea
Six Day War
Indo-Pakistani War
Yom Kippur
Falklands
Iran-Iraq War

Parallels from the Past?

- From 1850s to 1900s, a long period with very little large-scale naval combat but massive technological change
  - 1850: wooden-hulled sailing ships with smoothbore cannon
  - 1870: iron-hulled hybrid steam/sail with rifled muzzle loaders
  - 1905: HMS *Dreadnought*, *Holland 1*, Wright Flyer

Parallels from the Past?

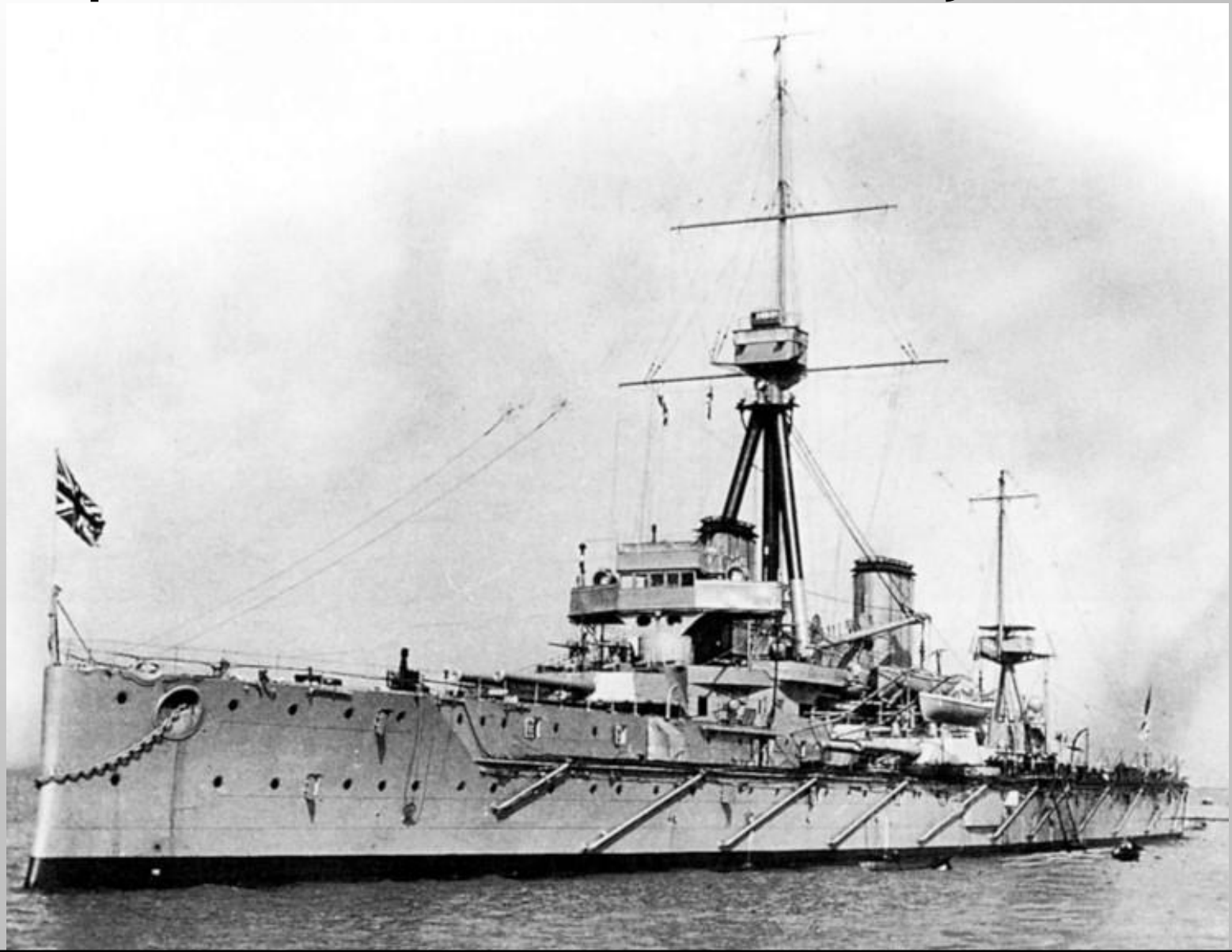
- From 1945 to today, a long period with very little large-scale naval combat but massive technological change
  - 1955: USS *Nautilus* "Underway on nuclear power"
  - 1967: INS *Eilat* sunk by Styx missiles
  - 1973: Over 50 Styx missiles defeated by soft-kill
  - 1982: Op CORPORATE (SATCOM, SSNs, STOVL aircraft)

Ships evolved dramatically… 1855

Ships evolved dramatically… 1860

Ships evolved dramatically… 1877

Ships evolved dramatically… 1905



Hampton Roads, 1862

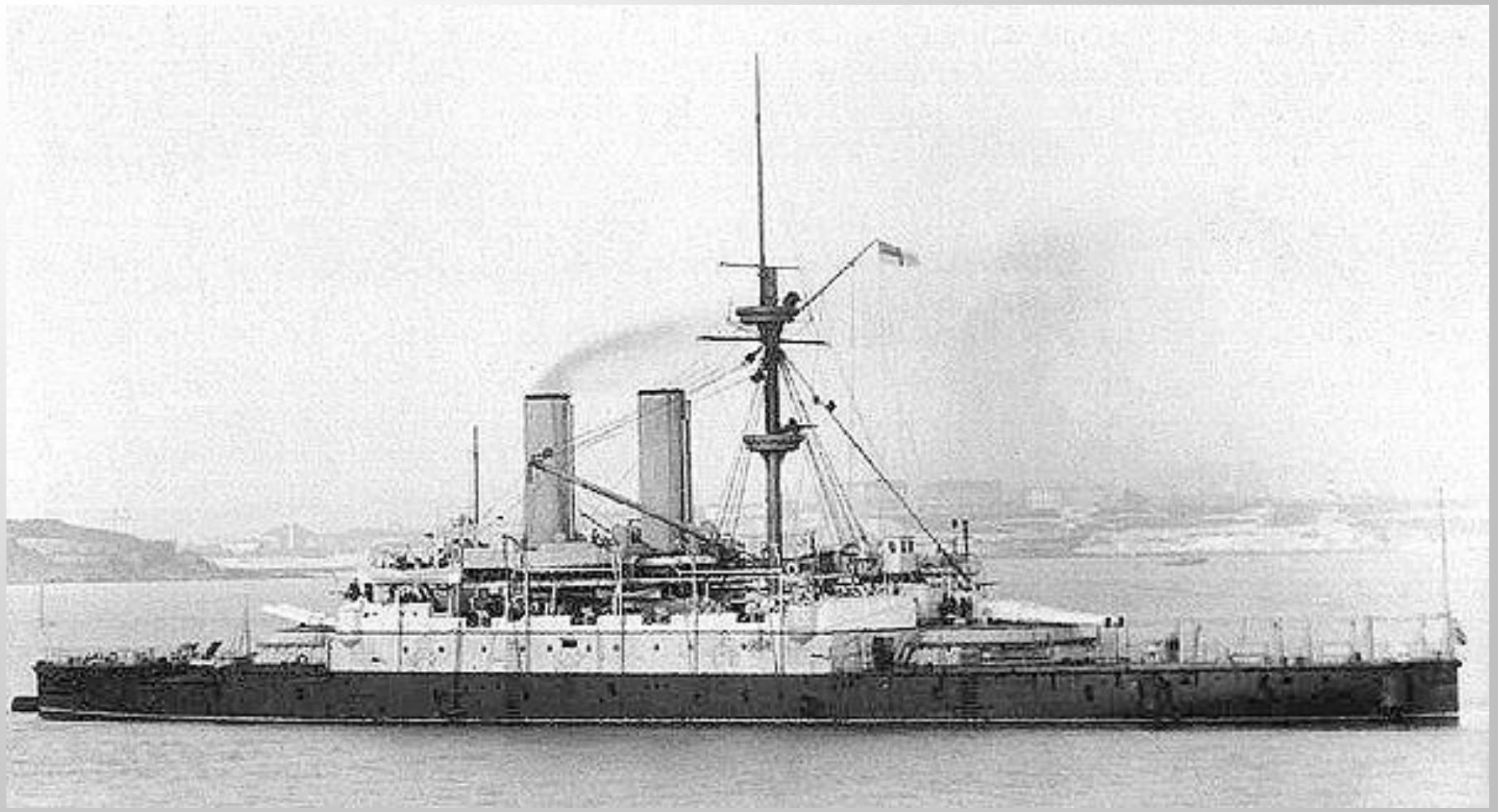
"Lessons Learned" in the later 1800s

- Ramming was a good way to sink ironclads
  - *Cumberland* sunk by Virginia at Hampton Roads
  - *Re d'Italia* sunk at Lissa
  - *Camperdown* and *Victoria*
- Torpedoes were lethal
  - "Spar Torpedoes", *Davids*, *Hunleys,* Tonkin War
  - (But… *Shah* and *Amethyst* vs. *Huascar)*
- "End-on fire" essential in ship design to allow weight of fire during the approach to a ram
  - Some utterly ugly French and Russian designs…

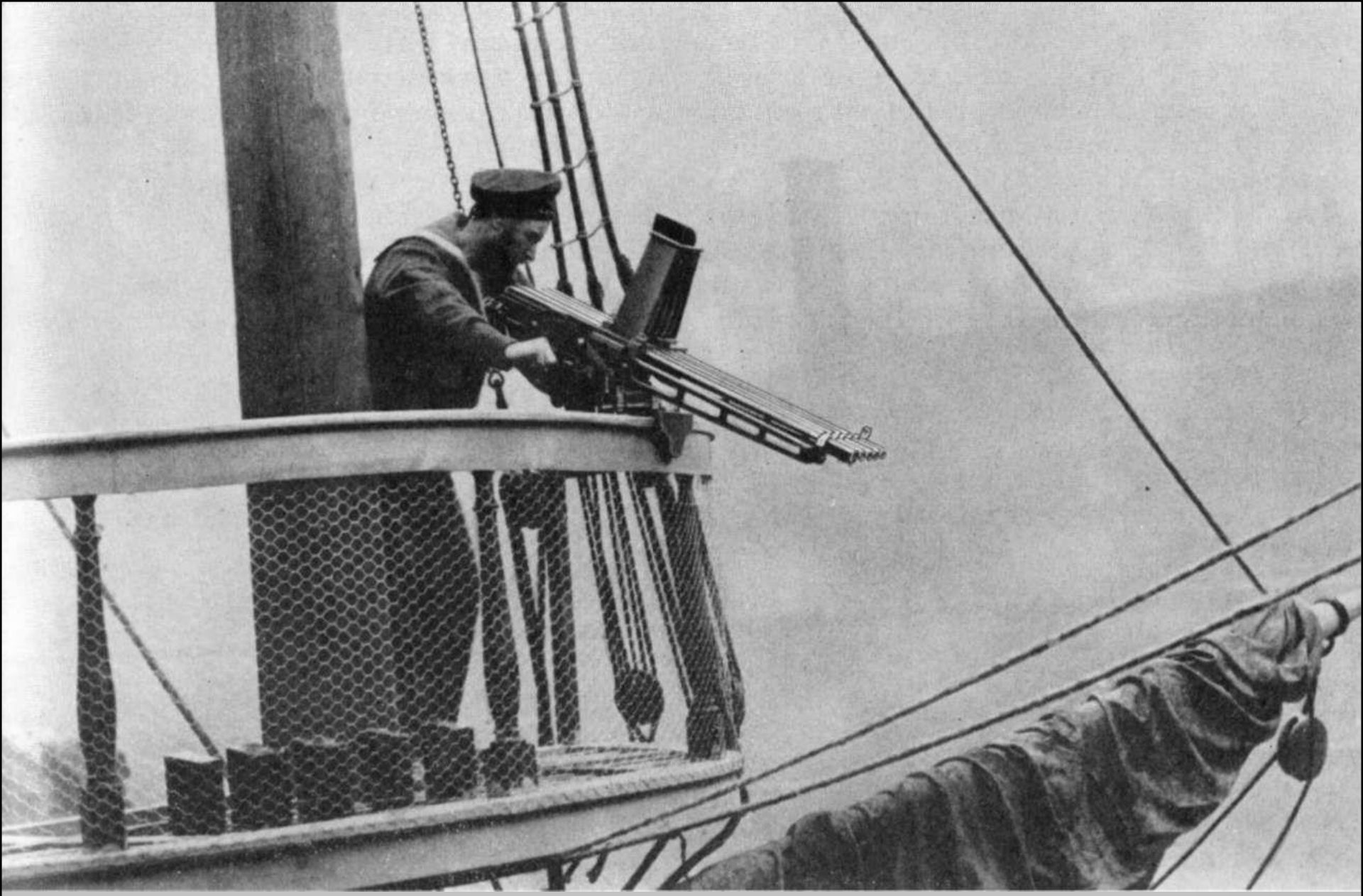
Marine nationale Le cuirassé "*Charles Martel*".

“Lessons Learned” by 1900

- Heavy guns were to finish off cripples
  - Rate of fire in ‘minutes per round’!
  - Almost no heavy hits by US guns at Santiago or Manila Bay
- Main fighting weapon was the battery of 6” breech-loaders
  - A “hail of fire” would cripple the enemy
- Fighting range was inside a mile, might even be alongside
- “Quick-firers” (Nordenfelts, Gardners, Gatlings) expected to kill enemy gunners or force them to cover



HMS *Collingwood*, 1884



Nordenfelt gun in fighting top

Search for the "Giant Killer"

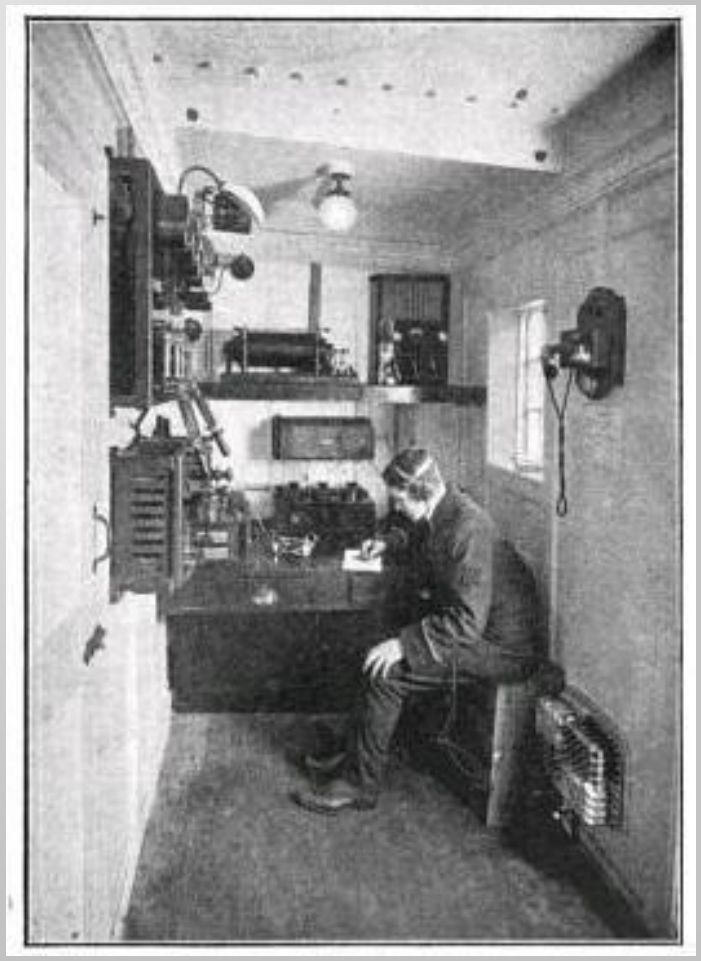
- Torpedoes seen as "the stone in David's sling"
- A flurry of small craft, intended to sink battleships, appeared
  - Most more dangerous to their crews than the enemy…
- French "*Jeune Ecole*" were particularly keen
  - Torpedo boats
  - Submarines

Experience too little, too late?

- Several significant battles in the Russo-Japanese War
- Interesting technical lessons, and much studied…
  - But less influential – "older ships, poor tactics"
  - 350 Japanese torpedoes fired for 1-2 hits
  - AP shell ineffective, HE rounds very lethal?
  - Mines extremely dangerous?

Communications Advancing

1860



1905

One Last Grand Change

- **"All Big Gun" battleships**
  - One heavy-calibre main battery
  - No, or small-calibre, secondary armament
  - Driven by Percy Scott's gunnery improvements
- **"Torpedo Boat Destroyers"**
  - Bigger, more seaworthy, better armed, than torpedo boats
- First appearance of workable submarines
- "I told Orville and I told Wilbur, that thing's never gonna fly…"

Lessons “Learned” in the Long Peace

- **“Big Guns” will sink ships at long range**
  - Turns out it’s really hard to batter a ship into submission with shellfire
- **Torpedoes are massively lethal**
  - Yes, if they hit, but other than surprise attacks they usually don’t
- **Submarines are not a serious threat**
  - …to warships underway at speed, but if you slow down you’re in trouble
  - Unrestricted submarine warfare against merchantmen might be a “war crime” but it works terrifyingly well

1945 to Today

- Similar "world peace" with only limited "colonial" wars and conflicts
- Similar scale of technological change
- Similar lack of experience
- Similar lessons mislearned?

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E=mc2

Were the “lessons” valid?

- Who’s actually generated any experience?
  - Israel vs. Syria and Egypt
  - India vs. Pakistan
  - RN vs. Argentina
  - US vs. Libya, Iran, Iraq
- Is this helping us predict the future, or is it pointing down blind alleys like Lissa and Hampton Roads?

Search for the “Giant Killer”

- Guided missiles seen as “the stone in David’s sling”
- A flurry of small craft, intended to sink major warships, appeared
  - Most more dangerous to their crews than the enemy…

Are we sure we're right?

- Drawing a parallel, we've probably got some or all of our tactics, doctrine and equipment wrong
  - Should we panic?
  - Or should we be alert and ready to change?

Are we sure we're right?

- **How quickly could we learn, adapt and change our advice in the face of hard evidence?**
  - How soon would we realise we'd got something wrong?
  - How quickly could we get enough data, to make an improvement?
  - How long would it take to implement it?

Any Questions?