Tactics Discussion for the Age of Dawn of the Battleships

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Cold Wars 2018

Admiralty Trilogy Seminar

Outline

- Introduction
- “Recent” Events (this is where lessons learned come from)
- Basic Tactical Constructs
- Offense
- Defense
- Maneuver
- Audience Participation (aka Pop Quiz)
- Questions

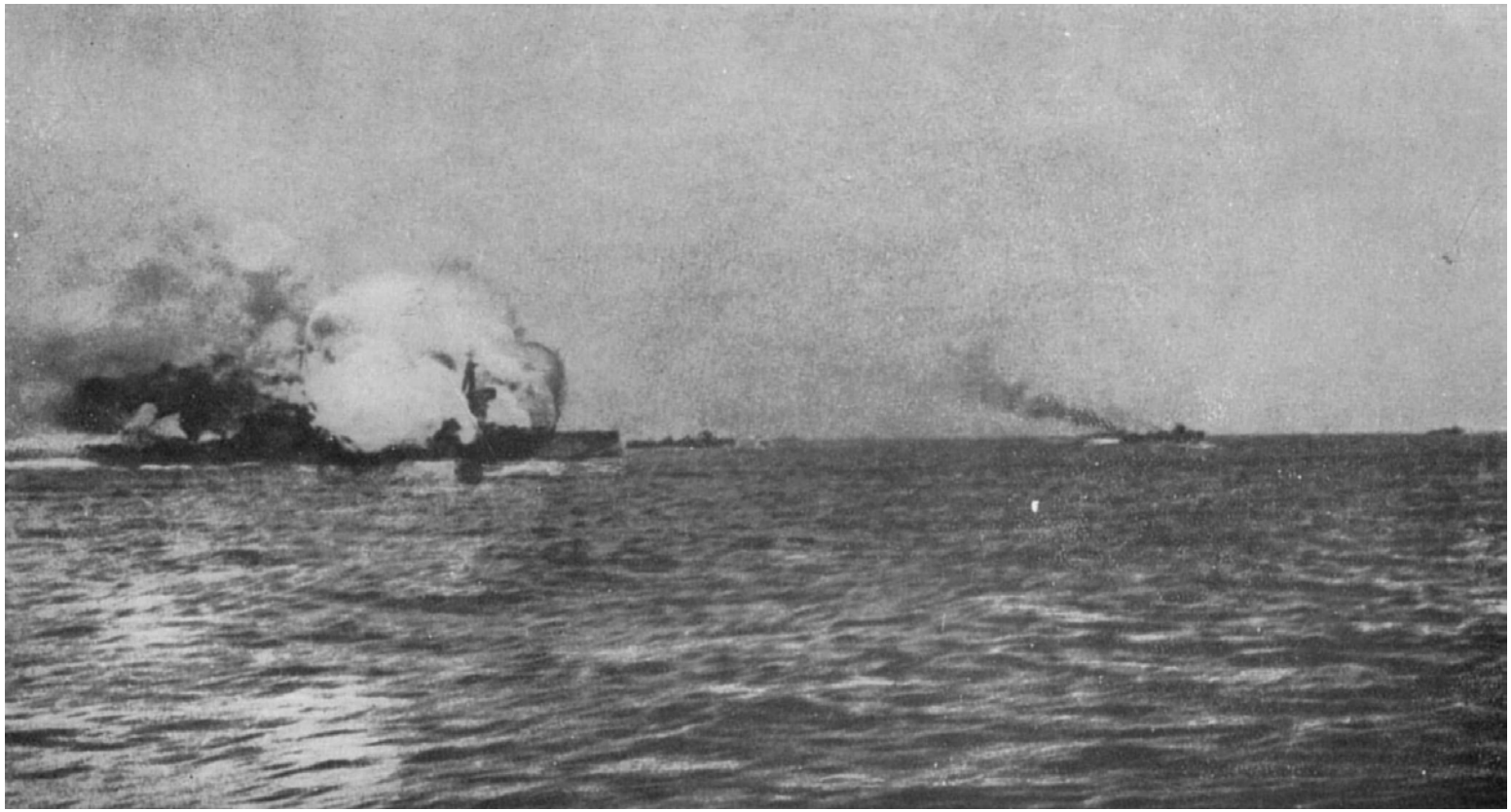
Introduction

- Period of the ‘Dawn of the Battleships’ was an evolutionary state of change between Trafalgar and Jutland
- Trafalgar with lines of opposing sail-powered ‘line of battle ships’ armed with muzzle-loading, smoothbore, solid-shot, short-ranged guns arranged on the ships’ broadside
- Jutland with its lines of steam-powered battleships armed with breech-loading, rifled shell guns housed in turrets arranged more on the centerline
- Interim battles of the 19th century such as Lissa and through the Japanese wars highlight this transition

Battle Ranges at Trafalgar

Engagement range in 100's of yards

Battle Ranges at Jutland



Engagement range in 10,000's of yards

“Recent” Events

- **Russo-Turk & Crimean War**

  (1853-5 - - Sinop & bombardment of Sevastopol)

  - **Shell-firing ML vs wooden hulls / early iron protection**

- **American Civil War**

  (1861-5) Wrought armor protection

  - **Though it proved the efficacy of shells and armor, Europeans ignored the lessons as it came from those ‘Amateurs’ from across the pond**

- **Battle of Lissa**

  (20 July 1866) Supremacy of the ram …WRONG!

- **Japanese wars against China and Russia**

  (1894-5 and 1904-5)

  - **Lesson from Sino-Japanese War - - slow-firing heavy guns proved to be inferior to rapid firing smaller guns**
  - **Russo-Japanese War reversed this lesson as engagement range increased**

Basic Tactical Constructs

- Universal goal - inflict the most damage, sustain least damage
  - Offense, Defense & Maneuver…concentrate accurate fire
- 1805 methods - - rake, double-up, rate of fire
- 1915 methods - - penetration vs armor, fire control, speed
- Between 1805 and 1915 tactics stayed the same – parallel lines of battle moving sedately along pounding away at each other
  - That was not ‘decisive’ so various methods of breaking the opponent’s line and “doubling up” enemy ships were devised
  - Ranges gradually increasing - - which made it harder to break the enemy’s line, leading to more radical methods; ram & torpedo
  - “Wind gauge” translating from a movement to a gunnery issue

Offense

- **Ramming**
  - The wrong lesson from the Battle of Lissa
  - Even a "successful" ram leaves the "victor" injured and potentially dead-in-the-water; not a safe place to be in the middle of a gunfight
- **Gunnery**
  - Guns w/o even a rudimentary fire control system produce few hits, requires prodigious amounts of ammo to inflict significant damage
  - Effective gunnery required "Slow and Steady" - - no breakneck speeds, no radical turns; by both firer and target
  - Range? - - CLOSE, increasing as time went on, but still…CLOSE
- **Torpedoes**
  - Torpedoes were in their infancy; short-ranged, slow, inaccurate, small warheads -- offset by inadequate protection and damage control
  - Range - - even CLOSER, useful for finishing off a crippled enemy

Ramming at Battle of Lissa

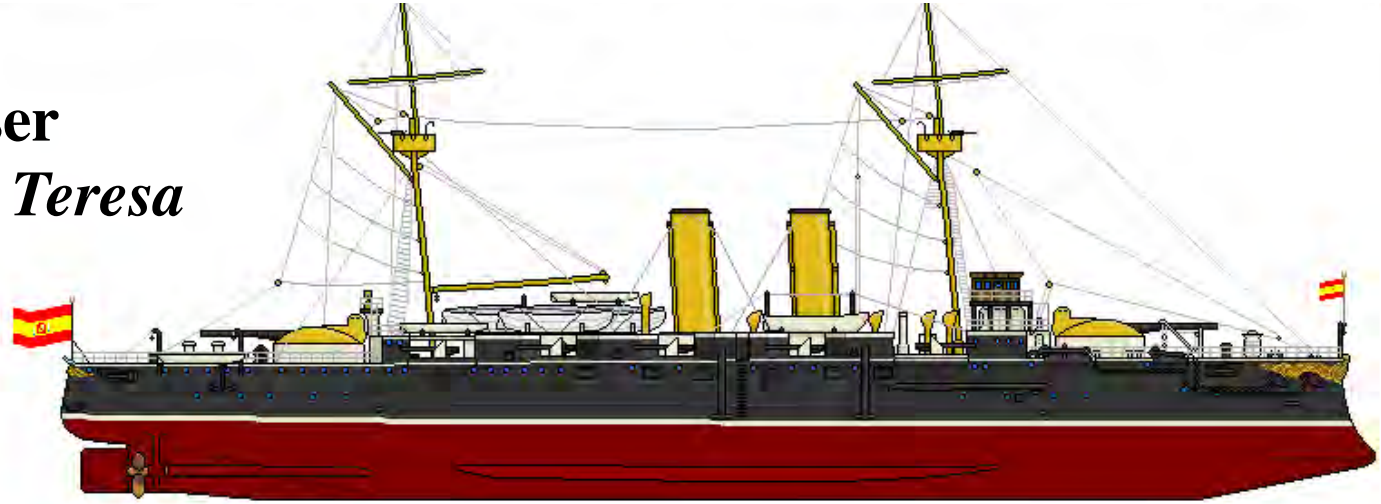
- ***Affondatore*** **vs** ***Kaiser*** **- - missed**
- ***Kaiser*** **vs** ***Re di Portogallo*** **- - both out of battle**
- ***Erzherzog Ferdinand Max*** **vs** ***Re d'Italia*** **- - glancing blow**
- ***Erzherzog Ferdinand Max*** **vs** ***Palestro*** **- - glancing blow, but with gunnery hits started a fire on** ***Palestro*** **that led to her loss**
- ***Erzherzog Ferdinand Max*** **vs** ***Re d'Italia*****, again - - success,** ***Re d'Italia*** **sinks in two minutes**

- **This success led to a flurry of building ships with ram bows**

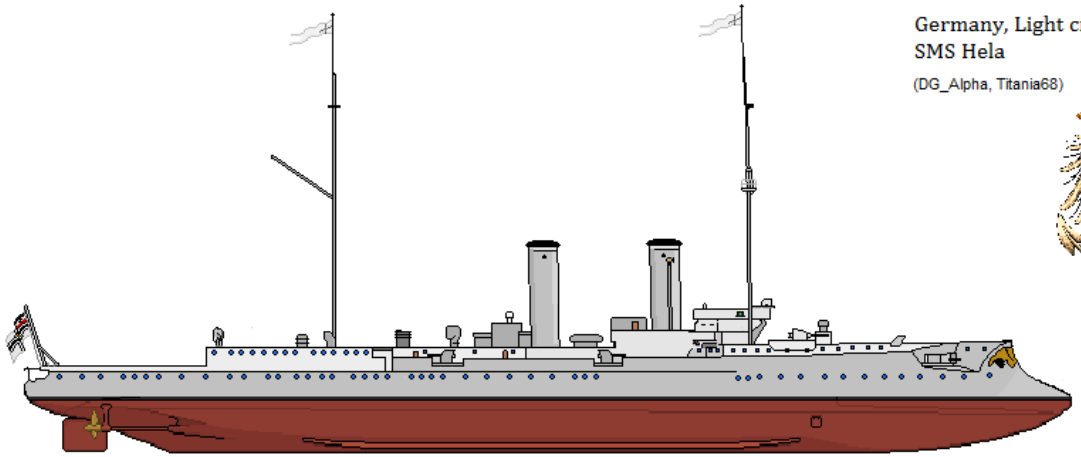
Ram Bow Examples

Chinese Battleship
Chen Yuen

Spanish Cruiser
Infanta Maria Teresa



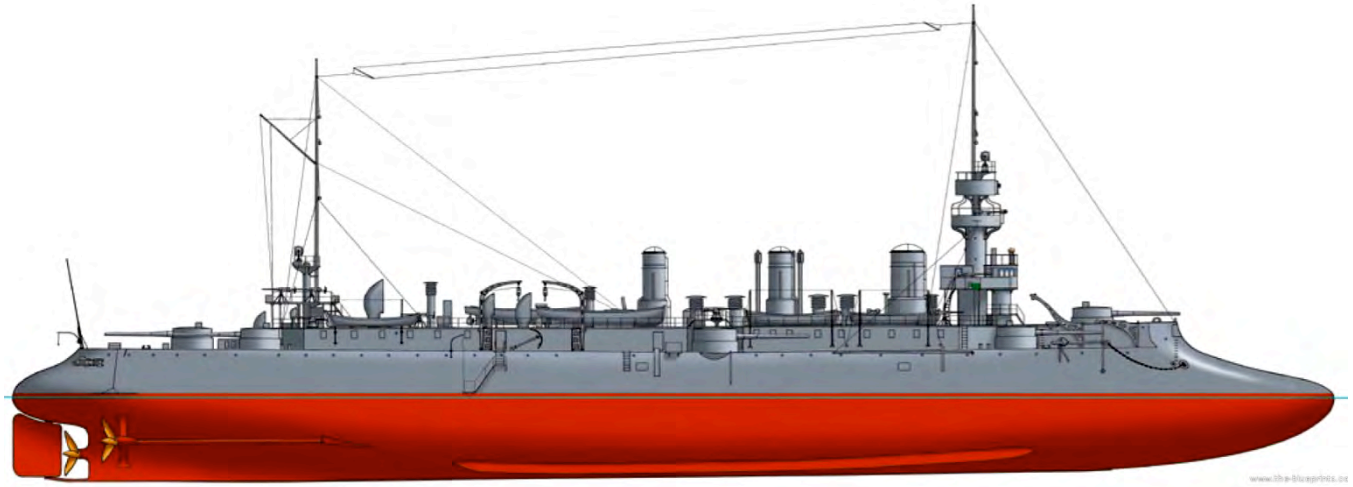
Ram Bow Examples



Germany, Light cruiser.
SMS Hela
(DG_Alpha, Titania68)

German Cruiser
Hela

French Cruiser
Dupuy de Lome



Early Pre-dreadnought Gunnery

- Some things don't change - - visibility, number of guns firing together, overconcentration, rangefinder
- Lack of fire control systems, anemic power loading and traverse systems
  - Slow and steady - - anything over 12 knots and more than 10 degree turns are negative modifiers
  - Broadside target is not most favorable aspect because of motion across the line of sight – high bearing rate
  - Large guns initially fired too slowly to enable fall-of-shot correction

Torpedoes

- Lack of…
  - Endurance and speed (limited propulsion system)
  - Gyro-stabilization (maintain ordered course)
    - This is why submerged torpedo tubes were an advantage
  - Warhead size were initially rather small
- All contribute to short range and inaccuracy
  - Limited effective engagement range made them very hard to use
  - A single hit, however, could be fatal to even the largest ship
- That was the reality of the situation, the perception of the threat was vastly different

Defense

- **Armor**
  - **Beginning of the 19th century ship hulls were seasoned wood**
  - **By the close of the century innovators hulls were made of steel with face-hardened steel armor**
- **Damage mitigation – watertight compartments gain popularity in defending ships from underwater damage**
  - **Initial execution, not quite the best – longitudinal & transverse bulkheads**
- **Damage control – centralized drain systems, with powered pumps, both getting water in (fire-fighting) and getting it out**
- **Speed**

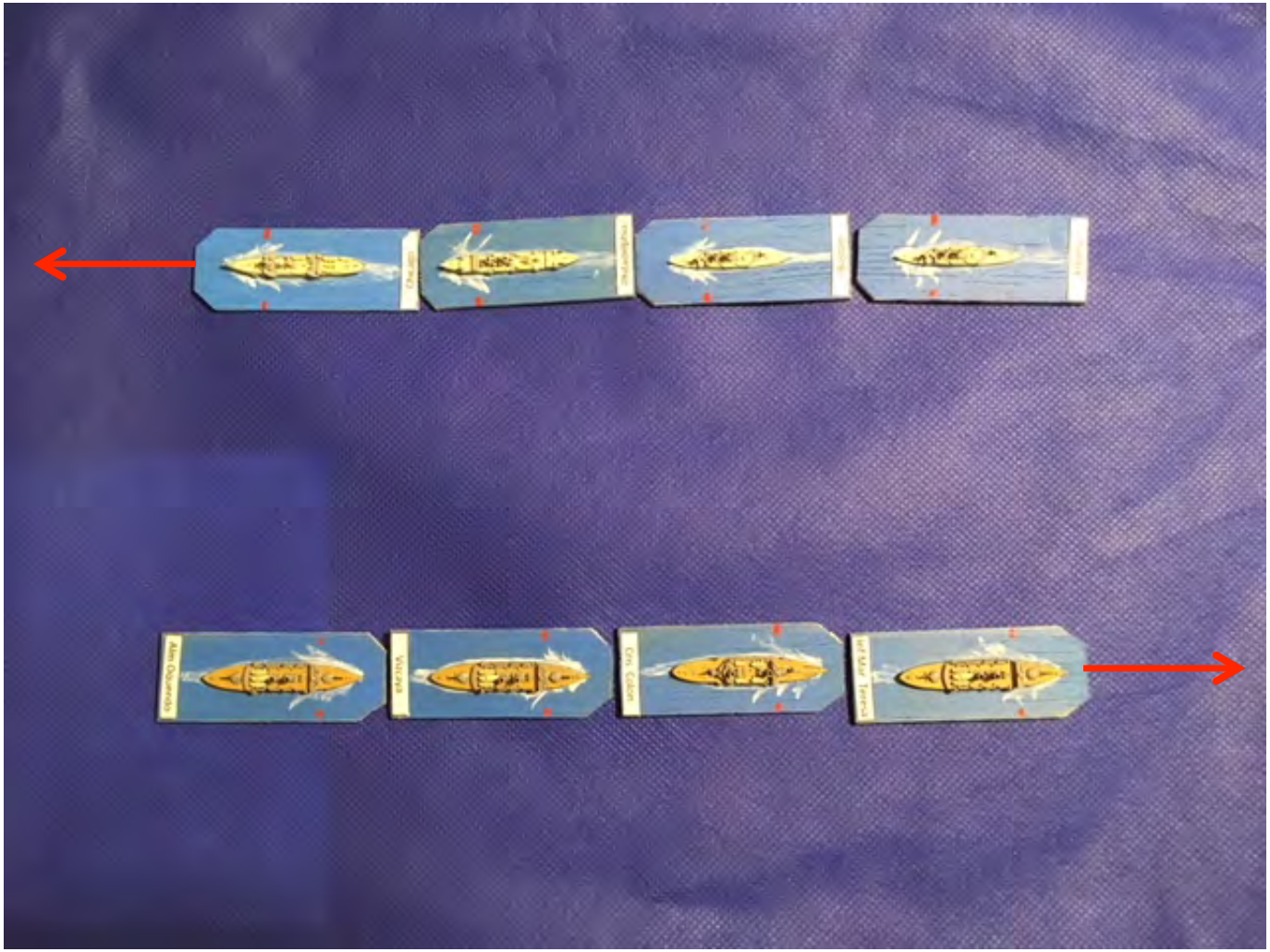
Maneuver

- **Formations –'follow-the-leader' had the best hope of success; inter-ship communications limited to flags/flashing lights**
  - **Only real choice was the size of the battle line – a single concentrated line or by divisions (independently in line ahead formation)**
  - **Maneuvering is to setup the battle space; often two opposing lines of combatants moving slowly along parallel courses, torpedo craft kept out of the way,**
- **From age of sail, decisive tactical maneuvering goal – crossing the enemy's "T"**
- **Night/Low visibility action – hard to arrange, hard to control, really dangerous for both sides**
  - **Friendly fire issues and concerns of a torpedo attack**

Final Quiz

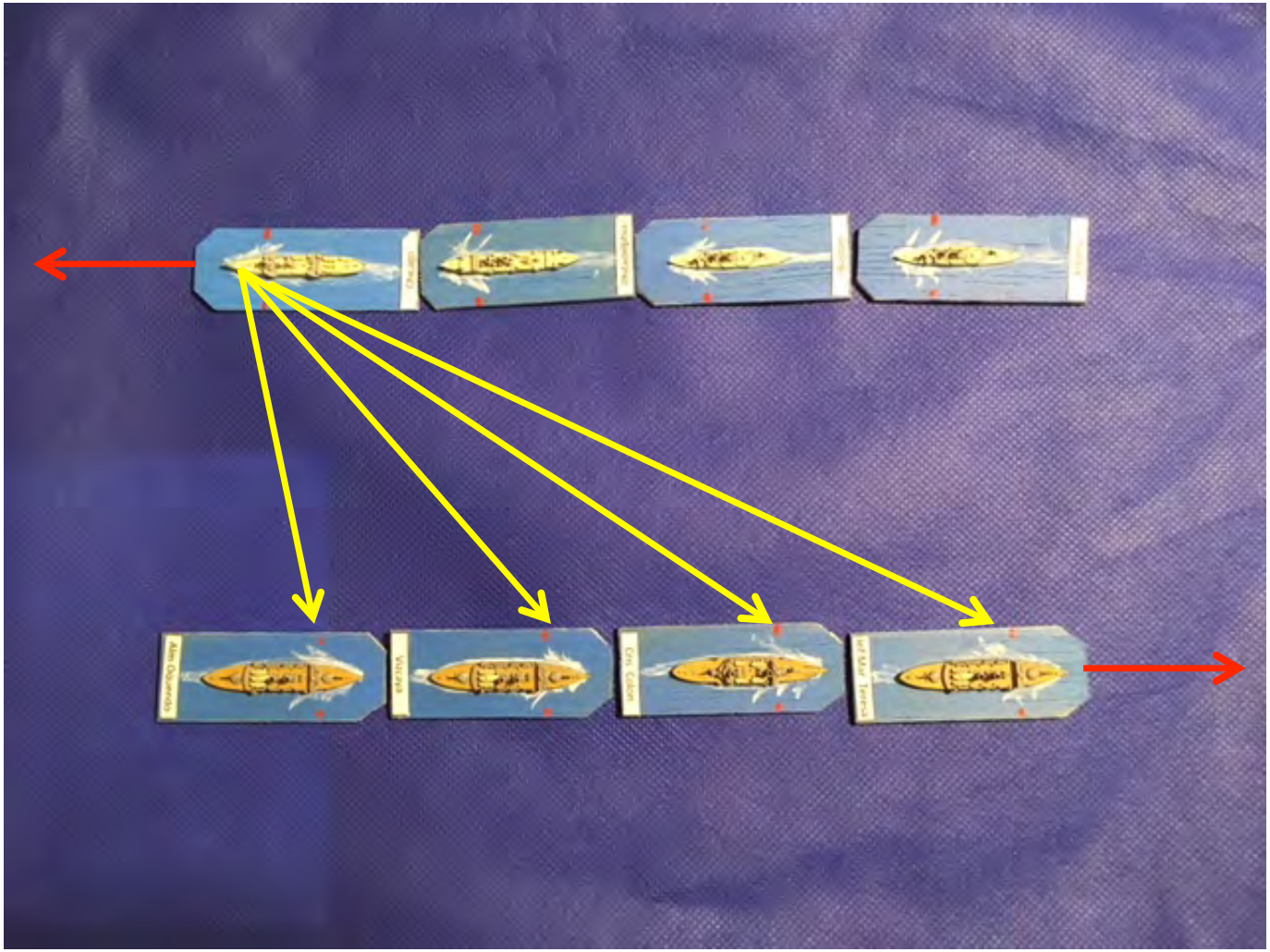
- Final quiz – Analyze the approach, pros & cons
- Squadrons on parallel but opposite courses
- Crossing the “T”

Opposite Parallel Courses



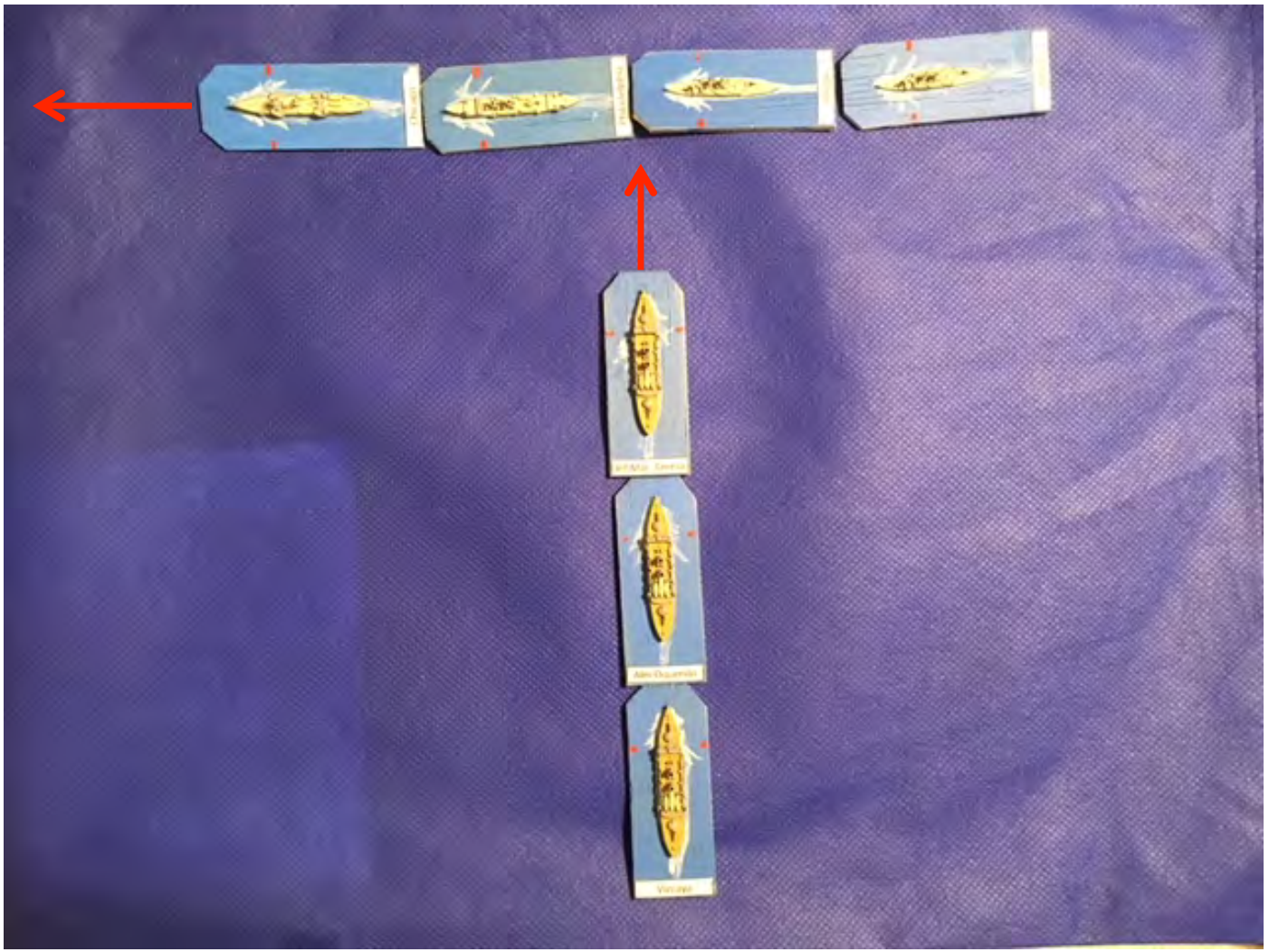
Pros and cons

Opposite Parallel Courses



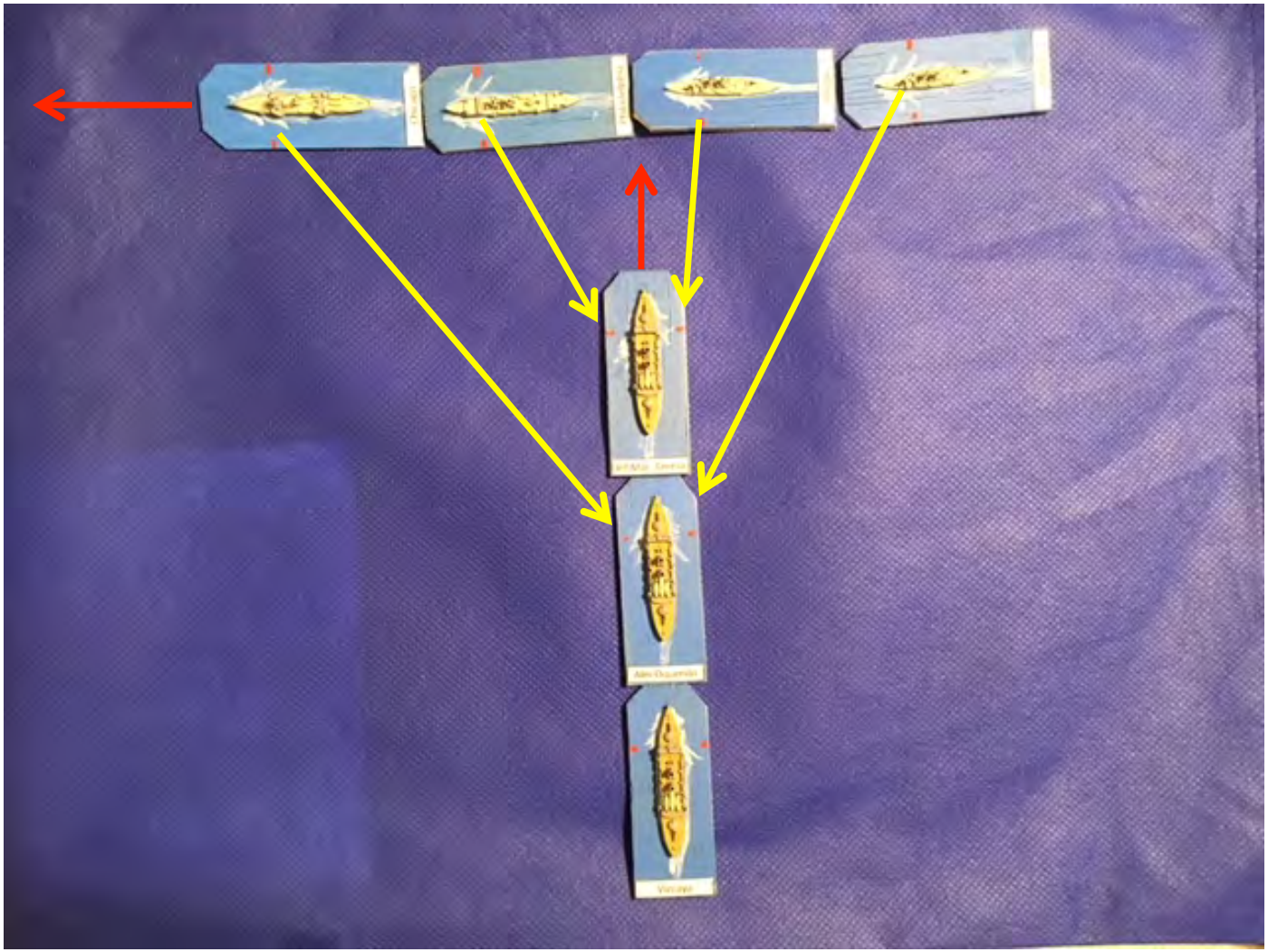
1) High bearing rates makes it harder to hit your opponent or switch targets
2) No concentration of fire, equally divided

Crossing the “T”



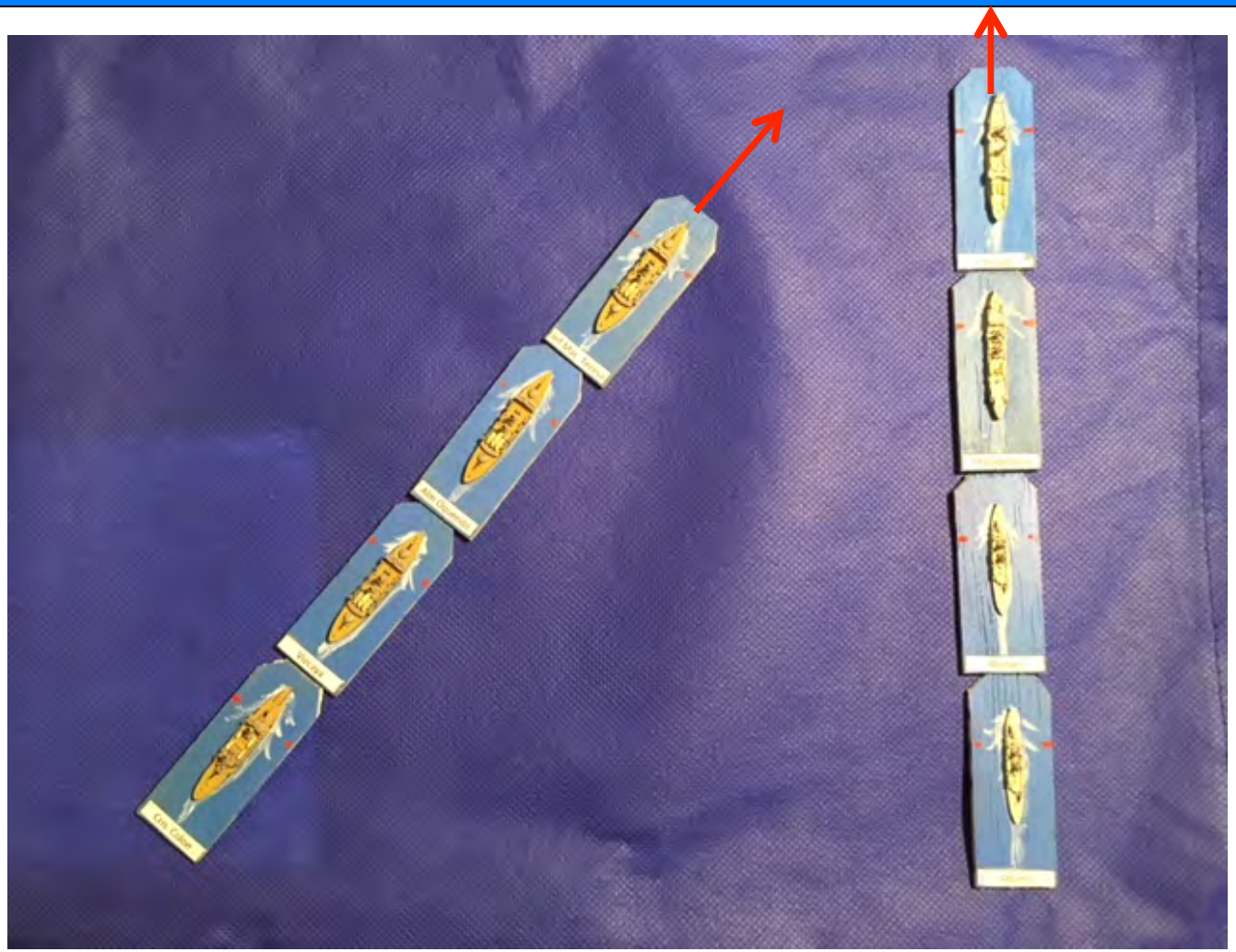
Pros & cons

Crossing the "T"



1) Low bearing rates allows consistent firing on target formation
2) Fire is concentrated on the enemy's van, while limiting his fire

Later Pre-dreadnought Gunnery



As engagement range increases, due to fire control, crossing the enemy's "T" is not advantageous – oblique angle approach

Questions?