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Module 4: Joint Capabilities

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Formative Assessment #13

Question

Explain the difference between sea control and sea denial. Discuss how both strong and weak belligerents can use sea control and sea denial to their advantage during maritime operations.

Cite examples (real or conceptual).

Response

Sea control and sea denial are distinct choices that flow from the operational objective (OPO).

Sea control is the transitory, local ability to use a designated sea area and its associated airspace and underwater volume at acceptable loss and, when required, to deny its use to the enemy during open hostilities (Vego, 2015a). Sea denial is the act of imposing enough risk that the adversary cannot use that sea space when needed. The commander selects one or blends both based on the OPO, then sequences actions to secure freedom of action on the campaign clock ashore (Joint Chiefs of Staff [JCS], 2022; Vego, 2015b).

The OPO is framed in task and purpose terms. For example, secure local sea control within an objective area for the ten days before the landing through twenty days after, in order to land, build, and sustain a lodgment that enables seizure of the specified area ashore. That objective sets the ways. First, neutralize the adversary's long-range kill chain, to include sensors, shooters, minelayers, and their logistics. Second, open and protect the approach lanes and the sea base. Third, shift supported-supporting relationships so sustainment becomes the pacing function as the center of gravity (COG) transfers ashore. Control is not a condition. It is exercised only where and when needed, demanding offensive action to gain the initiative and continuous protection to retain it, as the sea tends to revert to an uncommanded state once pressure is loosened. Means include submarines, carrier air, land-based patrol aviation, ground-based anti-ship fires, air and missile defense, anti-submarine warfare (ASW), mine countermeasures, and the logistics echelon sized to daily tonnage. In chokepoints and narrow seas, air superiority is essential and sea control is a joint effort with air and land forces holding key terrain ashore (Gilday, 2022; Till, 2018; U.S. Navy et al., 2020).

A weaker belligerent often selects sea denial to offset disparity in combat power. The aim is to keep the opponent from using decisive sea space long enough to spoil the opponent's sequence. The ways are asymmetric. Submarines, mobile coastal missiles, smart mines, deception, and dispersed sensors attack critical requirements for predictable movement, aggregation, and replenishment. The defender prizes survivability, mobility, concealment, and replenishment from austere sites. Denial raises loss rates and uncertainty, forces convoys to reroute, diverts sorties into protection, slows the attacker's tempo, and pushes the attacker toward culmination. The OPO is time and cost imposed on the enemy's plan, not a decisive fleet action on unfavorable terms (JCS, 2022; Vego, 2019).

A stronger belligerent also employs denial as a prelude to control. Campaigns often open with denial of the adversary's scouting and long-range fires, followed by a concentrated push to gain local control where the OPO requires it. Offensive mining at chokepoints, long-range anti-ship fires against ready forces, and attacks on shore-based C2 and rearm nodes all thin salvo density and isolate the objective area. Once the enemy's strike complex degrades, the commander masses effects to secure brief windows of control, then hands the COG to the land force (Gilday, 2022; U.S. Navy et al., 2020; Vego, 2015b).

Examples underscore the logic. In the Falklands, the United Kingdom achieved local control around the San Carlos lodgment long enough to land and sustain land forces despite attrition, while Argentina's denial system of submarines, aircraft, Exocet, and mines imposed heavy cost and forced British sequencing to emphasize protection and sustainment. Control delivered the lodgment. Denial bought time and imposed friction. Each served its OPO within limits set by force, space, and time (Vego, 2011, 2015b). Conceptually, a coastal defender can deny a strait for weeks through layered mines, roving submarines, and decoy traffic, compelling a stronger adversary to commit scarce mine countermeasures and escorts for convoying. Conversely, a blue-water fleet can deny a rival's long-range reconnaissance-strike complex across a theater, then open a 72-hour control window to surge ammunition and engineers into a sea base that feeds the fight ashore (JCS, 2022; Vego, 2019).

Airpower maximalists argue that long-range strikes alone deliver control at sea. The record and the theory disagree. Strikes contribute, but control requires assured movement, replenishment, and repair under fire. Without those, effects ashore decay, and the attacker culminates at the shoreline. Treat control as a condition tied to freedom of action and freedom of movement, including denial of enemy use, not as a tally of ships sunk (Vego, 2011, 2015b).

In summary, the OPO dictates whether a force seeks sea control, executes sea denial, or sequences both. Strong forces gain decision by first denying the enemy's strike complex, then securing short, defined periods of control to preserve freedom of action to move and sustain the lodgment. Weak forces gain decision by denying the sea to buy time, impose cost, and bend the opponent's tempo away from decision. Both approaches succeed only when they advance the joint objective and manage transitions before culmination (JCS, 2022; U.S. Navy et al., 2020; Vego, 2011, 2015b, 2019).

References

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