

To
Merav Zafari-Odiz
Chief Instructor
National Defense College

Dear Merav,

Evaluation of Final Research Paper – Commodore Nitin Kapoor

I am pleased to submit my evaluation of Commodore Nitin Kapoor's final research paper as part of his graduation duties at the National Defense College (MABAL). The paper is titled: "Use of Unmanned Autonomous and Semi-Autonomous Systems in Asymmetric Maritime Warfare and its Impact on Blue Water Navies."

I have been working with Commodore Kapoor on this paper for the last seven months and think that I possess the knowledge to evaluate its originality, comprehensiveness and overall quality. In the outset I wish to express that it was a pleasure working with Commodore Kapoor on this project. Despite being highly knowledgeable, senior naval officer, Nitin was receptive and open to my comments and suggestions. The final version reflects a process of thorough inquiry and intellectual journey into the subject.

Commodore Kapoor has chosen a fascinating and timely topic for his final paper. The paper attempts to critically evaluate the adequacy of blue navies' fleet design, particularly the capacity of big and expensive naval platforms to carry out their missions in an emerging maritime domain. Recent events in various places all around the world, ranging from the South China Sea, to the Gulf of Yemen, the Persian Gulf and the Lebanese shoreline, suggest that traditional sea battles between two functioning navies ceased to be the norm. Instead we witness the emergence of asymmetric warfare that includes manned and unmanned technologies, drones and guided land-sea missiles. These are operated by states whose naval capacity is inferior to that of their enemies, or by non-state actors such as Hezbollah, the Houthi rebels in Yemen or the Tamil Tigers in Sri-Lanka.

Commodore Kapoor's project starts with introducing the challenge and its possible ramifications for blue water navies. The second chapter brings in key concepts in naval strategy, including Command of the Sea, Sea Control and Sea Denial - and the ways they were thought of and developed by leading naval thinkers such as Mahan, Corbett and Till - to show what drives blue water navies to build up as they are today. The project continues with presenting accepted classifications of current navies, the missions each type of navy is tasked to carry, and the corresponding naval platforms it operates. As he shows, most of the Blue water navies have a similar set of duties, all aiming to protect the state's national interests in the seas. These include gun boat diplomacy, sea control, power projection etc. and the ability to carry on the mission at any distance from national shores. This is why current navies operate big, sophisticated, and crew intensive vessels, including aircraft carriers, destroyers and frigates.

Chapters four to seven constitute the novelty and contribution of this project. Through them, Nitin skillfully elucidates the incentives of both inferior states and non-state actors to contain blue water navies with relatively cheap and effective technologies that creates a deterrence regime against blue water navies in the adversary's littorals. Commodore Kapoor explains the logic of acquiring asymmetric capacities and provides recent examples of technological developments in this domain, including swarm boats and swarm drones, subsurface vehicles and land-sea missiles. The project concludes with a discussion on the limitations of blue water platforms in responding to the new challenges, some embryonic technological defensive and offensive advancements to counter asymmetric threats such as magnetic pulses and lasers, and some preliminary suggestions for conceptually new fleet designs in an era of asymmetric naval warfare.

Despite concentrating on blue water navies, this work is relevant to other, smaller scale, navies as well, including the Israeli navy. Israeli naval platforms face many of the challenges described in the paper, including sea denial through land-sea missiles, threats of sabotaging marine critical infrastructures like harbors, power plants, desalination plants, gas rigs etc. with small manned or unmanned, surface or subsurface platforms in the hand of Israel's adversaries. I recommend that relevant functions in the Israeli navy will familiarize themselves with this work.

Final grade: 96/100

Thanks for the opportunity to work with Commodore Kapoor on this project. If you wish to receive more information on this project, please do not hesitate to contact me.

Respectfully,



Aviad Rubin