THE MARITIME DOMAIN AND CONSEQUENTIALLY INCREASED SIGNIFICANCE AND FREQUENCY OF IMPACTFUL MARITIME CRIME

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ABSTRACT

Frequent debate over the definitions of maritime terrorism and piracy and their implications on scholarly research and maritime threat strategy has occurred during the last 20 years. The two concepts have been dissected and treated separately, yet evidence has shown that they are interlinked in practice. Is terrorism in the maritime domain merely a form of piracy? Are the two security challenges that different? This research project argues that maritime terrorism is entwined in the methods and practices that piracy uses. Rather than being its own concept, it should instead be seen as a branch of piracy with caveats for different motives and end goals. This has become increasingly important in recent years as globalisation has meant increased usage of the maritime domain and consequentially increased significance and frequency of impactful maritime crime. This research project answers these questions in order to fill a gap between the two concepts and allow for more effective studies and policies when dealing with this maritime threat. Key findings are that the case studies of well-known maritime terrorist attacks, 'Superferry 14', 'MV Limburg' and

'Achille Lauro', all possessed features of piracy in how they were conducted. Maritime terrorism uses methods of piracy in order to conduct attacks as well as facilitate attacks on land. Finally, cyber space is appearing to provide a new platform for the facilitation of maritime terrorism and piracy.

Key words: maritime terrorism, piracy, cyber terrorism, Superferry 14, MV Limburg, Achille Lauro, maritime domain

A.   INTRODUCTION

Debate over the creation and implementation of maritime terrorism and piracy definitions has filled a large portion of scholarly discussion surrounding threats to the maritime domain. Many scholars attempt to dissect the two in order to separate them conceptually, however how does it actually play out in the real world? Evidence suggests that significant overlap between the two concepts allows for blurring between them and hence difficulty in implementing strategies and legislation to adequately address the threats to the maritime domain. Is terrorism in the maritime domain merely a form of piracy? Are the two security challenges really all that different? This research project will examine and discuss maritime terrorism and piracy in order to determine whether the conceptualisation of both as separate entities is useful to both scholarly and practical definitions. It will also reflect on the future of maritime terrorism and piracy and the potential implications of cyber technology on the threat of maritime violence.

Section One of this project will discuss what the maritime domain is, its purpose and importance to the international community. This will be followed by an analysis of how this environment allures criminals and more specifically terrorists to conduct activity within the maritime domain. Section Two will define maritime terrorism and piracy through legislative definitions and discuss the scholarly conversations that this project will build off and contribute to. There will also be attention given to the discussions about the future of cyber and trends of maritime terrorism over time. Section Three – comprising the core of this project – will assess, analyse and discuss three cases of maritime terrorism to situate them within this discussion of maritime terrorism and piracy. These incidents of maritime terrorism are the 2004 'Superferry 14' bombing, 2002 'MV Limburg' bombing and 1985 'Achille Lauro' hijacking. Detailed explorations of the three case studies will be undertaken to understand what occurred, who facilitated the attacks, why they happened and the responses by both local and international authorities. This is followed by an analysis and comparison of the three cases in line with both maritime terrorism and piracy definitions in order to decipher the

overlap in themes. Finally, a discussion about further links between the two concepts in relation to the case studies will occur followed by the implications of a cyber element being introduced to the threats and the apparent overlap between. The fourth and final section of this project will consist of a summary of the research conducted. I also conclude with key judgments as to whether maritime terrorism should be its own concept or a branch of maritime piracy instead. Recommendations surrounding this judgement will be made with implications for both the scholarly community and strategic community as well.

B.   SECTION ONE: INTRODUCING THE MARITIME DOMAIN

The maritime domain is "all areas and things of, on, under, relating to, adjacent to, or bordering on a sea, ocean, or other navigable waterway, including all maritime-related activities, infrastructure, people, cargo, and vessels and other conveyances."[1] This definition therefore encompasses ships, for both cargo, passengers and military uses, under-sea cables, oilrigs, bridges, shipping corridors, ports, exclusive economic zones, naval bases, fish farms and all other infrastructure or maritime related constructions. It also involves maritime related activities such as shipping, fishing, security operations, construction, surveillance, communication and other related activities. "It is a continuum that interconnects countries, cultures, politics, economics, trade, environment, knowledge, and power throughout the planet. Perhaps most importantly, the maritime domain generates power of its own volition and acts as a critical enabler for the creation of other types of nations' powers: economic, political, military, etc."[2]

What is the Maritime Domain used for? Why is it important?

As alluded to above, the maritime domain involves many different elements that make it an extremely broad concept. In a globalised world, it is important to understand the utility of the maritime domain and its significance within the international system.

Marc Levinson, in his 2020 book 'Outside the Box', illustrates how globalisation has evolved and become more reliant on the maritime domain.[3] The third wave of globalisation labelled as 'the age of stuff'[4] relied heavily on the use of maritime shipping in order to transport

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[1] Law Insider, "Maritime Domain Definition," Law Insider, 2023, https://www.lawinsider.com/dictionary/maritime-domain.

[2] Greg Kennedy and William de Sousa Moreira, *Power and the Maritime Domain : A Global Dialogue* (Abingdon, Oxon: Routledge, 2022).

[3] Marc Levinson, *Outside the Box* (Princeton University Press, 2020).

[4] Ibid.

physical goods across the globe.[5] Transport is one of the biggest users of the maritime domain due to its nature in requiring shipping routes, ports, ship building infrastructure and vessels. Eighty percent of global trade occurs at sea.[6] This means that the majority of goods and services used every day are shipped via the sea. Consequently, the construction of port facilities, vessels and the like are required. Hence, in order for this process of globalisation to continue, access to the maritime domain is critical.

Another key user of the maritime domain is security operations. States use the sea in order to protect their borders, conduct military exercises and operations, surveillance of other states and for transportation of military equipment.[7] For sea states such as Australia, this is extremely important in implementing the efficient and effective use of 'sea power'.[8] The strategic interests of Australia include a secure Australia, a secure immediate neighbourhood, strategic stability in the Asia Pacific region and a stable rules-based global security order.[9] The ability to do this is heavily reliant on the ocean border surrounding the island state. Peacekeeping and peace enforcement operations are conducted through ocean use as well as disaster relief and humanitarian aid.[10] The ability to use the ocean to do this is important in situations where access via any other means such as by air or land vehicles is impossible due to environmental factors.

The ocean is used for other economic reasons such as the production of global commodities. Globally, 3.2 billion people eat seafood as a part of their diet, hence fishing and other practices of harvesting this source of protein are a large-scale industry.[11] The maritime domain provides a crucial source of income for ocean bordering states, especially developing countries who rely on such industries to not only feed and employ their own population but also gain revenue from international trade.[12]

Similarly, other economic activities are conducted in the ocean including the procurement of energy resources. The extracting of under sea oil with oilrigs and the

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[5] Ibid.
[6] United Nations Conference on Trade and Development, "Review of Maritime Transport 2022," UNCTAD, 2022, https://unctad.org/rmt2022.
[7] Royal Australian Navy, "Australian Maritime Doctrine: RAN Doctrine 1," 2010, https://www.navy.gov.au/sites/default/files/documents/Amd2010.pdf.
[8] Ibid.
[9] Ibid.
[10] Ibid.
[11] US Department of State, "The Ocean," United States Department of State, n.d., https://www.state.gov/oceans/.
[12] OECD, "Review of Fisheries 2022," 2022, https://www.oecd-ilibrary.org/sites/9c3ad238-en/1/3/1/index.html?itemId=/content/publication/9c3ad238-en&_csp_=2ac6bc067b8c5fce7f72e3c4dc37863a&itemIGO=oecd&itemContentType=book.

construction of offshore windfarms are also products of the maritime domain. These features of the maritime domain are crucial to the function of the international economy and resource usage due to the additional access to enough onshore oil mines and locations for windfarms.

According to the World Economic Forum, offshore windfarms are critical in creating power from renewable energy and reducing carbon emissions in an effective and timely manner.[13] Similarly, the Australian government has expressed how, "Offshore wind can help with energy security and resilience due to its power capacity and availability at times when solar power and onshore wind are not available."[14] Therefore further highlighting its effectiveness and importance of the maritime domain in an electricity charged world.

The use of offshore oilrigs is also extremely important for both the international economy and domestic economies. It allows adequate supply to support oil-using industries such as the automobile industry, promotes energy independence for states who can create their own oil supply rather than solely relying on other oil states and also encourages economic growth by these smaller states.[15] In 2015, 30 percent of oil production came from offshore oilrigs, hence providing a large contribution to the oil economy and emphasising the importance that the maritime domain has to the industry.[16]

Returning to the concept of globalisation, the communication of ideas and information is becoming more and more important moving forward. Levinson explores how the fourth wave of globalisation is occurring through the distribution of services, people and ideas more predominantly than goods.[17] With this in mind, the maritime domain is able to house undersea cables that allow for the flow of ideas and information between states. They provide access to internet services and reception lines that allow individuals, businesses, organisations and governments to interact with those across the globe. The distribution of money, data and online materials is becoming increasingly more important for the functioning of economies, lifestyles and industries.[18]

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[13] Kate Whiting, "Explainer: What Is Offshore Wind and What Does Its Future Look Like?," World Economic Forum, 2022, https://www.weforum.org/agenda/2022/11/offshore-wind-farms-future-renewables/.

[14] Chris Bowen, "Unlocking the Power of Offshore Wind | Ministers," Dcceew.gov.au, 2022, https://minister.dcceew.gov.au/bowen/media-releases/unlocking-power-offshore-wind.

[15] B. O. P. Team, "Offshore Drilling: Pros and Cons | BOP Products, Houston Texas," *BOP Products* (blog), January 28, 2022, https://www.bop-products.com/blog/drilling/offshore-drilling-pros-and-cons/#:~:text=Offshore%20Drilling%20Rigs%20Pros&text=Promotes%20Energy%20Independence%3A%20With%20offshore.

[16] US Energy Information Administration, "Offshore Production Nearly 30% of Global Crude Oil Output in 2015," Eia.gov, 2016, https://www.eia.gov/todayinenergy/detail.php?id=28492.

[17] Levinson, *Outside the Box*

[18] Ibid.

Alternatively, alongside this demand for distribution of ideas and services by individuals and businesses is the reliance on the internet for the operation of vehicles, machinery and other technology. The maritime domain is becoming increasingly reliant on data and internet services to control the functions and directions of vessels in the ocean through Global Navigation Satellite Systems, system controls of propulsion, rudders, weaponry (on military vessels) as well as data being sent on board the ship and from the ship through cargo management systems.[19] The maritime industry is reliant on the accurate and reliable use of the internet in order to facilitate the smooth operation of vessels, ports, bridges and all associated equipment. Without access to such systems, the industry would come to a standstill and hugely affect the international economy.[20]

It becomes clear then that the maritime domain is becoming increasingly crucial to the economic and logistical growth within the international system. The ways in which the environment is used for the procurement of resources, transport and distribution of ideas and services is critical in the increasingly globalised society of the 21st century.

Why is the Maritime Domain Alluring to Terrorists?

The maritime domain has been alluring to criminals for hundreds of years. Criminals have engaged in acts of piracy such as hijackings and theft for financial gain and revenge over this expansive period.[21] Terrorists therefore have band-wagoned onto this concept of maritime crime as a potential method to raise awareness and coerce political change towards their respective causes. In today's world, globalisation is the driving force behind state interaction and involvement in the maritime domain. The distribution of goods, resources, ideas and information have placed incredible emphasis on the use of the sea as previously explored. Scholars and governments therefore stress that the potential for globalisation's maritime import could prompt terrorist interest. Commander Surachai Saiwongpanya argues that 'shipping is the backbone of globalisation'[22] and that South East Asia acts as 'a major

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[19] Maritime Institute of Technology and Graduate Studies, "Guide to Ship Cybersecurity," February 2023, https://www.mitags.org/guide-ship-cybersecurity/#:~:text=Your%20Guide%20to%20Ship%20Cybersecurity&text=In%20an%20age%20where%20electronics,protect%20crew%20and%20vessel%20safety..
[20] Nick Chubb, Patrick Finn, and Daniel Ng, "The Great Disconnect: The State of Cyber Risk Management in the Maritime Industry," *CyberOwl*, 2022, https://cyberowl.io/wp-content/uploads/2022/04/CyberOwl-HFW-Thetius-Cyber-Security-Report-The-Great-Disconnect-.pdf.
[21] Bjørn Møller, "PIRACY, MARITIME TERRORISM and NAVAL STRATEGY," February 2009, https://www.files.ethz.ch/isn/96541/2009-02_%20Piracy_maritime_terrorism_and_naval_strategy.pdf.
[22] Commander Surachai Saiwongpanya, RTN, "Maritime Security Cooperation in the Southeast Asia Region ," *RAN Seapower Soundings* 1, no. 36 (2021).

bloodline' for shipping between the East and the West.[23] The Malacca Strait, Sulu Sea and Celebes Sea provide crucial access to Asian and non-Asian economies with over 40 billion dollars of trade flow and nearly 100,000 vessels passing through each year respectively.[24] The International Maritime Organisation's report on global piracy and armed robbery trends in 2022 reveal that the most targeted areas were the Straits of Malacca and Singapore, West Africa and South America (Pacific).[25] Saiwongpanya's concern about the threat of maritime terrorism in this region is justified by its importance to the international economy and the frequency of other maritime crime in the area.

The 'cyberization' of the maritime domain as previously mentioned also provides an allure to terrorists as it provides a new avenue for them to strike. Cyberspace provides three advantages for conducting attacks. These are "relatively risk-free opportunities in the scale, proximity, and precision of cyber "weapons." These advantages make attacks cheaper, easier, and more effective for both state and non-state actors."[26] This means that attacks can be larger, conducted from a far, affect more people, places and objects and be more accurate, thus making it more cost effective and easier to conduct. This can be implemented in the maritime domain against vessels, port facilities and businesses that use the maritime environment.

C. SECTION TWO: DEFINING TWO MARITIME CHALLENGES: TERRORISM AND PIRACY

According to Australian Commonwealth law, terrorism is defined as an act or threat intended to "advance a political, ideological or religious cause; and coerce or intimidate an Australian or foreign government or the public (or section of the public), including foreign public. The conduct falls within the boundaries/parameters of the definition. It causes serious physical harm to a person or serious damage to property; causes death or endangers a person's life; creates a serious risk to the health and safety to the public (or section of the public), or seriously interferes, disrupts or destroys: an electronic information, telecommunications or financial system; or an electronic system used for the delivery of

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[23] Ibid.
[24] Ibid.
[25] International Maritime Organisation, "REPORTS on ACTS of PIRACY and ARMED ROBBERY against SHIPS," April 2023, https://wwwcdn.imo.org/localresources/en/OurWork/Security/Documents/MSC.4-Circ.267_Annual%20report_2022.pdf.
[26] Peter Dombrowski and Chris C. Demchak, "CYBER WAR, CYBERED CONFLICT, and the MARITIME DOMAIN," *Naval War College Review* 67, no. 2 (2014): 70–96, https://www.jstor.org/stable/26397758.

essential government services, used for or by an essential public utility, or transport system."[27] Terrorism scholar Bruce Hoffman defines terrorism as "ineluctably political in aims and motives; violent - or, equally important, threatens violence; designed to have far-reaching psychological repercussions beyond the immediate victim or target; conducted by an organization with an identifiable chain of command or conspiratorial cell structure (whose members wear no uniform or identifying insignia); and perpetrated by a subnational group or non-state entity."[28] Following the 9/11 terrorist attack, the United States declared a 'global war on terror'. This 'war' predominantly focused on religious inspired terrorism, as it has been the main ideological focus of terrorism since the 1970's.[29] Al-Qaeda and ISIS are two groups who have dominated the terrorism dialogue since September 2001 and have inspired many attacks across the globe. Other forms of terrorism that well known during this period include left wing inspired terrorism, right wing inspired terrorism and the development of lone wolf attacks and cyber terrorism. Although stemming from various ideological motives and taking different forms in relation to the types of attacks, they have the uniting goal of creating psychological repercussions and promoting political change in line with their cause. Various terrorist attacks that have occurred over the last 23 years include, the 9/11 attack on the World Trade Centre and Pentagon in 2001, the shooting of over 200 people in coordinated 'Charlie Hebdo' attacks in Paris in 2015 and the 2019 massacre by Brenton Tarrant in Christchurch, New Zealand.[30]

What is Maritime Terrorism?

The concept of maritime terrorism has resisted attempts by scholars and international lawyers to define it. Nevertheless, a useful starting point is usually the 1988 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA). It defines maritime terrorism as "Any attempt or threat to seize control of a ship by force; To damage or

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[27] Parliament of Australia, "Chapter 5 International Terrorism – Parliament of Australia," Aph.gov.au, 2019, https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Completed_Inquiries/pjcis/securityleg/report/chapter5#def.

[28] Bruce Hoffman, "Chapter 1 - Defining Terrorism," in *Inside Terrorism* (New York, N.Y. ; Chichester: Columbia University Press, 2006).

[29] Robin Bowley, "Chapter 2 - the Global Threat of Contemporary Terrorism," in *Preventing the Maritime Facilitation of Terrorism* (Taylor & Francis, 2022), https://ebookcentral-proquest-com.virtual.anu.edu.au/lib/anu/reader.action?docID=7141687&ppg=2.

[30] Peter O'Brien, "Terrorism," in *The Muslim Question in Europe: Political Controversies and Public Philosophies* (Temple University Press, 2016), 199–240, https://www.jstor.org/stable/j.ctt1kft8dx.9?searchText=development+of+terrorism&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Ddevelopment%2Bof%2Bterrorism&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A6336aa3301e4e04eb3695b79672ad324&seq=2.

destroy a ship or its cargo; To injure or kill a person on board a ship; or To endanger in any way the safe navigation of a ship that moves from the territorial waters."[31] Scholars regularly refer to this definition as the basis of their studies and elaboration of the concept. Common themes within maritime terrorism research are the use of the sea for primarily preparation and planning of attacks on land alongside the themes of terrorism development within a challenging environment, blurring of piracy and terrorism and the future trends of maritime terrorism including the introduction of cyber.

Todd Quinn highlighted in his 2007 paper how the ability to conduct terror attacks in the maritime domain has been difficult due to the capabilities of terror organisations, even in their own environments.[32] This viewpoint is also shared by Sam Bateman and Peter Chalk who also believe that the costs of facilitating attacks at sea outweigh the benefits produced by such attacks and operations.[33][34] Various potential methods of attacks have been explored by Bateman as being the blocking of significant waterways such as the Malacca Strait, using vessels with hazardous cargo as 'floating bombs', underwater swimmer attacks, bomb attacks on cruise liners and ferries or suicide attacks by boat.[35] However, it is also evident that some of these attacks are comparatively less credible due to the expertise and skill required by terrorists to conduct these attacks, the financial impact of being able to construct and facilitate attacks as well as the ability to avoid interception by officials.[36] This line of thought, in relation to the various ways that terrorists can conduct attacks in the maritime domain have stemmed from a post 9/11 environment in which defence strategy focused massively on the war on terror. Scholars were questioning whether the extensive costs associated with being ready for large-scale attacks were indeed valid or not.[37]

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[31] Meghan Curran, "Soft Targets and Black Markets: Terrorist Activities in the Maritime Domain" (Stable Seas, 2019), https://www.stableseas.org/post/new-report-terrorist-activities-in-the-maritime-domain.

[32] Todd Quinn, "Terror Australis - How Maritime Terrorism Affects Australia," Queensland University of Technology Law Journal 15 (1999): 155–78, https://heinonline.org/HOL/Page?public=true&handle=hein.journals/qutljrnl15&div=14&start_page=155&collection=journals&set_as_cursor=1&men_tab=srchresults.

[33] Sam Bateman, "Assessing the Threat of Maritime Terrorism: Issues for the Asia-Pacific Region," *Security Challenges* 2, no. 3 (2006): 77–91, https://www.jstor.org/stable/26459043?casa_token=DPpXOg5f-n4AAAAA%3Asoz0yzwJKzSPbpPkCN3lYTKZKcsGZISzKnuGtau6_DbV024rW0Vo88ps-N74-CvNaAzT-ZCGjBUhW7sSzaakhYadUNMb-sd263jJ1YhaO-xegm8kK43f6Q.

[34] Peter Chalk, *The Maritime Dimension of International Security: Terrorism, Piracy, and Challenges for the United States.* (Santa Monica, CA: RAND Corporation, 2008), https://www.rand.org/pubs/monographs/MG697.html..

[35] Bateman, "Assessing the Threat of Maritime Terrorism: Issues for the Asia-Pacific Region"

[36] Ibid.

[37] Ibid.

Rather, during this development in maritime terrorism studies, emphasis was on the use of the sea for other purposes by terrorists, such as the use of the seas for transportation purposes and the exploitation of vulnerabilities in the system that have allowed for greater mobility. Chalk expresses how the transportation industry (during the time of his writing) was open to multiple vulnerabilities due to the need for a highly accessible and easy to turn over process.[38] This allowed, and allows, terrorists to smuggle materials and operatives on board in order to transport them across the globe.[39] Quinn refers to this as the 'war of information' against terrorists in terms of knowing how to infiltrate transport systems and knowing what may be inside.[40] Instead of trying to counter terrorist attacks at sea, "maritime counterterrorism and antiterrorism should concentrate on disrupting the movement of people, terror-related cargo, and financial support of terror groups. Rather than using ships as weapons or targets, terrorists are using criminal activities at sea to support land-based terrorism."[41] Martin Murphy highlights how terrorist groups such as the Liberation Tigers of Tamil Eelam (LTTE) have created 'navies' or 'proto-navies' in order to protect the goods and people being transported across the seas.[42] This is due to the heavy reliance that the group has on the ocean in order to prepare for their activities on land.[43]

This leads into discussion about how the use of the sea is often crucial for terrorist activity on land and reflective of issues within the environments that they occur. Robin Bowley explores this concept thoroughly, arguing that the use of the sea has been critical in the implementation of deadly attacks on land.[44] This has been done by allowing for the transportation of both conventional weaponry and potentially weapons of mass destruction, operatives and in order to finance land attacks.[45] Similarly, Sam Bateman and Patricia Schneider have highlighted how counter-terrorism strategies should also be turning their gaze towards issues on land, as the planning and preparation that occurs on the sea are reflective of broader societal issues as well.[46]

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[38] Chalk, *The Maritime Dimension of International Security: Terrorism, Piracy, and Challenges for the United States.*
[39] Ibid.
[40] Quinn, "Terror Australis - How Maritime Terrorism Affects Australia"
[41] Ibid.
[42] Martin N. Murphy, "Maritime Terrorism," in *Contemporary Piracy and Maritime Terrorism: The Threat to International Security* (Routledge, 2007), 45–72.
[43] Ibid.
[44] Bowley, "Chapter 2 - the Global Threat of Contemporary Terrorism"
[45] ibid
[46] Bateman, "Assessing the Threat of Maritime Terrorism: Issues for the Asia-Pacific Region"; and Patricia Schneider, "Recent Trends in Global Maritime Terrorism," in *Maritime Security: Counter-Terrorism Lessons from Maritime Piracy and Narcotics Interdiction* (IOS Press, 2020), https://doi.org/10.3233/NHSDP200062.

What is Piracy?

The United Nations Convention on Law of the Sea defines piracy in article 101 as:

(a)   any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed:

(i)   on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft;

(ii)   against a ship, aircraft, persons or property in a place outside the jurisdiction of any State;

(b)   any act of voluntary participation in the operation of a ship or of an aircraft with knowledge of facts making it a pirate ship or aircraft;

(c)   any act of inciting or of intentionally facilitating an act described in subparagraph (a) or (b).[47]

Piracy, which has been around for centuries, is a crime motivated by financial gain, revenge or other self-benefiting motives that drive them to take violent action.[48] Whereas maritime terrorism has the goal of achieving political change, there is still overlap between the two. Terrorists often engage in the criminal activity of piracy in order to finance their materials, transport and other necessary costs of conducting organised violence as explored above.[49] This has contributed to the previously mentioned inability to create a universal definition for maritime terrorism and has caused multiple issues surrounding legal repercussions. Saiful Karim argues that maritime terrorism requires its own specific convention and legal process; the United Nations Convention on Law of the Sea, for example, does not provide an adequate conceptualisation of the subject.[50]

Discussion

Evidently, the review of the literature above illustrates how similar the security challenges of piracy and terrorism are in the maritime domain. As scholars progressed beyond the years immediately following 9/11 and into the latter half of the 2010's, the focus is now beginning to

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[47] United Nations, "United Nations Convention on the Law of the Sea" (United Nations, 1982), https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf.
[48] Møller, "PIRACY, MARITIME TERRORISM and NAVAL STRATEGY"
[49] Rommel C. Banlaoi, "MARITIME TERRORISM in SOUTHEAST ASIA: The Abu Sayyaf Threat," *Naval War College Review* 58, no. 4 (2005): 62–80, https://www.jstor.org/stable/10.2307/26396676.
[50] Saiful Karim, "THE RISE and FALL of the INTERNATIONAL LAW of MARITIME TERRORISM: THE GHOST of PIRACY IS STILL HUNTING! ," *New Zealand Universities Law Review* 26, no. 1 (2014): 82–103, https://eprints.qut.edu.au/75963/.

shift towards the future of maritime terrorism from a cyber-standpoint. Multiple scholars have been discussing the implications of the new digital age that is beginning to envelop all aspects of the world around us. Meghan Curran highlights how the maritime sector has been late to embrace and fully understand the significance of cyber within its field, resulting in vulnerabilities for cyber-attacks and lack of regulations that prevent such actions.[51] Similarly, Joshua Tallis also discusses how due to the relative 'newness' of such technology that allows for hacking other forms of cyber-attacks, it allows for terrorists to learn how to infiltrate and where vulnerabilities may lie within systems.[52] He also highlights how more generalised forms of cyber, such as social media, allow for increases in audience and recruitment of people who may contribute to their cause in this way.[53] Captain Marcus Neo also reinforces this idea that cyber provides a new avenue for attacks as he shares how "the World Economic Forum's Global Risk Report 2020 indicated cyber-attacks on maritime infrastructure to be the fifth top risk of 2020."[54] He stresses that areas likely to be infiltrated by such attacks include "Systems in the general environment (e.g. Global Navigation Satellite Systems, Automated Indicator Sharing); (2) Systems on board ships (e.g. ballast systems, propulsion control); and (3) Systems ashore (e.g. monitoring and handling systems for cargo and port operations)."[55] Curran further discusses the cyber threat and how terrorists are improving their capabilities. This provides new avenues for the facilitation of maritime terrorism.[56]

Trends have shown that incidents of maritime terrorism have declined since the initial 'terrorism awakening' of 9/11. Robin Bowley's extensive analysis of maritime terrorism trends reveals that during the early 2000's there was a significant increase in the frequency and lethality of attacks, with 15 attacks occurring with over 10 deaths in the 10 year period.[57] From 2005 onwards, there have been no international headline stirring maritime terrorist attacks

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[51] Curran, "Soft Targets and Black Markets: Terrorist Activities in the Maritime Domain"

[52] Joshua Tallis, "Chapter 16 - Maritime Terrorism," in *Routledge Handbook of Maritime Security* (Routledge, 2022), https://www.taylorfrancis.com/books/edit/10.4324/9781003001324/routledge-handbook-maritime-security-ruxandra-laura-bo%C5%9Filc%C4%83-susana-ferreira-barry-ryan?refId=5c755c36-0274-4cec-9426-00a7116ecf6f&context=ubx.

[53] Ibid.

[54] Captain Marcus Neo, "The Rising Threat of Maritime Cyber-Attacks: Level of Maritime Cyber-Security Preparedness along the Straits of Malacca and Singapore," *Royal Australian Navy Sea Power Soundings*, no. 42 (2021), https://www.navy.gov.au/sites/default/files/documents/Soundings_Papers_42_2021.pdf.

[55] Ibid.

[56] Curran, "Soft Targets and Black Markets: Terrorist Activities in the Maritime Domain"

[57] Robin Bowley, "Chapter 2 - the Threat of Contemporary Terrorism in the Maritime Domain," in *Preventing Terrorist Attacks at Sea: Maritime Terrorism Risk and International Law* (Routledge, 2023), https://ebookcentral-proquest-com.virtual.anu.edu.au/lib/anu/reader.action?docID=7141702&query=robin+bowley.

and very few low impact incidences since then. In exception to a Houthi attack of a civilian ferry off the coast of Aden, Yemen, which resulted in 86 deaths and injured 67 in 2015.[58]

D.   SECTION THREE: A CASE OF MARITIME TERRORISM OR PIRACY?

The below three case studies have been chosen from events at sea which have occurred since 1980. There has been various debate as to whether these case studies do indeed constitute acts of terrorism or piracy. The purpose of this section is to consider the events and reflect on the terrorism and/or piracy markers of each.

Case Study One: Superferry 14, 2004

On the 27th February 2002, a passenger ferry travelling from Manila to Bacolod and Davao was attacked in Manila Bay. A bomb exploded on board the ship, which caused a ferocious fire, engulfing the vessel, killing 116 people, and injuring 300. Responsibility for the attack was claimed by the Abu Sayyaf Group (ASG) and undertaken by member, Arnulfo Alvarado also known as Renondo Cain Delossa.[59] Alvarado smuggled 4kg of TNT onto the ship by hiding it in a television set.[60] He took this set to the cheapest ticketed area of the ship, where there would be a high density of travellers and a greater opportunity to inflict causalities.[61] A timer was set via a watch set by Alvarado, which caused the explosion to the inner depths of the boat.[62] Although the bomb explosion did cause death and injury, the majority of casualties were due to the fire that spread rapidly throughout the boat.

Abu Sayyaf Group is a separatist, Islamic terror organisation that has claimed links to Al-Qaeda.[63] Their goal is to achieve an Iranian style theocracy in the southern Philippines. They use terrorism as a means to prompt change by the existing Filipino government.[64] The group use the maritime domain to their advantage due to the knowledge and expertise they have gained by originating close to the waters of Basilan, Sulu and Tawi - Tawi.[65] Their

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[58] Ibid.

[59] Simon Elegant, "The Return of Aby Sayyaf," TIME Magazine in Partnership with CNN, August 23, 2004, https://www.crono911.org/Fonti/556_Time_23082004.pdf.

[60] Amparo Pamela Fabe, "The Cost of Terrorism: Bombings by the Abu Sayyaf Group in the Philippines," *Philippine Sociological Review* 61, no. 1 (2013): 229–50, https://www.jstor.org/stable/43486362?seq=13.

[61] Fabe, "The Cost of Terrorism: Bombings by the Abu Sayyaf Group in the Philippines"

[62] Global Terrorism Database, "Incident Summary for GTDID: 200402270002," www.start.umd.edu, n.d., https://www.start.umd.edu/gtd/search/IncidentSummary.aspx?gtdid=200402270002.

[63] Simon Elegant, "The Return of Aby Sayyaf," TIME Magazine in Partnership with CNN, August 23, 2004, https://www.crono911.org/Fonti/556_Time_23082004.pdf.

[64] Fabe, "The Cost of Terrorism: Bombings by the Abu Sayyaf Group in the Philippines"

[65] ibid.

families have traditionally also been seafarers and fishermen, thus their ability and willingness to use the sea for their cause.[66]

The Filipino government responded promptly with investigations, however due to the nature of the evidence being a half-submerged vessel, it took six months to complete these investigations.[67] Filipino officials were hesitant to blame the Abu Sayyaf Group despite their claim of responsibility due to difficulty in investigating and possibility of negligence by crew.[68] However, Superferry 14's owner WG&A immediately responded by tightening security on all of its other vessels in order to prevent any other attacks.[69] Following the conclusion of investigations six months later, the Abu Sayyaf Group was indeed confirmed as perpetrators of the attack.

Internationally, responses to the "worst act of maritime terrorism"[70] were the placing of the Aby Sayyaf Group on terrorist watch lists as likely threats and the advising of tourists to not visit the Philippines.[71] This was especially applicable to Australia due to its proximity to the area and attitude following the 2002 Bali Bombings. Australia also sent an Australian Federal Police team to the Philippines to support and provide 'technical, forensic and investigative assistant'.[72] This was then followed by the 'Fighting Terrorism at its Source' scheme introduced in 2004.[73]

The Superferry 14 attack had a large impact on the victims and stakeholders in and around the Philippines. Financially, the loss of tangible assets by the attack was seventy million Philippine pesos and the company WG&A would lose one billion Philippine pesos of opportunity cost losses due to the unseaworthiness of the ship.[74] Employees were also heavily impacted as two hundred and thirty-four shipping crewmembers lost their jobs. Due to the specificity of their employment, they struggled to find alternative jobs for their skillsets.[75]

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[66] Ibid.
[67] Ibid.
[68] Cecille S. Visto, "WG&a Undecided on Fate of Sunken Superferry 14," Factiva, 2004, https://global-factiva-com.virtual.anu.edu.au/ga/default.aspx?page_driver=.
[69] Friena P. Guerrero, "Rescuers Search Ship; 112 Remain Missing (Execs Dismiss ASG Terror Angle)," Factiva, 2004, https://global-factiva-com.virtual.anu.edu.au/ga/default.aspx?page_driver=.
[70] Parliament of Australia, "Chapter 2 the Listings," Aph.gov.au, 2023, https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Completed_Inquiries/pjcis/AQAP_6%20terrorist%20orgs/report/chapter2.
[71] Parliament of Australia, "Chapter 2 the Listings," Aph.gov.au, 2023, https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Completed_Inquiries/pjcis/AQAP_6%20terrorist%20orgs/report/chapter2.
[72] Australian National Audit Office, "Fighting Terrorism at Its Source" (Australian National Audit Office, 2012), https://www.anao.gov.au/work/performance-audit/fighting-terrorism-its-source.
[73] Ibid.
[74] Fabe, "The Cost of Terrorism: Bombings by the Abu Sayyaf Group in the Philippines"
[75] Ibid.

Victims and their families were impacted through the physical and emotional tolls of grief, recovery and shock that would affect the remainder of their lives. The opportunity costs of the one hundred and sixteen killed in the attack is estimated at three hundred and eight million pesos and the costs of the three hundred injured in hospital being three million pesos.[76] The inter-island ferry industry is "the backbone of travel between the archipelago's roughly 7000 islands."[77] The deadly attack had a large effect on traveller's confidence in ferry travel and potentially deterred people from travelling. From this assessment of the impact of the Superferry 14 attack, it is evident that the attack had very localised effects.

Due to the human toll that this terrorist attack created, there were multiple outcomes for both the Philippine community and international community moving forward. Following the Superferry 14 attack, the Philippines introduced an Anti-Terrorism Task Force on the 24th March 2004 to combat the Abu Sayyaf Group and terrorism more generally in the archipelago.[78] Security on board passenger vessels was increased not only in the Philippines but also globally due to the increased threat. Security marshals, increased screening and sniffer dogs were deployed as a means to prevent further attacks on the ferry system within the area.[79] It also meant that in the post 9/11 world, security would have to be on high alert not only on land but also in the maritime environment.

Case Study Two: MV Limburg, 2002

On October 6th, 2002, French oil tanker MV Limburg was attacked in the Gulf of Aden off the Yemeni coast. A small vessel approached the side of the tanker before setting of bombs that damaged the side of the ship. The Limburg was carrying 397,000 barrels of crude oil from Saudi Arabia to Malaysia when it was approaching the Ash Shihr oil terminal to load more oil and was attacked. The explosion by the suicide bombers caused large holes in the side of the tanker that resulted in the spilling of 90,000 tonnes of oil[80] and consequently a fire that lasted 36 hours.[81] This had significant economic consequences on the oil industry and

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[76] Ibid.

[77] The Sydney Morning Herald, "Searchers Seek Philippine Ferry Victims," *The Sydney Morning Herald*, December 28, 2009, https://www.smh.com.au/world/searchers-seek-philippine-ferry-victims-20091228-lgyy.html.

[78] Banlaoi, "MARITIME TERRORISM in SOUTHEAST ASIA: The Abu Sayyaf Threat"

[79] Securityinfowatch.com, "Security Bolstered in Philippine's Ferries to Prevent Another Attack," Security Info Watch, February 22, 2005, https://www.securityinfowatch.com/critical-infrastructure/news/10610093/security-bolstered-in-philippines-ferries-to-prevent-another-attack.

[80] OGI-TM, "Threats to the Oil & Gas Industry," web.archive.org, March 25, 2007, https://web.archive.org/web/20070325231204/http://www.ogi-tm.com/ogi_threats_st.php.

[81] Cedre, "Limburg," Cedre, 2004, https://wwz.cedre.fr/en/Resources/Spills/Spills/Limburg.

tourism, as will be discussed further. One life was also taken by the attack alongside 12 injured crewmembers.[82]

Al- Qaeda claimed responsibility for the attack. Osama Bin Laden issued a statement saying, "By exploding the oil tanker in Yemen, the holy warriors hit the umbilical cord and lifeline of the crusader community, reminding the enemy of the heavy cost of blood and the gravity of losses they will pay as a price for their continued aggression on our community and looting of our wealth."[83] This quote by Bin Laden displays how this attack is linked to Al-Qaeda's ultimate motive of anti-western influence and 'protection' of the Muslim way of life.[84] Al Qaeda used the maritime environment as a way to target western 'exploitation' of the Muslim state. However, this was also an act of opportunity, as the original US oil tanker target did not arrive on time, hence the attack against the MV Limburg instead.[85]

The immediate response by Yemeni officials was to deny terrorist involvement in the incident. This was due to the similar bombing of USS Cole in Yemen only two years prior and reputational costs of potentially being a base for Al Qaeda.[86]

The impact of the attack was large for the Yemen economy as there were "huge financial losses such as tourist cancellations, cleaning up costs and consequent limited uses of the affected port."[87] Fifty percent of port shipping values were cut for a month after the attack due to the reparations and investigations.[88] Environmental damage was also a huge concern as the oil spill and fire severely damaged the marine environment around the site.[89] The incident also caused economic chaos as intended, resulting in the rise in oil prices internationally and consequently economic strain.[90]

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[82] Military Commissions Trial Judiciary, United States of America vs Abd al Rahim Hussayn and Muhammad al Nashiri (Military Commissions Trial Judiciary, Guantanamo Bay, Cuba September 9, 2013).

[83] Rollie Lal et al., "The MIPT Terrorism Annual" (National Memorial Institute for the Prevention of Terrorism, 2006).

[84] EveryCRSreport.com, "Al Qaeda: Statements and Evolving Ideology," www.everycrsreport.com, 2007, https://www.everycrsreport.com/reports/RL32759.html#:~:text=%22The%20Quran%2DBased%20Authority%20to.

[85] Andrew Walker, "Breaking the Bottleneck: Maritime Terrorism and 'Economic Chokepoints' (Part 1) | Center for International Maritime Security," CIMSEC, 2012, https://cimsec.org/breaking-the-bottleneck-maritime-terrorism-and-economic-chokepoints-part-1/#:~:text=Although%20the%20attack%20on%20the.

[86] Jon Henley and Heather Stewart, "Al-Qaida Suspected in Tanker Explosion," The Guardian, October 7, 2002, https://www.theguardian.com/world/2002/oct/07/alqaida.france.

[87] Lydelle Jourbert, "THE EXTENT of MARITIME TERRORISM and PIRACY: A COMPARATIVE ANALYSIS," *South African Journal of Military Studies* 41, no. 1 (2013): 111–37.

[88] Walker, "Breaking the Bottleneck: Maritime Terrorism and 'Economic Chokepoints' (Part 1) | Center for International Maritime Security"

[89] Ibid.

[90] Ibid.

The United States and Great Britain responded with a joint US government and British Special Forces counter terrorism operation that involved the high surveillance, deportation of suspects as well as the training of a Coast Guard for Yemen.[91] Expansion of NATO Active Endeavour was implemented as a way to combat future potential terrorist attacks at sea within the nearby Mediterranean region. Following this attack on the MV Limburg and previous attacks on the USS Cole and 9/11, the US was extremely concerned about potential attacks on the Malacca Strait, a key shipping route for trade within Asia.[92] This lead to the development of the Regional Maritime Security Initiative (RMSI) by the US as a way to protect vessels within the region against potential terrorist and piracy activity.[93] US Admiral Fargo stated, "The goal of RMSI is to develop a partnership of willing regional nations with varying capabilities and capacities to identify, monitor, and intercept transnational maritime threats under existing international and domestic laws. This collective effort will empower each participating nation with the timely information and capabilities it needs to act against maritime threats in its own territorial seas."[94] Hence reflecting a call for a multilateral approach to tackling this threat at sea.

Case Study Three: Achille Lauro, 1985

Another incident frequently regarded as terrorism is the hijacking of the ocean liner 'Achille Lauro' from the 7th to 10th October 1985. The hijacking occurred when two members of the Palestine Liberation Front (PLF) boarded the ship in Genoa under the guise of tourists before holding crew and passengers hostage near Alexandria. They made demands and ordered the ship to enter Tartus, Syria, where it was denied access by authorities.[95] Threats were made to kill passengers and crew unless Israel released fifty Palestinian prisoners. One passenger by the name of Leon Klinghoffer was killed. He was a wheelchair bound, Jewish American who was shot and thrown overboard.[96] The ship returned to the coast of Egypt near Port Said, where negotiations between the Egyptian government and the members of the

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[91] Jourbert, "THE EXTENT of MARITIME TERRORISM and PIRACY: A COMPARATIVE ANALYSIS"

[92] Yann-huei Song, "Security in the Strait of Malacca and the Regional Maritime Security Initiative: Responses to the US Proposal ," in Global Legal Challenges: Command of the Commons, Strategic Communications, and Natural Disasters, accessed March 9, 2022, https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1163&context=ils.

[93] Ibid.

[94] Song, "Security in the Strait of Malacca and the Regional Maritime Security Initiative: Responses to the US Proposal ".

[95] Jeffrey D Simon, *The Implications of the Achille Lauro Hijacking for the Maritime Community* (RAND Corporation, 1986).

[96] Malvina Halberstam, "Terrorism on the High Seas: The Achille Lauro, Piracy and the IMO Convention on Maritime Safety," *The American Journal of International Law* 82, no. 2 (1988), https://www.jstor.org/stable/2203189?seq=42.

Palestinian Liberation Organisation resulted in the end of the hijacking given that the Palestinians could leave Egypt safely in return for the hostages.[97]

The Palestinian Liberation Front are a branch of the Palestinian Liberation Organisation (PLO) whose goal is to achieve a liberated Palestine free from Israeli influence. Terrorist activities by the group surround the conflict between Palestinians and Israelis and their attempts to gain control of their traditional lands. The attack on the 'Achille Lauro' was thus a response to the Israeli raid of the PLO headquarters in Tunisia on October 1st 1985 within this hostile climate.[98]

The United States of America became extremely concerned about the attack given that US citizens were onboard. President Ronald Reagan ordered U.S Navy F-14 aircraft intercept the plane carrying the hijackers to Tunisia forcing it to land in Italy instead.[99] Navy commandos then attempted to take the hijackers into custody in order to take them to the U.S for trial.[100] However, Italian officials claimed jurisdiction over them therefore resulting in an Italian trial.[101] The trial resulted in three of the four terrorists being sentenced with 15 - 30 years in prison and one convicted separately.[102]

A significant outcome from this terrorist attack was that it led to the crumbling of relationships between states. The United States desire to trial the hijackers in the U.S and its conflict in doing so with Italy and Egypt, led to a breakdown between relations.[103] This particularly effected Middle Eastern peace efforts as it created further strain between the United States and Arab states.[104] Similarly, it highlighted the issue of a definition of maritime terrorism as the legal and reputational issues than ensued stemmed from various definitions.

Concern about the future of terrorism and its threat to the maritime environment was also made apparent by the attack. It created a pathway for more terrorists to not only use methods of hijacking aircraft and land vehicles in order to create awareness and action for

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[97] Jeffrey Allan McCredie, *Contemporary Use of Force against Terrorism*, 1986.
[98] Simon, *The Implications of the Achille Lauro Hijacking for the Maritime Community.*
[99] Andrew L. Liput, "An Analysis of the Achille Lauro Affair: Towards an Effective and Legal Method of Bringing International Terrorists to Justice," *Fordham International Law Journal* 9, no. 2 (1985), https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1123&context=ilj.
[100] Ibid.
[101] Ibid.
[102] Richard Pallardy, "Achille Lauro Hijacking | Britannica," in Encyclopædia Britannica, 2020, https://www.britannica.com/event/Achille-Lauro-hijacking.
[103] Liput, "An Analysis of the Achille Lauro Affair: Towards an Effective and Legal Method of Bringing International Terrorists to Justice"
[104] Ibid.

their causes but also use the maritime domain to do so as well.[105] The creation of the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation in 1988 was also a result on the Achille Lauro attack. The convention attempted to further define maritime terrorism and piracy in order to limit the state arguments over the issue and promote efficient responses to potential future attacks.[106]

Discussion

These case studies illustrate how the maritime domain has been used for terrorist attacks. However, it is worth investigating whether or not these activities and events are simply another form of piracy. Does maritime terrorism exist or is it an extension of centuries-old piracy?

	Case Study One	**Case Study Two**	**Case Study Three**
Type of Attack:	Vessel Damaged	Vessel Damaged	Vessel Hijacked
Casualties:	Casualties Confirmed	Casualties Confirmed	Casualties Confirmed
Political Goal:	Did not result in achieving political goal	Did not result in achieving political goal	Did not result in achieving political goal
Perpetrator:	Conducted by known Terrorist group.	Conducted by known Terrorist group	Conducted by known Terrorist group
Psychological Repercussions:	Significant local repercussions for transport users and victims	Psychological repercussions for victims and those financially affected in Yemen	Repercussions for victims and their families, cause for concern for those using maritime transport

Figure 1. Summary of key themes from each maritime terrorism case study

The visual comparison of the three case studies in *Figure 1 provides* a summary of the key themes from each study. Using the SUA's definition of maritime terrorism and Bruce Hoffman's definition of terrorism, it is evident that the cases reflect the key features discussed. This includes the "attempt…to seize control of a ship by force; to damage or destroy a ship… and injure or kill a person on board a ship," [107] as explored in the SUA definition. All three

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[105] Simon, *The Implications of the Achille Lauro Hijacking for the Maritime Community*
[106] Halberstam, "Terrorism on the High Seas: The Achille Lauro, Piracy and the IMO Convention on Maritime Safety"
[107] Curran, "Soft Targets and Black Markets: Terrorist Activities in the Maritime Domain"

case studies reflect political motives including, separatism and anti-western/US ideology and have psychological repercussions on individuals affected as well as the broader community linked to the attacks. However, these psychological repercussions did not have a profound international impact and only predominantly affected victims and locals. Non-state actors such as the Abu Sayyaf Group, Al -Qaeda and Palestinian Liberation Front in attempts to advance their political missions, performed them. Hence, all clearly reflect maritime terrorism within this thematic lens.

	Case Study One	Case Study Two	Case Study Three
Piracy Definition:	UNCLOS (a)	UNCLOS (a)	UNCLOS (a)
Private ends:			Financial Gain (?)
Method:	Passengers as perpetrators	Approached by second vessel	Passengers as perpetrators
Location:	In ocean waters – within government jurisdiction	In ocean waters – within government jurisdiction	In ocean waters – within government jurisdiction

Figure 2. Summary of relevant piracy themes in each case study

The three case studies can also be viewed through a piracy lens in line with the UNCLOS definition of piracy as seen in *Figure 2*. Case study one and three have both involved the act of violence or detention by the passengers of a private ship, whereas case study two displays violence enacted against a target by another ship. This reflects the UNCLOS definition however contains caveats in relation to occurring within state jurisdictions and motive, fuelled by political mission as opposed to private gain. Case study three can be viewed as leading to financial gain as once hijacked, the 'Achille Lauro' operatives attempted to steer it towards Syria rather than keeping passengers hostage alone.[108] Hijacking and taking control of a vessel is itself financial gain due to the value of the vessel captured. Hence, the three cases of maritime terrorism also have overlap with piracy thematically despite difference in motive and location.

Through the analysis of *Figure 1* and *Figure 1* it is evident that although the three case studies fit into the prominent themes of maritime terrorism, they also fit into the themes of piracy. This includes method, location (to an extent) and definition (excluding motive of private

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[108] Simon, *The Implications of the Achille Lauro Hijacking for the Maritime Community*

ends) as 'any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft'.[109] Despite evident caveats, it is impossible to separate the two concepts.

Further Elaboration of Link between Maritime Terrorism and Piracy

As seen with the case studies above, there have been very few incidences of well-known and far-reaching maritime terrorist attacks. The 1985 'Achille Lauro' (case study three) and 2002 'MV Limburg' (case study two) attacks both had relatively low impact on world audiences in comparison to the 'Lockerbie Bombing' in 1988 and '9/11' around similar time periods. The 'Lockerbie Bombing' occurred when a bomb exploded on Pan Am flight 103, resulting in the deaths of 270 passengers, crew and residents of the Scottish town of Lockerbie.[110] It was accredited to General Gaddafi of Libya who claimed it as a response to US aggression towards the Libyan dictator.[111] This attack caused international reverberations as people grieved for their loved ones and feared air travel.[112] It also lead to stricter security around the flight industry.[113] Similarly, '9/11' and the deaths of over 3,000 people had tremendous implications on the international community both emotionally and politically. It lead to President Bush's 'Global War on Terror' and caused an attitude of increased patriotism in the United States.[114] Both of these incidences from around the same time and having similar motives had greater effect on their target audiences than the two explored maritime terrorist attacks did. The 2004 'Superferry Bombing' (case study one) however is different, as it had a great effect on the local Philippine population but did not create as much of an international concern as explored. Thus, as seen through the comparison between maritime terrorism and traditional forms of terrorism, the maritime domain is less conducive to terrorist attacks, as the costs of such actions prove less successful than if they were performed on land.

Rather, maritime terrorism can be better conceptualised as the preparation and planning for attacks on land. Maritime terrorists can harness the methods used by pirates in order to finance attacks, gather weaponry and other equipment as well as transport operatives and

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[109] United Nations, "United Nations Convention on the Law of the Sea"
[110] FBI, "Remembering Pan Am Flight 103 | Federal Bureau of Investigation," Federal Bureau of Investigation, 2018, https://www.fbi.gov/news/stories/remembering-pan-am-flight-103-30-years-later-121418.
[111] Ibid.
Rodney Wallis, *Lockerbie : The Story and the Lessons* (Westport, Conn.: Praeger, 2001).
[113] Ibid.
[114] Hannah Hartig and Carroll Doherty, "Two Decades Later, the Enduring Legacy of 9/11," Pew Research Center - U.S. Politics & Policy (Pew Research Center, September 2, 2021), https://www.pewresearch.org/politics/2021/09/02/two-decades-later-the-enduring-legacy-of-9-11/.

material between locations.[115] Despite the obvious difference between terrorism and piracy being for either political goals in the former and financial/revenge goals in the latter, the mediums in which they are conducted are very similar. Trends in maritime terrorism have shown that the majority of attacks within the last 20 years have involved bombings, armed assaults and hijackings.[116] The latter two being known features of maritime piracy.[117] Although there have still been attacks by terrorists in the maritime domain, they have occurred very minimally and are not the forefront of the concept. Therefore, it is impossible to categorise piracy, maritime terrorism and other forms of crime in the maritime domain as separate and unique concepts as there are many overlaps and uses of various elements in order to achieve an attack. Instead, this process of maritime terrorism can be better explained as an off branch of piracy rather than a unique form of maritime violence.

The Cyber Element

Given that this project has focused primarily on maritime terrorism in the past, it is important that consideration be made for the future of maritime terrorism. Technological advances, such as artificial intelligence (AI), and the growing prevalence of cyber and cyber security in maritime affairs, will create new challenges for states and mariners at sea and ashore.

Hacking is the gateway action to access cyber systems as it can facilitate further actions and attacks. This involves the accessing of a computer system in order to gain control of its functions and access to content and information stored.[118] Access to systems can result in the ability to download and view information such as documents, programs and security procedures and can allow for the control of the system including control of operations, machinery, weaponry and other computer-controlled objects.[119] In the maritime sphere this can mean taking control of a vessels mechanics such as the rudder and engine therefore controlling the speed, direction and movement of the boat, downloading of information such

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[115] Banlaoi, "MARITIME TERRORISM in SOUTHEAST ASIA: The Abu Sayyaf Threat"

[116] Global Terrorism Database, "GTD Search Results," www.start.umd.edu, accessed May 10, 2023, https://www.start.umd.edu/gtd/search/Results.aspx?expanded=yes&search=maritime&ob=GTDID&od=desc&page=1&count=100#results-table.

[117] Myles Mastrototaro, "An Examination of Privateering as a Preventative Means of Modern Maritime Piracy" (2015), https://digitalrepository.salemstate.edu/bitstream/handle/20.500.13013/870/Mastrototaro__Myles.pdf?sequence=2&isAllowed=y.

[118] Malwarebytes, "What Is Hacking? | What You Need to Know about Hackers," Malwarebytes, 2022, https://www.malwarebytes.com/hacker.

[119] Chubb, Finn, and Ng, "The Great Disconnect: The State of Cyber Risk Management in the Maritime Industry"

as coordinates, contents on board, strategy (for military vessels) and taking control of weaponry such as missiles.[120] This type of hacking can also occur in port facilities as access to operating systems can result in the location of specific containers that may contain weaponry, drugs or other illicit material, can result in control of machinery such as water gates or cranes alongside providing access to limited areas within the facility.[121]

The installation of malware within computer systems is also a way in which hacking can be conducted as it provides access to important documents, information and data.[122] This can be used to access and share the personal information of crew on board ships, workers in port facilities as well as the large corporations that run these facilities and customers who may make transactions or business deals with such businesses. Alternatively, it could also take the form of hacked access to undersea cable systems that store millions of individual's and group's data and send it across the globe.[123] This can cause severe stress amongst the victims and their families as it provides information for other criminals to use and exploit.[124]

Spoofing is an act that can be used by terrorists and other criminals to gain access to GPS coordinates as it can influence the route of ships and hence control where the vessels is heading to.[125] This can then result in the hijacking of ships, intentional collisions or robbery as well as financial implications on corporations whose goods go missing, are destroyed or do not arrive to their destination on time. It can also result in diplomatic issues between states due to vessels being in unauthorised water and potentially provoking states security operations intentionally.[126]

This is only a brief exploration of the various ways that terrorists and criminals can use the cyber space to conduct attacks. There are evident implications of this for the concept of maritime terrorism.

Firstly, the definition of maritime terrorism does not directly mention the use of indirect technological attacks or threats. Although it is vague and there is potential to include

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[120] Ibid.
[121] Ibid.
[122] Ibid.
[123] Lixian Loong Hantover, "The Cloud and the Deep Sea: How Cloud Storage Raises the Stakes for Undersea Cable Security and Liability," *Ocean and Coastal Law Journal* 19, no. 1 (2014), https://digitalcommons.mainelaw.maine.edu/cgi/viewcontent.cgi?article=1028&context=oclj.
[124] Chubb, Finn, and Ng, "The Great Disconnect: The State of Cyber Risk Management in the Maritime Industry"
[125] Curran, "Soft Targets and Black Markets: Terrorist Activities in the Maritime Domain"
[126] Clément Iphar, Cyril Ray, and Aldo Napoli, "Uses and Misuses of the Automatic Identification System. ," *HAL Open Science*, 2019, https://hal-mines-paristech.archives-ouvertes.fr/hal-03736713/document.

technology in the threat and use of violence, it is unknowing as to whether cyber terrorism is in fact included in such definition. Hence, depending on how an individual or agency views these definitions and what lens they are reading it through, there is the high possibility that cyber violence does not fit into this concept.

Similarly, the conducting of cyber-attacks within the maritime domain by terrorists does not always constitute a terrorist attack. Terror organisations and individuals can use the strategies of hacking, spoofing and hijacking in order to create incomes.[127] This can be done through the selling of people's details on the black market, holding companies at ransom for control of their systems, the smuggling of drugs and weaponry under the radar of authorities and using cyber access as a way to locate and transport such materials without being seen and tracked.[128] As with the previously mentioned alternate uses of the maritime domain for terrorists, the cyber space allows for a less hands on and more indirect method of conducting such operations. It provides accuracy, anonymity and greater ease in facilitating within an increasingly cyber dominated world.[129]

There is also the strong overlap between methods of piracy and terrorism on the high seas within the cyber realm. From a cyber standpoint, in order to conduct a terrorist attack on sea using cyber, there would need to be a form of system hijacking in order to take control of the ship and crash it into another vessel, port or the like, create an explosion using mechanical failures or other possible ways of creating physical violence. Alternatively, violence through the access of GPS signals, information signals and data sources may be used as a way to initiate fear amongst crew, customers and other affiliates of the affected organisation or company and result in psychological stress.[130] However, what is stopping these terrorists from holding onto this information and using it for other purposes such as financial or for personal vendettas? There is no way to know what other uses access to such material can lead to and whether it is being used solely for political purposes or financial benefit also. Therefore, there is still this blur between acts of piracy and terrorism within the maritime domain.

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[127] Mantu, "Cyber Pirates: Theft on the High Seas | Mantu," www.mantu.com, accessed May 10, 2023, https://www.mantu.com/blog/business-insights/cyber-piracy/.

[128] Chubb, Finn, and Ng, "The Great Disconnect: The State of Cyber Risk Management in the Maritime Industry".

[129] Ibid.

[130] Stanley Clark, "The Psychological Impact on the Lives of Cyber-Attack Victims," Painted Brain, June 17, 2021, https://paintedbrain.org/blog/the-psychological-impact-on-the-lives-of-cyber-attack-victims.

Whether or not cyber-attacks within the maritime domain constitute maritime terrorism or piracy, it is still an extremely vulnerable area for attacks. The heavy reliance that the economy, maritime industry and process of globalisation have placed onto the marine environment has meant that successful attacks in key areas or key points of infrastructure can be catastrophic. Hence, the future of maritime terrorism and piracy is very likely to use the cyber space in order to achieve their goals.

E. SECTION FOUR: CONCLUSION AND RECOMMENDATIONS

Conclusion

This research project has demonstrated how maritime terrorism and piracy are conceptually intertwined. The concepts of maritime terrorism and piracy have been addressed in order to understand their implications on the maritime environment. Through the exploration, analysis and discussion of the case studies of 'Superferry 14', 'MV Limburg' and 'Achille Lauro', this project has been able to see the practical implementation of links between maritime terrorism and piracy. The key finding from this being that the methods used reflect methods of piracy, however the motive behind attacks differs with political purposes for maritime terrorism and private gain for piracy. Scholars have also pinpointed the potential for cyber becoming a platform for both terrorist attacks and piracy. With this in mind, links were also found between the use of cyber by both terrorists and pirates, as they too were very similar, yet differentiated by motive. Therefore, terrorism in the maritime domain can be heavily associated with the concept of piracy despite different motivational drivers.

Recommendations

Given the conclusion above, recommendations will be made involving the conceptualisation of maritime terrorism and piracy under a similar term. It is important to distinguish that maritime terrorism does not fully reflect maritime piracy due to the differences in motive and location. However, it should also not be completely separated conceptually as previously done so. Rather, maritime terrorism should be recoined as 'terrorism related piracy' and conceptualised as a branch under a broad term of piracy. The methodical features remain the same, yet caveats of motive and location are what separates the two. Focus on definitional differences causes complication in the creation and conducting of policies to combat the threat, hence a more blanket term, with caveats would be a more effective way to approach the issue.

Similarly, it is also recommended that maritime operations focus less on the occurrence of maritime terrorist attacks and more on the methods of piracy used by terrorists to contribute to on land endeavours. This includes the financial support for land attacks through theft, the hijacking and tampering of vessels and equipment in order to transport operatives and materials and the use of cyber to facilitate such processes. Through the creation of policy that focuses on these piracy methods, the use of the sea for terrorism will also be dealt with through these operations.

It is also recommended that investigations be conducted into the ways that piracy may be benefitting from a focus on maritime terrorism. Through this focus, it is possible that organised criminal networks are exploiting the complicated and confusing implementation of terrorist targeting policy in order to hide their activities and networks. They could be using political goals as a way to promote the facilitation of revenue raising attacks or acts of revenge in order to further their success. This could be a point of further research into understanding the operations of maritime terrorism and piracy.

The final recommendation made in this paper is that there should be increased cooperation between agencies when dealing with maritime terrorism and piracy. The introduction of cyber within this threat domain means that cooperation is now required between the Royal Australian Navy, Maritime Border Command and cyber focused wings of the Australian Federal Police, Australian Signals Directorate and the Australian Security Intelligence Organisation. Targeted operations employing collaboration between these departments (or international equivalents) would be necessary to combat both the physical facilitation of maritime terrorism and piracy as well as potential cyber-attacks.

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