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TRACKING THE FUTURE OF THE OCEAN: A PERSPECTIVE FROM THE PRESENT AND PAST HISTORY

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Abstract

The ocean, a vast and dynamic resource, has been a pivotal element in shaping human history and will continue to influence the future of civilization. *Tracking the Future of the Ocean: A Perspective from the Present and Past History* seeks to explore how historical maritime practices and contemporary challenges intersect to guide the future of ocean management and conservation. The purpose of this article is to examine the evolving relationship between humanity and the ocean, with a focus on identifying lessons from the past that can inform future strategies. The central question this study addresses is: How can a historical understanding of human interaction with the ocean guide us in addressing present and future maritime challenges, particularly in the areas of environmental sustainability and global governance? The methodology employed in this study combines historical analysis with contemporary case studies, examining key moments in maritime history alongside modern trends such as climate change, ocean pollution, and the rise of new maritime technologies. The theoretical framework draws on interdisciplinary approaches, incorporating theories of environmental history, sustainability, and political ecology to understand the complex dynamics between human activity and ocean ecosystems. Key findings suggest that while historical maritime practices often led to overexploitation and environmental degradation, there are valuable lessons to be learned from past successes in marine resource management and conservation efforts. The study emphasizes the importance of integrating traditional knowledge with modern scientific

approaches to address emerging challenges such as overfishing and habitat loss. Furthermore, the article highlights the critical role of global cooperation and policymaking in shaping a sustainable future for the ocean. Finally, the article outlines key areas for future research, including the impact of emerging technologies on ocean ecosystems, the potential for sustainable maritime industries, and the role of international governance in ocean conservation. This study concludes that a holistic understanding of both past and present oceanic dynamics is essential in ensuring a balanced and sustainable future for the world's oceans.

Keywords: Future History, Maritime History, Future Sustainability, Historical Perspective and Ocean.

Introduction

The history of the ocean not only encompasses the evolution of human civilization involved in navigation, fishing, and maritime trade, but also illustrates the dynamic relationship between humans and the ocean that is the lifeblood of economic, political, and cultural life. Now, with global challenges such as climate change, pollution, and ocean warming, the history of the future of the ocean is a significant aspect in helping humanity understand and prepare for the future of the world's oceans. Using the historical approach of the future, we can anticipate the challenges that will be faced and thus avoid the mistakes of the past that may be repeated. The ocean, covering more than 70% of the Earth's surface, has long been an essential part of our planet's ecosystem and human history. From the earliest seafaring civilizations to the modern technological age, the ocean has played a central role in shaping the course of human development, trade, and culture. However, as we face unprecedented challenges in the 21st century—ranging from climate change to overfishing—understanding the past and present relationship between humanity and the ocean has never been more critical. "Tracking the Future of the Ocean: A Perspective from the Present and Past History" explores how our interaction with the ocean has evolved and what it can teach us about safeguarding its future. By examining both historical and contemporary views, this study provides insights into the interconnectedness of our oceans, societies, and prospects for sustainable stewardship. Through this lens, we aim to understand the lessons learned from history and use them to navigate the complexities of today's oceanic challenges, ensuring a healthier and more resilient future for our seas.

Conceptual of Maritime History and Future History

History is often perceived as a static reflection of past events, yet the concept of "future history" challenges this conventional notion by proposing that history can be shaped by anticipations and projections of what is yet to come. On the other hand, "maritime history" delves into the intricate relationships between human societies and the seas, focusing on the maritime activities that have propelled civilizations forward throughout time. Both fields, though distinct in their primary focus, are interlinked through their shared understanding of how the past shapes future trajectories. This article seeks to provide a brief definition of "future history" and "maritime history," highlighting their significance in

the context of societal development and our understanding of the global environment. The term "future history" is an innovative framework that encompasses the idea of studying future events as if they were historical facts. This approach blends speculative foresight with a historical perspective, making it distinct from conventional historiography. While traditional history is based on documenting and analyzing past events, future history considers how the unfolding of present actions and emerging trends might be recorded as history in the future. Essentially, future history acknowledges the active role of human agency in shaping future outcomes, much like how historical events of the past have been shaped by the actions of previous generations. It invites us to question the world we are creating and its long-term implications for future generations.

In the context of maritime history, future history can be especially significant. As humanity continues to explore new maritime frontiers, such as deep-sea mining, underwater cities, or new shipping routes due to climate change, future history provides a framework to examine the potential impacts of these developments. It prompts us to consider how these future actions will be interpreted and remembered in the centuries to come. The study of future history, therefore, serves as a reminder of the broader impacts of contemporary decisions on the oceans and coastal communities, both in terms of environmental sustainability and geopolitical dynamics. In contrast, maritime history is a more established field that traces the role of the oceans in shaping human civilization. From ancient seafaring cultures like the Phoenicians and the Polynesians to the age of European exploration and the rise of global trade networks, the seas have been central to human development. Maritime history examines the technological, economic, and cultural aspects of human interaction with the water, from shipbuilding advancements to the rise of naval powers. It also encompasses the environmental and social impacts of maritime activities, such as the spread of disease, the establishment of colonies, and the exploitation of marine resources.

Maritime history not only focuses on the exploration of new lands but also on the complex relationships between coastal communities and the vast oceanic expanse that surrounds them. For centuries, maritime routes have been crucial for trade and communication, linking disparate parts of the world together. These routes, both established and yet-to-be-discovered, continue to define global commerce today. However, the story of maritime history is not merely about trade and exploration; it is also a narrative about conflict, navigation, environmental management, and the evolution of global politics. While future history anticipates the possible trajectories of human interaction with the oceans, maritime history serves as a foundation, providing insight into past patterns of oceanic exploration, resource use, and cultural exchanges. Understanding how human societies have historically navigated the sea offer valuable lessons for the future. For instance, the exploration of new maritime routes, the exploitation of marine resources, and the development of new maritime technologies may have parallels with past historical events, allowing us to foresee potential outcomes and make informed decisions.

The intersection of these two fields can help guide humanity toward a more sustainable and responsible interaction with the seas. By studying the successes and failures of past maritime ventures and combining them with future projections, we can better understand the potential consequences of contemporary actions on the ocean and its ecosystems. In doing so, we gain the tools to navigate future challenges, ensuring that future maritime history is a story of progress rather than destruction. In conclusion, the definitions of "future history" and "maritime history" illustrate two distinct yet interconnected ways of understanding human interaction with the world. Future history invites us to look ahead and consider how today's actions will be recorded and remembered, while maritime history looks back at how the oceans have shaped civilization. Together, these fields offer a unique perspective on the ongoing relationship between humans and the sea, emphasizing the need for careful thought and foresight in our maritime endeavors. As we move forward, the lessons from the past and the anticipations of the future must guide us in creating a sustainable and harmonious relationship with the oceans that will endure for generations to come.

What is the Importance of Studying the History of the Future of the Ocean?

The history of the ocean is not just a story about maritime exploration and trade, but it also reflects the dynamic relationship between humans and the ocean throughout the ages. In a modern era filled with challenges such as climate change, ocean pollution, and the increasing use of marine resources, the study of the future history of the ocean is becoming increasingly important. The historical approach of the future allows us to anticipate changes that may occur in the ocean in the future and plan sensible steps to meet those challenges. This study is important not only to protect marine ecosystems but also to ensure the safety and well-being of the global community.

1. Avoid Repeating Past Mistakes

The study of the history of the future of the ocean helps us avoid possible repeated mistakes in marine resource management. Many previous civilizations that relied on the sea eventually collapsed due to overexploitation of resources and failure to manage maritime ecosystems properly (McNeill, 2010). For example, some ancient maritime kingdoms in the Mediterranean Sea faced decline when marine ecosystems became no longer productive due to overfishing. Through the study of future history, we can anticipate the same challenges faced by todays and future societies if this overexploitation is not curbed. Therefore, studying the history of the future gives us the opportunity to learn from previous mistakes and avoid similar crises in the future.

2. Predicting the Impact of Climate Change on Marine Ecosystems

The study of the future history of the ocean is also important to understand how climate change will affect marine ecosystems and communities that depend on marine resources. The ocean is the world's largest carbon sink, but excessive carbon dioxide sequestration causes ocean acidity to rise and seawater temperatures to rise, which negatively impacts many marine species (Folke et al., 2016). Through the study of past climate data and

future prediction models, researchers can predict habitat changes and migration patterns of marine species due to global warming. These forecasts enable governments and environmental agencies to plan adaptation measures to protect marine biodiversity as well as ensure sustainable marine resources for future generations.

3. Ensuring Maritime Security and Sovereignty

The sea is a major trade route and a strategic area for many countries. Therefore, the study of the future history of the ocean also plays an important role in ensuring the maritime security and sovereignty of a country. According to Till (2009), history shows that strategic routes such as the Strait of Malacca and the South China Sea have often been points of conflict between great powers due to their importance in global trade. By studying history and mapping out future scenarios, governments can predict potential conflicts at sea and devise strategies to defend their sovereignty. This approach also helps countries plan more strategic foreign policies and minimize the risk of future maritime conflicts.

4. Supporting Effective Marine Resources Conservation and Management Policies

The study of the future history of the ocean provides important information for policymakers to plan more effective ocean conservation strategies. The ocean is a complex ecosystem and the interactions between various species and ecological factors are difficult to predict accurately. Using the future historical approach, researchers can look at patterns of past ecological changes to predict possible challenges in the future. For example, plastic and chemical pollution in the ocean is now a major threat to marine life (Jam Beck et al., 2015). By studying the history of pollution and studying current trends, policies can be formed to reduce this pollution as well as protect marine ecosystems.

5. Preparing Society for a More Sustainable Future

The study of the history of the future of the ocean is also important in educating and preparing the community to face a more sustainable ocean future. According to Gidley (2017), future history is an approach that aims to increase human awareness and responsibility towards future generations. Through this study, people can understand that their activities in the ocean today will impact future generations. For example, awareness of the importance of protecting coral reefs or conserving endangered species can be created through education based on the study of the history of the ocean's future. By raising public awareness of marine issues, we can form a society that is more aware of environmental sustainability.

Future Historical Theory and Its Application

Future history is a field of study that aims to understand and anticipate changes that may occur in the future based on past historical patterns and data as well as current developments. This theory provides an opportunity for researchers to study future events systematically and structurally, especially in the context of increasingly critical maritime issues. With global threats such as climate change, ocean pollution, and resource scarcity

on the rise, understanding the future history of the ocean is essential. This essay will discuss the key theories in the study of future history and how these theories are applied in the study of the future history of the ocean. The study of future history evolved as an attempt to see the future as an extension of the past and present, rather than just speculation without a solid basis. Bell (2003) explained that future history seeks to predict future possibilities based on historical data and patterns. One of the main theories in future history is the *continuity theory* which assumes that the past, present, and future are continuums of interconnected events. According to this theory, the future can be predicted through the analysis of past events and recurring patterns (Bell, 2003).

Another important theory is *the theory of future uncertainty*, put forward by Gidley (2017). This theory emphasizes that while history can provide guidance for predicting the future, there is still an element of uncertainty that is inevitable due to various factors such as social, technological, and environmental changes. Therefore, this theory warns researchers that future predictions need to be flexible and constantly reviewed. In the context of the historical study of the future of the ocean, these theories are used to anticipate changes in maritime ecosystems and sea trade routes, considering historical patterns as well as new factors impacting the global ocean. This theory provides the basis for designing better and effective marine management strategies. There are several specific theories applied in the study of the future history of the ocean as follows:

1. Maritime Climate Change Theory

Maritime climate change theory focuses on the effects of climate change on marine ecosystems and sea-dependent human populations. Folke et al. (2016) emphasized that global warming has had a significant impact on ocean temperature patterns, sea levels, and ocean currents, which in turn affects marine biodiversity. Using this theory, researchers can predict the impact of climate change on marine habitats and determine areas of the ocean that may be affected in the future. This theory is also important for predicting the position of marine species that are decreasing or shifting due to changes in ocean temperature.

2. Maritime Geopolitical Theory

The sea is not only ecologically important, but also as a strategic area from a geopolitical point of view. Maritime geopolitical theory, introduced by Till (2009), emphasizes the importance of trade routes and strategic positions at sea. According to Till, history shows that great powers often conflict or compete for control of important maritime routes, such as the Strait of Malacca and the South China Sea. Using this theory, researchers can predict potential conflicts at sea due to population growth and increased resource needs. Maritime geopolitical theories play a crucial role in ensuring national sovereignty and the security of sea lanes in the future.

3. Theory of Maritime Economic Continuity

The theory of maritime economic continuity, on the other hand, focuses on the sustainable and sustainable use of marine resources. According to McNeill (2010), overexploitation of the sea can lead to the collapse of marine ecosystems and ultimately harm the maritime economy itself. Using this theory, researchers can predict the long-term economic impact that may occur due to the unsustainable use of marine resources. This theory helps in formulating policies that support ocean conservation as well as ensuring that marine resources can be used by future generations.

These three theories can be combined to examine marine issues from the perspective of future history. For example, plastic pollution in the oceans is an issue that requires an approach based on all three theories. Maritime climate change theory will help predict the impact of temperature changes and ocean currents on the movement of plastics in the oceans. Maritime geopolitical theory, on the other hand, will consider conflicts or cooperation between countries in addressing the issue of plastic pollution that knows no borders. Meanwhile, the theory of maritime economic sustainability will provide guidance in planning policies that ensure that plastic pollution does not have a negative impact on the maritime economy in the future (Jam Beck et al., 2015). In addition, the issue of climate change causing sea level rise is also a relevant example for the application of this theory. Through maritime climate change theory, researchers can predict coastal areas that may be affected and determine appropriate conservation measures. Maritime geopolitical theory, on the other hand, will consider the issue of human migration due to sea level rise that may trigger conflicts or social problems. The theory of maritime economic continuity, in this context, provides guidance on the development of a more sustainable coastal economy to reduce the impact of sea level rise on the coastal economy.

How Future History Mapping Maritime History

Incorporating the concept of future history in the context of marine history is important to understand possible future scenarios involving oceans. First, through a future historical approach, researchers can predict marine ecological challenges such as climate change, marine pollution, and biodiversity loss that may worsen in the coming decades (McNeill, 2010). Based on climate science and historical data, we can see possible patterns, for example changes in ocean temperatures that could lead to mass migration of marine species to areas more suitable for their habitats. Second, future history allows mapping future marine economic scenarios. Based on the historical records of maritime trade, researchers can anticipate the potential for conflict or competition between countries that depend on strategic maritime routes such as the Strait of Malacca and the South China Sea (Till, 2009). In this future scenario, the study of marine history provides an overview of trends and patterns of ocean use that may be relevant in determining future global geopolitical policies. Third, the history of the future of the ocean also provides an opportunity to outline better conservation policies and measures based on historical understanding. By reviewing how previous countries failed or succeeded in controlling marine pollution or overexploitation of marine resources, policymakers can take more

effective preventive measures and management strategies in the future (Folke et al., 2016).

Predicting the Future of the Ocean: Present and Past Perspectives and Predictive Reliability

The history of the oceans plays a crucial role in understanding the relationship between humans and the oceans, while the development of today's technology and science allows us to make predictions about the future of the oceans. These predictions cover various aspects such as climate change, ocean pollution, species migration, as well as the sustainable use of maritime resources. However, how reliable these predictions are depending on the forecasting methods used, the reliability of past data, and our ability to understand current patterns of change. This essay will discuss how past and present-based approaches help in predicting the future of the ocean as well as the factors that influence the reliability of those predictions. The historical method is a key foundation in understanding how certain factors, such as climate change and human activities, affect the ocean over time. By looking at past historical patterns, researchers can predict changes that may occur in the future. For example, McNeill (2010) in his book *Something New Under the Sun* shows how uncontrolled rapid development and industrial pollution in the 20th century have negatively impacted marine ecosystems. Based on this historical data, we can expect similar challenges in the future if the trend of pollution and exploitation continues.

Maritime history also provides clues to the pattern of trade and geopolitical conflicts at sea. According to Till (2009), major trade routes such as the Straits of Malacca and the South China Sea have long been the focal point of the world's great powers. Through a historical approach, we can understand that this path will continue to be strategic in the future, with the potential for greater conflict or competition due to economic growth and increasing resource requirements. History, thus, provides the basis for understanding the factors that are most likely to continue to influence the future of the world's oceans. In addition to looking at history, the use of modern technology in data collection also allows for more accurate predictions of ocean changes. Satellite technology, climate models, and big data are now being used to monitor changes in ocean temperatures, current patterns, and seawater acidity levels. With this technology, researchers can predict the effects of climate change, such as sea level rise and sea warming, which will affect marine habitats and human life in coastal areas (Folke et al., 2016). Today’s empirical data also helps predict the effects of ocean pollution, including the problem of plastic waste and toxic chemicals that threaten marine life.

According to Jam Beck et al. (2015), the large amount of plastic entering the ocean each year is expected to continue to increase, causing various threats to marine species and marine ecosystems. Based on the current collection of plastic pollution data, future forecasts suggest an increase in this pollution rate, unless immediate preventive measures are taken. Therefore, today's data-driven approach provides a clearer picture of potential ocean problems in the future. The reliability of the forecast of the future of the ocean depends on several factors. First, it depends on the accuracy of historical data and current

data. History does not always repeat itself with similar patterns, and new factors such as global climate change introduce dynamics that may not have occurred in human history. According to Gidley (2017), future history can only be a guide, since the predictions made depend on ever-changing patterns and are not always linear.

Second, ocean forecasting also relies on the ability of climate models and big data to accurately process large amounts of information. For example, while climate models can give a rough idea of ocean warming, they cannot predict all the possibilities that exist because there are unknown factors that can influence the forecast results. This is because scientific data is tentative, and new developments in technology and knowledge can change the way we understand environmental phenomena (Bell, 2003). Third, the reliability of predictions depends on the human factor, which is the extent to which proactive actions are taken to overcome the challenges faced. For example, if drastic measures are taken to reduce plastic pollution or control climate change, the predicted scenario could change. Therefore, the reliability of these predictions is subjective and depends on the global and local actions taken to meet the challenges of the ocean.

Discussion and Research Findings

Studying the history of the future of the ocean is essential to understanding and addressing the upcoming challenges of the ocean. This study helps us avoid repeating past mistakes, predict the effects of climate change, ensure maritime security, support effective conservation policies, and prepare societies for a sustainable future. In a world increasingly facing ocean challenges, the ocean future history approach offers valuable insights to help us shape a more responsible and sustainable future. Through careful study and good planning, we can ensure that future generations will continue to enjoy the benefits provided by the ocean. Overall, the approach based on history and current data provides a strong basis for predicting the future of the ocean. Despite this, the reliability of these predictions is still limited by the factors of data accuracy, complex environmental dynamics, and human readiness to respond to the challenges faced. Approaches based on history and the present provide guidance, but constant changes in science and technology, as well as human actions, play a crucial role in determining the future of the world's oceans. Predictions of the future of the ocean need to be constantly reviewed and refined to produce a more realistic and reliable picture.

The theory of the future history of the ocean plays an important role in helping us understand and predict changes that may occur in the future. Through the theory of maritime climate change, maritime geopolitical theory, and the theory of maritime economic continuity, researchers can analyze the challenges faced by marine ecosystems and sea-dependent societies. The use of these theories also aids in formulating more effective policies and strategies to ensure a more sustainable and secure ocean future. In a world that is increasingly vulnerable to global challenges, the study and understanding of the future history of the ocean is essential to ensure that the ocean continues to be a valuable resource for future generations. Overall, the history of the future of the ocean is a critical approach in confronting increasingly pressing ocean challenges. Through historical analysis and scientific data, we can create better scenarios and plans for the

future of the world's oceans. The combination of future history and ocean history allows us not only to understand the important role of the ocean in human history, but also to prepare ourselves to ensure the balance of the marine ecosystem and the continuity of human civilization that depends on the ocean. In the face of the challenges of climate change and ocean overexploitation, the ocean's future historical approach gives hope that we can design more responsible and sustainable actions.

Conclusion

At first glance, the ocean may seem like something that has no history of its future, as it is only considered an unchanging natural resource. However, the ocean is undergoing significant changes due to human exploitation, climate change, and global geopolitical dynamics. Therefore, the role of predicting the future history of the ocean is important to understand how these changes can impact the survival of maritime resources, marine biodiversity, and international security. However, debate still exists between marine science and marine history about the most accurate method of making these predictions. Ocean science tends to rely on quantitative data and mathematical models to predict phenomena such as sea level and ocean temperature, while marine history emphasizes the importance of historical patterns and social context in understanding them. These two fields complement each other; Ocean science provides empirical data and models, while ocean history provides a more holistic and comprehensive perspective on the role of humans in transforming marine ecosystems. Given this importance, the steps that need to be taken are to combine scientific knowledge with historical perspectives to formulate more sustainable marine management policies and strategies. Data-based maritime policy formulation and an understanding of history can ensure that we are able to address future threats while preserving the ocean for future generations. Overall, predicting the future history of the ocean is not just an academic endeavor, but a necessity in a world that is increasingly vulnerable to the challenges of climate change, pollution, and resource conflicts. By combining insights from ocean science and marine history, we can design proactive and effective measures to protect one of the most valuable natural resources for human well-being and global ecosystems

Bibliography

Bell, W. (2003). *Foundations of Futures Studies: Human Science for a New Era*. Transaction Publishers.

Folke, C., Carpenter, S. R., Walker, B., Scheffer, M., Chapin, T., & Rockstrom, J. (2016). Resilience thinking: Integrating resilience, adaptability, and transformability. *Ecology and Society, 15*(4), 20.

Gidley, J. M. (2017). *The Future: A Very Short Introduction*. Oxford University Press.

Horden, P., & Purcell, N. (2000). *The Corrupting Sea: A Study of Mediterranean History*. Blackwell.

McNeill, J. R. (2010). *Something New Under the Sun: An Environmental History of the Twentieth-Century World*. W.W. Norton.

Rozwadowski, H. (2005). *Fathoming the Ocean: The Discovery and Exploration of the Deep Sea*. Harvard University Press.

Till, G. (2009). *Sea power: A Guide for the Twenty-First Century*. Routledge

Jam Beck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andray, A., ... & Law, K. L. (2015). Plastic waste inputs from land into the ocean. *Science, 347*(6223), 768-771.