

Anders Omstedt, Bernt Gustavsson

The ocean: Excursion and return

ABSTRACT: The ocean with its coastal seas is under increasing anthropogenic pressure, severely threatening ocean health and marine life. Human dependency on and management of the ocean are disconnected, which is in part why the United Nations (UN) is launching the Decade of Ocean Science for Sustainable Development, 2021–2030 (“Ocean Decade”). Here we investigate how philosophy and literature can inspire us to change the relationship between humans and the ocean. The starting point is natural science and human exploration of the sea. Then we consider philosophy, starting from Aristotle’s forms of knowledge – episteme, techne, and phronesis – focusing particularly on phronesis, or practical wisdom. Referring to Homer’s Odyssey, we investigate the threats that the ocean may face during the UN’s Ocean Decade. From this, we identify several things that will make for a successful Ocean Decade: practical wise leadership, clear vision, societal involvement, information sharing, admitting the vulnerability of both the ocean and humans, and storytelling.

KEYWORDS: *Ocean, Sea, Phronesis, Odyssey*

1. Introduction

There has always been fascination, wonder, curiosity, amazement, love, fear, and hate regarding the ocean. When Rachel Carson wrote about the sea, she called it “Mother Sea” as a metaphor for where life and care come from¹. Hemingway (1952) noticed a change in attitude and practice from sustainable to unsustainable fishing, writing:

He always thought of the sea as ‘la mar’, which is what people call her in Spanish when they love her. Sometimes those who love her say bad things of her but they are always said as though she were a woman. Some of the younger fishermen, those who used buoys as floats for their lines and had motorboats, bought when the shark livers had brought much money, spoke of her as ‘el mar’, which is masculine. They spoke of her as a contestant or a place or even an enemy.

1 Carson 1952.

Human understanding of the ocean often refers to reflection and speculation based on limited observation and knowledge. Throughout history, the sea was regarded as infinite, challenging explorers and imposing no limits on human activities. Later, after the Second World War, accelerated growth in many human activities started leading to severe marine problems. We began shifting from *conceiving* of the ocean as an unlimited resource free for all to explore and exploit for food, oil, and transportation, to a limited resource now in danger. But the sea is still being *treated* as an infinite resource, with overfishing, eutrophication, climate change, plastic waste, and pharmaceutical residues all challenging its limits². In semi-enclosed marginal seas, many factors exert tremendous pressures on the marine system and often interact in unknown ways, with humans being the overwhelming driving force³.

Society must change its behaviour to achieve healthy interaction with the ocean. Extensive efforts to formulate and advance along a new sustainable global pathway are being taken by the United Nations (UN) Development Programme and in the UN 2030 Agenda for Sustainable Development (“UN 2030 Agenda”). A review by Duarte *et al.*⁴ of the progress towards achieving the UN Sustainable Development Goal 14 noted that achieving this goal will require substantially rebuilding many components of marine life. The goal is about life below surface water and one of the 17 UN 2030 Agenda goals.

A new relationship with the sea will fail if its design and dissemination do not touch on fundamental human values that generate a strong desire for such a new relationship. The need for a change in behaviour towards the sea is why the UN has launched its Ocean Decade, starting with a strong focus on scientific efforts⁵.

2. Some significant ideas about the ocean

2.1 The unknown ocean

The earth’s age is estimated to be 4.5 billion years; the earth’s water started as a gas due to the extreme warmth at the time. About 3.8 billion years ago, the water vapour condensed to liquid water, filling the basins that later, through continental drift and plate tectonics, formed the ocean with the bottom topography we know today⁶. Life started in the sea as single-celled organisms. Animals arrived many years later, about 1 billion years ago. Via evolution, animals developed and increased in number and variety. About 600 million years ago, animal evolution split into two branches, one for humans, fish, and other vertebrates and another for invertebrates, including molluscs such as the octopus. The early stages of evolution

2 World Ocean Review 2010.

3 Reckermann 2021.

4 Duarte *et al.* 2020.

5 Caudet *et al.* 2020; Pendleton *et al.* 2020.

6 Sarmiento and Gruber 2006.

– the origins of life, birth of animals, growth of nervous systems and brains, and emergence of complex bodies – took place in water⁷. The mind evolved in the sea, and marine animals such as octopi can adapt to numerous situations, have good memories, use their minds to solve problems in various conditions, and learn from one another. Octopi and other marine species illustrate that humans should no longer underestimate intelligence from the sea.

Human evolution has been a long process extending from our apelike ancestors to the modern human species, *Homo sapiens*, which emerged in Africa some 100,000 years ago⁸. Since each person has two parents and four grandparents, the number of relatives increases by $n = 2^x$, where x is the number of generations. Even after 10 generations, the number of ancestors is already more than thousand, illustrating how effectively mixed the human gene pool is. These genes determine what humans and other organisms are like and how they survive and behave in their environments. Caves in South Africa contain the earliest evidence, from 140,000 years ago, of humans eating fish and shellfish⁹, among the healthiest foods on earth, rich in low-fat, high-quality protein, vitamins, and minerals.

The sea and inland waterways such as lakes and rivers became the natural links by which to explore new regions. The use of canoes and, later, the development of sailing permitted long-distance travel. For example, Polynesian sailing boats with outriggers for added stability had penetrated far into the South Pacific in the first millennium CE. Human's early relationship with the sea was driven by fishing and by exploration to find unsettled land. Later exploration of the sea was driven by processes that supported economic growth, spread religion, and amassed power, for example, via European exploration of the 14th to 17th centuries CE, during which sailors and explorers mapped most of the world's coastlines¹⁰.

Our relations with water and the sea developed through what could be discovered and what could be imagined. Knowledge passed to succeeding generations was constantly transformed in light of experience, through imagery and storytelling. Among the oldest works of literature from about 700 BCE are Homer's poems the *Iliad* and the *Odyssey*. Sea myths illustrate that the sea is where everything is born, where everything will end, and are replete with evocative images. The gods have been active in the human imagination since before ancient Greek times. Today, the gods and mythology are mainly evident in the names of ships and ocean instruments. All Swedish icebreakers are named after Norse gods such as Ymer, Tor, Oden, and Frej. Of the ocean instruments, the Argos buoys are named after the many-eyed, all-seeing giant of Greek mythology, while the autonomous underwater vehicle used to measure the ocean beneath the Antarctic Sea ice is named Ran after the "Mother of Sea" in Norse mythology¹¹.

7 Godfrey-Smith 2016.

8 Schlebusch *et al.* 2017.

9 Marean *et al.* 2007.

10 Roberts 2007.

11 Wählin *et al.* 2021.

A beautiful example of early views of the sea is the *Carta Marina*, the first map to present details and names of the Nordic countries. The map was drawn by Olaus Magnus, a Swedish priest exiled in Rome, and published in 1539 CE. The *Carta Marina* contains extraordinary amounts of ocean information about, for example, coastlines, hunting, fishing, sailing vessels, ice-skating, polar bears, whales, sea lions, walrus, crabs, lobsters, giant sea snakes, and other monsters. Rossby and Miller¹² analysed the *Carta Marina* from an oceanographic perspective, claiming that some of the whorls it depicts in the ocean display similarities to eddies currently identified in the Iceland-Faroes Front.

2.2 The exploration of the ocean

Humans have widely explored the seas, inspired by the lure of limitless marine resources and profitable trade. Fishing boats and ships transitioned from being sailing boats and steamers powered by coal and wood, to ships powered by bunker oil and other petroleum products with increasing capacities to fish, travel globally, and stay longer at sea. The history of fishing and the decline of various marine species, such as sea otters, sea cows, seals, whales, and cod, go back more than a millennium¹³. For four centuries, whaling was the first global marine industry, but intensive commercial hunting brought whales in large areas of the sea to the point of extinction by the late 19th century.

The sea has challenged humans to explore the unknown, asking, for example: What is beyond the horizon, where the sea and atmosphere meet? How deep is the ocean? Why is ocean water salty? What determines and drives ocean currents? Are marine resources unlimited? Scientific curiosity has led to many research vessel expeditions. Early exploration connected to trade and fishing mapped new countries, dangerous coasts, and straits. The Challenger Expedition (1872-1876) initiated modern oceanography by systematically collecting data worldwide, inspiring new journeys around the world. The Vega and the Albatross expeditions were the two largest oceanographic expeditions embarking from Sweden. The Vega Expedition was the first Arctic expedition to navigate the Northeast Passage, 1878-1880, whereas the Albatross Expedition sailed around the world for 15 months in 1947 and 1948.

Throughout history, dramatic changes in fishing success have been reported¹⁴, and several long-term fishery datasets are available. Information about the herring fishery on the Swedish coast of the Skagerrak is available for the last millennium. Nine periods of large catches, each several decades long, have been identified, the latest being 1877-1906. These periods, when large numbers of herring approached the shore and were easy to catch, strongly influenced economic conditions and social development along the affected coasts¹⁵. Concern eventually arose about the well-being of fish stocks, and scientists from various countries realized the

12 Rossby and Miller 2003.

13 Roberts 2007.

14 Lamb 1995.

15 Omstedt 2017.

need for stronger international cooperation. This led to the 1902 formation of the International Council for the Exploration of the Sea (ICES), with the Swedish oceanographer Otto Pettersson as one of the founders¹⁶. From the beginning of the ICES, it was clear that “a synthesis of our biological and hydrographic–geological knowledge of water” was a necessity¹⁷.

Observations at sea required good knowledge of navigation and location. This knowledge was formerly based on indirect methods such as observing driftwood and sea-level change, consulting written documents from various archives, and listening to seamen’s stories. Later, but before the electronic era¹⁸, several mechanical current meters and surface drifters were developed. Other ocean science instruments were the reversing thermometer and the Nansen bottle for measuring the water temperature and collecting water samples, respectively, at different depths. In addition, tide gauges, piston core samplers for sediments, and different specialized fishing nets were developed. Many scientists were academically trained and became inventors after working closely with technically skilled people. Expeditions on ships further accustomed ocean scientists to working together.

Marine science has developed via the continual interplay between theory, observations, and experiments in laboratories and at sea. The three main elements that distinguish ocean mechanics from traditional fluid mechanics are the effects of rotation, stratification, and turbulence. The theoretical considerations often use conservation equations and flow equations based on classical mechanics in deriving the geophysical flow equations. These complex, nonlinear equations often require good observational and theoretical insight to be solved. As early as 1507–1509, Leonardo da Vinci had illustrated in drawings of water in a bathtub that turbulence involves eddies at various scales¹⁹.

Observing in the sea is problematic for various reasons: seawater is corrosive, opaque to electromagnetic radiation, causes the biological fouling of instruments, and imposes high pressures at considerable depths; ocean conditions vary greatly over space and time, and involves intense mechanical cycling via waves²⁰ or ice. Technical developments, often driven by the military need for ships, navigation systems, satellites, and new instruments, have changed oceanographic measurement methods considerably over the last century. Today, robotic devices such as Argos buoys drift with currents and move up and down, capturing ocean data and automatically transferring it to satellites. Other new measurement instruments include autonomous underwater vehicles, remotely operated underwater vehicles, bottom pressure gauges, and sensors mounted on diving animals such as elephant seals²¹.

16 Svansson 2006.

17 Sverdrup *et al.* 1942.

18 Wunsch 2015.

19 Cushman-Roisin and Beckers 2011, 132.

20 Wunsch 2015.

21 Wunsch 2015.

A combination of theoretical considerations, computer modelling, and observations is needed in many ocean studies. The early idea that theory or computational models could supersede experiments is no longer considered valid. Since World War II, several large international expeditions and science programmes have been organized to collect ocean observations and develop scientific knowledge. Significant progress has been made through standardizing measurements, building cooperative databases, and organizing international conferences. Progress includes an improved understanding of the ocean's role in the global heat, water, and carbon cycles. Still, the sea is under-sampled in many respects and presents many unresolved problems.

2.3 The ocean in danger

Earth is also called the “Blue Planet”, as most of its surface is covered with water. The ocean is one large water body connecting the polar and equatorial regions. Major ocean system components are:

- The geosphere system, which comprises rocks, sediments and minerals
- The physical system, which is forced by the global heat and water cycles
- The chemical system, including all known chemicals and the carbon cycle
- The biosphere system, including all living marine organisms
- The human system, including all human activity that influences the sea

The ocean responds by its dynamics, including currents, waves, eddies, turbulence, ice, temperatures, salinities, and ecosystems. Traditionally, marine sciences have often neglected the human component, but in the last decade, there has been increasing insight into humans' strong influence on the sea. Marine science has become an area of many inter- and transdisciplinary challenges. Success in addressing these challenges calls for strong cooperation between the natural and human sciences as well as society.

The human history of the sea²² illustrates that the sea is entering an entirely new phase, and that the ocean world of the last four millennia has ceased to exist. We are facing a choice between two very different oceans: one healthy and productive that is sustainably managed and another that is overexploited and continuing on its current decline trajectory²³. Roberts²⁴, with a background in marine conservation, argues that we should flip the management paradigm. Today, marine reserves cover only a tiny fraction of the ocean, the rest being intensively exploited. Instead a healthy ocean needs extensive marine conservation areas covering 20-40 % of the sea and only a fraction without protection.

Caudet *et al.*²⁵ outlined an ocean roadmap for this decade, and Pendleton *et al.*²⁶ pointed out the importance of a global movement to transform our behaviour and treat the ocean respectfully. Today, ocean action is strongly needed, and

22 Abulafia 2019.

23 Rogers 2019.

24 Roberts 2007.

25 Caudet *et al.* 2020.

26 Pendleton *et al.* 2020.

initiatives on the national and international levels are being launched, such as the UN Decade of Ocean Science for Sustainable Development, 2021-2030 (“Ocean Decade”). This Decade is intended for the development of scientific knowledge, shared information systems, and strengthened, science-based fisheries. Still, the initiative is based mainly on the natural science perspective, largely neglecting the humanistic perspective – i.e., the arts and humanities – which deal with thoughts, feelings, values, morals (law), culture, and behaviour change (World Ocean Review 2015; Omstedt 2020, 2021).

3. The philosophy of knowledge

3.1 Different forms of knowledge

In reaction to recent representations of knowledge in modern society, knowledge has become a commodity in the market to sell and buy. This has meant a recovery of classical, mainly Aristotelian concepts of knowledge²⁷. Plato established the idea of secure knowledge, *episteme*, i.e., it “cannot be otherwise”, as in logic and mathematics, in opposition to *doxa*, i.e., having only an opinion or thought about something, or thinking something. His successor Aristotle broadened our understanding of knowledge by formulating the concept of *techne* for the knowledge we need in practical activities, such as crafts or art, which concerns everything that humans produce, manufacture, or create. In a further development, secure knowledge, *episteme*, became the term for scientific knowledge, while the activity of critically examining the foundations of secure knowledge became epistemology.

However, to live a good life, we need knowledge of the interpersonal. It is such social or dialogical knowledge that we need for social and political action, which Aristotle calls *phronesis*, i.e., practical wisdom or good judgment. *Phronesis* means undertaking the right action at the right time and doing it as well as possible in an interpersonal context. Learning in the form of political and social action constitutes the specific human ability that is ethical, aiming to achieve a good life in a good society. Political action in Arendts sense, to change something deeply and lasting, and can be compared with a second birth for the actor²⁸. Depending on the activity considered, these three forms of knowledge can be used individually or in different combinations.

Several modern philosophers have renewed and passed on the idea of an expanded conception of knowledge. *Phronesis* is primarily used by Martha C. Nussbaum²⁹ in a purely Aristotelian version, and by Hans Georg Gadamer³⁰ as part of a hermeneutic understanding. Nussbaum attaches great importance to life experience in acting with good judgment, undertaking the proper action in a given

27 Aristotle 2012.

28 Arendt 2018.

29 Nussbaum 1995.

30 Gadamer 1989.

situation, and being a sensitive listener in order to understand what the situation requires. According to Nussbaum, fiction is a way to find “the indirect path to human life experience”, and many of her writings are about the value and use of literature to improve people’s understanding of themselves and life.

The concept of *phronesis* entails a relationship between the universal and the particular. As well as good judgment in a specific situation (the particular), acting wisely requires sound general knowledge (the universal). With a deep general understanding of the state of the world, we have a better precondition for performing the right action in a particular situation, doing what the situation requires. Gadamer has used this relationship between the universal and the particular in the concept of *phronesis* to clarify the meaning of interpretation and understanding. He uses the concept of law as an example. A law generally applies universally, while its application is particular. Therefore, within the structure of interpretation, we interpret something generally based on our particular situation.

Nevertheless, what we analyse is something general, accessible to every other interpretation. Paul Ricoeur³¹ has made a significant contribution to the development of hermeneutics. He links understanding and explanation to each other, alluding to the hermeneutic circle in which the explanation improves the understanding and the better understanding in turn provides a better explanation. This is how he makes it possible to link science and the humanities to each other, something we seek to achieve in this article. Humans are narrative beings, and we understand the world and ourselves through stories. Stories and literature are the primary ways in which we understand ourselves and the world we live in. We tell our individual stories, and these, in the aggregate, become general human stories.

In this article, we start from the first great story in Western literature – Homer’s story of Odysseus’ adventures on the sea. In a sense, this gives us a set of concepts that enriches our ability to address the problems of nature, especially the sea. The philosophy on which we base our understanding and analysis is based on a rich concept of knowledge that includes literature, art, and science and allows us to link understanding, knowledge, and action to one another.

3.2 Excursion and return

In philosophy as narrative, it is mainly the structure of excursion and return that has come to be used. According to Gadamer, the first step in the hermeneutical triad, belonging, is where interpretation refers to the already familiar, what we recognize ourselves in and from which we start when we encounter something new, different, and exciting. The second step in the triad is the excursion itself, leaving home, the familiar, and opening up to new experiences. Gadamer describes this as “putting oneself at risk”, or in play, as forgetting oneself and opening oneself to other interpretations. It happens “as in the play of the waves and in the dance of the mosquitoes”, that is, as in the experience of art, arriving at a state of openness

31 Ricoeur 1988.

that leads to a new understanding. However, as in a journey, the third step is the return to oneself, the homecoming or the change of one's actions. Gadamer says that the homecoming is the essential element of the educational process for most interpreters: "It is not the alienation as such (to put oneself at risk or in play), but the return to oneself that constitutes the essence of education". To undergo an educational process is to rise to a general level, leaving behind details and the particular and seeking to understand "the whole". This process is what Hegel describes in the *Phenomenology of Spirit*, i.e., migration from immediate life to the thoroughly reflected on, in which the person has experienced the "kingdom of education" and come home to reconcile humans, knowledge, and society³².

3.3 The ocean: where humans travel

In Homer's *Odyssey*, a man travels on the vast back of the sea. The islands he visits are either stops for hospitality or punishment from the gods for acts committed or the final destination to which he ultimately returns, Ithaca. The story Homer tells in the *Odyssey* symbolizes people's search for themselves and the world in which we live. Odysseus is the king of Ithaca, where he lived with his wife, Queen Penelope, and their son, Telemachus. He has power and he is enterprising. Odysseus goes to war against Troy, a war lasting ten years. He excels there with his feats of prowess, and displays understanding and cunning that allows him to outsmart the Trojans. On his journey home he encounters obstacle after obstacle thrown up by the gods, so his absence from home ultimately lasts twenty years. In Homer's story, Odysseus finally returns to take revenge on his enemies, the suitors who sought to take his wife and, through her, power over his land.

This story, which has been interpreted and rewritten in several different ways, stands as a symbol and a starting point for much Western literature, art, and philosophy. At the heart of the story is an excursion and return, a prominent theme in many cultural creations, interpreted in countless ways. The theme is also found in the *Aeneid*, whose author, Virgil, is made the guide in Dante's *Inferno* in *The Divine Comedy*. In Canto 26, Virgil meets Ulysses (the Latin name for Odysseus), being tormented in a divided flame along with Diomedes, another Greek participant in the Trojan War. Virgil asks Ulysses how he met his death, and Ulysses tells how, despite his longing for home, he continued sailing beyond the Pillars of Heracles, which symbolized how far man could go in search of knowledge. After a long journey, his ship was struck by a strong wind that sank it into the depths of the sea. That story, in turn, inspired the knowledge-seeking spirit of the Renaissance and the science that arose then. Thus was born the Faustian spirit that led to its opposite, a critique and scepticism of this spirit that sees only human reason and science, by philosophers such as Georg Henrik von Wright³³.

32 Hegel 2009.

33 von Wright 1993.

Stories worldwide tell of a character at home, then leaving home and going out into the world on a journey, an adventure, before finally returning to the home they had left. We find this pattern in the myth of the Sami people, in the legends and tales of the Andean indigenous people, and in various African stories. We find it in the *Odyssey* and the Biblical story of the prodigal son's return in Western culture. Odysseus's journey has become a core story that has left significant traces in literature and philosophy. In this article, we will take Odysseus' journey and give it our interpretation before the task of describing, explaining, and clarifying human's treatment of its actual origin, the oceans. What can we learn from Odysseus' journey through good and evil? The basic theme here is absence, return, and revenge and the time is relative. The story told by Penelope becomes another story from the woman's perspective and is fundamental in understanding the integration of action and innovation.

4. Decade of Ocean Science for Sustainable Development

Many are now embarking on major international programmes to improve the relationship between humans and the sea. The preconditions for these programmes are limited to what is already familiar to us and retained in our memory. This work could open new interpretative horizons and, in turn, bring new knowledge into being. The United Nations Decade of Ocean Science for Sustainable Development ("Ocean Decade") programme entails certain challenges, and the question is how we can meet them. An essential starting point for improving the human relationship with the ocean is to reflect on how we have behaved in the past and present, and how we have treated the ocean. This section examines the threats and challenges Odysseus and Penelope face during a decade on his way home.

The *Odyssey* shows humans as trapped in lives ruled by the gods, as violence breeds violence beyond human control. Today we act as if we are similarly deprived of agency, and this sense of powerlessness breeds violence, manifested, among other ways, in destructive behaviour towards the sea. We are trapped in short-sighted materialism and shirk responsibility for our behaviour but exploit the sea destructively. In the *Odyssey*, Odysseus and Penelope are king and queen, who together symbolize the perfect union that guarantees vitality and progress. The story begins in war and division. Odysseus, King of Ithaca, is not a historical figure but a hero with many personal qualities such as skill, cunning, strength, and courage. Thanks to his abilities, the Greeks were able to conquer Troy by building the Trojan horse. In the *Odyssey*, we follow his journey home during ten years marked with incredible feats, horrors, and growing inner maturity.

Soon after leaving Troy, Odysseus's men stormed the city of Ismarus and took rich booty, but were later attacked by the Cicones, the local people who were related to the Trojans. Our first obstacle is underestimating the difficulties the UN's Ocean Decade will face in terms of competing interests and novel problems that

direct interest in other directions, resulting in fragmented attention and reduced commitments. Without decisive action, this ocean initiative could turn into just another bureaucratic writing product.

A few days later, Odysseus and his men come to the island of the lotus-eaters. The lotus flower symbolizes spiritual development with its roots in the dunes and its flowers against the sky. After many years of war and violence, Odysseus' men have an immense longing for spiritual deepening but miss what that means in terms of reflection and maturity. The men get drunk on the powerful drug from the lotus, forgetting home and their return journey, so Odysseus has to drag them back to the ships. Without a clear vision that everyone understands, one can easily get seduced into complacency – often referred to as “business as usual”. However, Odysseus forcefully proclaim their purpose and drives the action forward.

Hunger and fatigue drive them to the unknown island of the Cyclopes, one-eyed giants known to eat humans. Odysseus and some of his men are held captive in a cave by the Cyclops Polyphemus, a son of the sea god Poseidon, but they manage to escape by driving a stake deep into Polyphemus' only eye. Some of the men lose their lives while others are able to escape to their ships, to resume their journey. In arrogance, as he is leaving the island, Odysseus reveals his name to Polyphemus, who prays to his father, Poseidon, for revenge, which Poseidon grants. Similarly, the Ocean Decade is threatened the danger of tunnel vision and arrogance, i.e., a constricted research perspective that ignores the ability of art and sensuality to foster wholeness, not understanding the importance of aligning and unifying the interests humans and the ocean.

Their voyage takes them to the island of Aeolia, whose King Aeolus has been given power over the winds by the gods. Odysseus and his men are well received and stay for a month, recounting their experiences. As a farewell gift, Aeolus gives Odysseus a sack containing all the winds except the west wind that they need for their return journey. Within sight of Ithaca, Odysseus relaxes his vigilance and falls asleep. The crew, who have suspected that the sack is full of treasure, seize and open it. Immediately all the winds violently escape, breaking the masts, tearing the sails, and driving them back to Aeolia. Similarly, a lack of transparency and insight engenders suspicion and drives crucial work off course.

However, insight into the problems is not enough; it is also essential to address them constructively. Odysseus' story is not finished. A series of disasters wrecked by Poseidon's anger via storms and currents sends the ships here and there. Finally, after encountering the Laestrygonians, man-eating giants, all the ships are destroyed except for Odysseus'. We interpret the dramatic story here as life crises necessary for maturity and attitude change that shapes us as a human being and our hero show considerable resilience.

When the Greeks reach land again, they come to the island where the beautiful and dangerous nymph Circe lives. Odysseus does not know where they have landed, and sends men to explore. Circe turns these men into pigs. Odysseus eventually manages to free the men with the help of the god Hermes. The story turns when Circe falls in love with Odysseus, whom Hermes has protected from being turned into a pig. The Greeks stay one year on the island, where they find

love in the arms of the island's nymphs. After a year, Odysseus and his men resume their journey, determined to sail the fastest way home. We are content here to state that action is ultimately required to move forward.

However, to find the fastest way home, Odysseus must first seek knowledge in the realm of the dead, Hades, where he will consult the spirit of the blind seer Tiresias. The journey is risky, and it takes a long time to find the entrance to the realm of the dead, at the River Styx. Once in Hades, Odysseus meets the spirits of many former comrades from the Trojan war and of his mother, who has died during his absence from home. Finally, he meets Tiresias, who describes the nearest way home, which passes by monsters and other threats. We interpret the realm of the dead as our subconscious, from which figures appear in our dreams and speak through our intuitions. Finding a way home and moving forward in repairing the human relationship with the sea requires a courageous search through out feelings, values, culture, history, and behaviour.

Odysseus must now pass the Sirens' rocky island and sail on through the Strait of Messina where the monsters Scylla and Charybdis rule. Several men are sacrificed as the price of the journey. After the horrors of the Strait, the men come to an island where the sun god Helios has his sacred cattle. Odysseus knows that no mortal is allowed to land there. However, his men do not listen but go ashore, killing and feasting on several cattle. The revenge is gruesome, and after they embark again, Zeus drowns everyone in a storm except Odysseus, who manages to cling to a piece of wood. For several days, Odysseus drifts around the sea. Zeus' revenge against Odysseus' men can illustrate how nature can strike back at human overexploitation. Collapsing marine ecosystems, destroyed sea bottoms, and plastic-poisoned seabirds strike back at humans' ability to feed a growing population, raising apocalyptic questions about the future.

Odysseus lands on the island where the nymph Calypso lives. She enchants Odysseus so that he cannot leave her, but over the days and years of his enchantment, he grieves over his home and everything that he has lost. For seven years, he stays with Calypso, who, ordered by the gods, finally reluctantly releases him. Sailing away on a raft, Odysseus' story continues. The UN Ocean Decade could fail due to despair at all challenges to be solved. Many people love the sea, but passively, and only watch as nature is destroyed. Change, however, calls for ongoing work.

After being shipwrecked by Poseidon, and drifting on a plank of wood, Odysseus reaches the island of the Phaeacians where King Alcinous rules and treats Odysseus with kindness. Odysseus is abandoned, powerless and tells the king about the Trojan War and his long fruitless journey home. The king gives Odysseus a ship and crew, who will take him home to Ithaca. Truth and despair over the state of the oceans can provide the impetus needed for the journey home and changed behaviour.

Odysseus finally comes home and learns what has been happening to Penelope, amidst a court of power-hungry suitors. Queen Penelope has managed to maintain the kingdom of Ithaca, bring up her son, and remain a faithful wife for the two decades of Odysseus' absence. Disguised as a simple shepherd,

Odysseus approaches the royal palace. His old dog recognizes him, as does his faithful swineherd. With cunning, Odysseus enters the royal court and tests all the suitors. Penelope also receives visits that do not recognize Odysseus but are inaugurated in the plan to challenge all the suitors to tighten Odysseus' big bow and shoot an arrow through twelve lined-up ax heads. Everyone on Ithaca knew that only Odysseus himself could tighten the bow, for the task required not only strength but also a special technique. No freer succeeds, but the disguised Odysseus picks up the bow and shoots through all ax heads. Now the suitors and Penelope understand that Odysseus has returned home. Odysseus tightens the bow again and together with his son kills everyone freer. After consulting his former nurse from when he was a child, Odysseus hangs twelve maids who had been conspiring with the suitors. The king has now returned home and is united with the queen, restoring and securing the future of Ithaca. The purpose of Odysseus' voyage has been achieved. The UN's Ocean Decade aims to reverse the decline in the ocean's health and create conditions for the sustainable development of the ocean. A paradigm shift is required, from exploiting the sea unsustainably to serving the sea or uniting humans and the ocean to form a unit that generates vitality and progress, similar as in Homer's *Odyssey* where king and queen are united.

5. Summary and conclusions

The ocean faces serious environmental problems that call for immediate action if we are to develop on a more sustainable pathway. The ocean formed billions of years ago, and later the first life forms started there. The Earth's cooling, evolution, continental drift, and plate tectonics, and the sea with its bottom topography, chemical components, and evolution have together made the world we know today. Our relationship with the ocean has developed through experience and imagination and been transformed through science, imagery and storytelling. Practical experience of the sea has been mixed with myths, filling our vision of the sea with both opportunities and horror. Ocean exploration has been guided by ideas of infinite marine resources and profitable trade that have challenged humans to explore the unknown. Dramatic changes in fishing success increased concern about the ocean, spurring the need for better observations and international cooperation. Combining theory and observation to forge a new understanding of the oceans started in the 19th century. Since the great economic expansion after the Second World War, it has become increasingly obvious that the oceans are not in a sustainable relationship with humans; in response, the United Nations has launched the Decade of Ocean Science for Sustainable Development, 2021–2030.

In this paper, we considered how philosophy and literature can inspire us to change the relationship between the ocean and humans, shifting from a belief in supernatural control by the gods, through a conception of infinite resources, to understanding the Earth system as endangered by and dependent on human action. Long ago, Aristotle had already discussed different forms of knowledge, and we

have followed the ongoing development of *phronesis*, or practical wisdom. From Odysseus' journey, we identify several aspects to consider for a successful Ocean Decade, aiming for a sustainable relationship between humans and the ocean:

- The need for solid, practical, and wise leadership
- Clear vision
- Involvement of all of society
- Shared information
- Letting the vulnerability of both the ocean and humans be in focus
- Storytelling

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References

- Abulafia, David. 2019. *The Boundless Sea. A human history of the oceans*. Penguin Books.
- Arendt, Hannah. 2018. *The human condition*. Chicago: University of Chicago Press.
- Aristoteles. 2012. *Den nikomachiska etiken*. Tr. Mårten Ringbom. Göteborg: Daidalos.
- Carson, Rachel. 1962/2000. *Silent spring*. London: Penguin Books.
- Claudet, J., Bopp, L., Cheung, W.W.L., Deviller, R., Escobar-Briones, E., Haugan, P., Heymans, J.J., *et al.* 2020. "A roadmap for using the UN Decade of Ocean Science for sustainable development in support of science, policy, and action". *One Earth* 2, n. 1: 34-42.
- Cushman-Roisin, B. and Beckers J.-M. 2011. "Introduction to geophysical fluid dynamics. Physical and numerical aspects". *International geophysics series* 101. Waltham: Academic Press-Elsevier.
- Duarte, C.M., Augusti, S., Barbier, E., Britten, G.L., Castilla, J.C., Gattuso, J.-P., Fulweiler, R.W., *et al.* 2020. "Rebuilding marine life". *Nature* 580, n. 2: 39-51.
- Gadamer, Hans-Georg. 1989. *Truth and Method*, London: Sheed and Ward.
- Hegel, Georg Wilhelm Friedrich. 2009. *The phenomenology of spirit: (the phenomenology of mind)*. Tr. Baillie, James Black. Digireads.com.
- Hemingway, Ernest. 1952. *The old man and the sea*. London: Jonathan Cape
- L. Valdés *et al.* 2017. IOC-UNESCO. "The current status of ocean science around the world". *Global Ocean Science Report*. Paris: UNESCO Publishing

- K. Isensee. 2020. IOC-UNESCO. "Charting Capacity for Ocean Sustainability". *Global Ocean Science Report*. Paris: UNESCO Publishing.
- Lamb, Hubert. H. 1995. *Climate, history, and the modern world*. New York: Routledge.
- Marean, C.M. *et al.* 2007. "Early human use of marine resources and pigment in South Africa during the Middle Pleistocene". *Nature* 449: 905-908. <https://doi.org/10.1038/nature06204>.
- Nussbaum, Martha. C. 1995. *Känslans skärpa, tankens inlevelse: essäer om etik och politik*. Tr. Zivkovic, Zagorka. Stockholm: Östlings bokförl Symposion.
- Omstedt, Anders. 2017. "The Development of Climate Science of the Baltic Sea Region". *Oxford Research Encyclopaedia of Climate Science*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190228620.013.654>
- 2020. *A Philosophic View of the Ocean and Humanity*. Springer Nature. <https://doi.org/10.1007/978-3-030-36680-3>
- 2021. "How to develop an understanding of the marginal sea system by connecting natural and human sciences". *Oceanologia*. <https://doi.org/10.1016/j.oceano.2021.06.003>.
- Pendletona, L., Evanse, K., and Visbeck, M. 2020. "We need a global movement to transform ocean science for a better world". *PNAS* 117, n. 18: 9652-9655. <https://doi.org/10.1073/pnas.2005485117>
- Reckermann, M., Omstedt, A., Soomere, T., Aigars, J., Akhtar, N., Bełdowska, M., Bełdowski, J. *et al.* 2021. "Human impacts and their interactions in the Baltic Sea region". *Earth System Dynamic Discussion*. <https://doi.org/10.5194/esd-2021-54>
- Ricœur, Paul. 1988. *Time and narrative*. Vol. 3. Chicago: University of Chicago Press.
- Roberts, Callum. 2007. *The unnatural history of the sea*. Washington: Shearwater Books-Island Press.
- Rogers, Alex. 2019. *The Deep: The Hidden Wonders of our Oceans and How We Can Protect Them*. London: Wildfire.
- Rosby, H.T. and Miller., P. 2003. "Ocean Eddies in the 1539 Carta Marina by Olaus Magnus". *Oceanography* 16, n. 4.
- Sarmiento J.L. and Gruber N. 2006. *Ocean biogeochemical dynamics*. Princeton: Princeton University Press.
- Schlebusch *et al.* 2017. "Southern African ancient genomes estimate modern human divergence to 350,000 to 260,000 years ago". *Science* 358: 652-655. doi:10.1126/science.aao6266.
- Svansson, Artur. 2006. "Otto Pettersson: Oceanografen, kemisten, uppfinnaren". Göteborg: Tre Böcker Förlag AB.
- Sverdrup, H.U., Johnson, Martin. W. and Flemming, Richard. H. 1942. *The Oceans Their Physics, Chemistry, and General Biology*. New York: Prentice-Hall. <https://publishing.cdlib.org/ucpressebooks/view?docId=kt167nb66r;brand=eschol>
- von Wright, G.W. 1993. *Myten om framsteget: tankar 1987-1992: med en intellektuell självbiografi*. Stockholm: Bonnier.

- World Ocean Review 1. 2010. "Living with the oceans: a report on the state of the world's oceans". Hamburg: Maribus. <https://worldoceanreview.com/en/>
- World Ocean Review 4. 2015. "Sustainable Use of Our Oceans: Making Ideas Work". Hamburg: Maribus. <https://worldoceanreview.com/en/>
- Wunsch, C. 2015. *Modern observational physical oceanography: understanding the global ocean*. Princeton: Princeton University Press.
- Wählin, A.K., Graham, A.G.C., Hogan, K.A., Queste, B.Y., Boehme, L., Larter, R., Pettit, E., Wellner, J. and Heywood. K. J. 2021. "Pathways and modification of warm water flowing beneath Thwaites ice shelf, West Antarctica". *Science Advances* 7.