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The Oceans: A Utopian Resource in the 20th Century

There are certainly an infinite number of ways to look at the relationship between human societies and the oceans, as man has used the sea since prehistory as a source of food and raw materials, for transportation and for warfare. Not only have the ways in which people have made use of the sea changed over the centuries and differed from place to place, but perceptions and ideas concerning the oceans have also altered, partly as a consequence and partly as a pre-condition of changing uses. Alain Corbin described how the seashore was transformed in the European mind from a place of fear to a well-regarded popular location of recreational and therapeutic value, and how seaside resorts consequently developed from the eighteenth century onwards.¹ This essay follows a similar approach based on cultural history, but it focuses on ideas and perceptions relating to the sea as a source of political power and also of biological and mineral resources. It deals with projects and ideas that linked the use of the sea with far-reaching and often utopian expectations.

What kind of problems and anxieties made experts and the public at large turn to the sea in search of new solutions? What promise did the imagined marine and maritime resources hold? The period of time under examination covers the hundred years or so since the 1890s and is described mostly from a German perspective, although the international dimension is always taken into account. Three topics or case studies will be dealt with in detail: German navalism in the Tirpitz era in the early years of the twentieth century, the increased exploitation of fish and whales as part of the National Socialist drive for economic autarky in the 1930s, and finally plans for deep-sea mining for manganese nodules from the 1960s onwards. What they have in common is that they represent – by and large – failed projects which were based on the utilisation of the sea as an answer to perceived political and economic problems and challenges on a larger scale. Furthermore, they are linked by a common set of ideas and suppositions about the sea.

German navalism in the Tirpitz era

Up to the twentieth century, Germany had never been a formidable sea power. Her short North Sea coastline – most of it hardly accessible by ship because of mud flats – did not lend itself to the development of a strong maritime tradition. Furthermore, there was no unified German state that would bear the costs of a navy, while the various kingdoms, duchies and Hanseatic cities that had access to the sea only maintained a few humble craft. It was against this background that a German navy became one of the pet ideas of German liberals in the first half of the nineteenth century who yearned for a liberal unified nation state. So the navy that had yet to be founded was associated with liberalism and national unity. In 1841 the then popular poet Georg Herwegh wrote an emphatic ode called *Die deutsche Flotte* ('The German Fleet') which culminated in the line: 'the sea, the sea makes us free!'² Similarly, in 1843, Friedrich List, advo-

cate of the German tariff union and of economic unification, also had great hopes for a future navy.³

The chance of realising this dream came with the liberal revolution in 1848 that created the first pan-German parliament in Frankfurt. Even before the new liberal and democratic institution had firmly established itself, one of the parliament's first decisions was to vote almost unanimously for the foundation of a German navy. This decision was also influenced by an ongoing conflict with Denmark over the duchies of Schleswig and Holstein, but the deputies were thinking far ahead of their current situation: The navy, it was hoped, would provide support for overseas trade and protect German settlers in other continents. Moreover, the fleet was regarded as the most visible symbol of the newly-won unified nation-state. As one deputy also explained, the sea and navigation would encourage freedom and independence in the minds of the people, as the example of England – one of the most liberal and at the same time most sea-minded countries – demonstrated.⁴ The hastily assembled fleet did well against Denmark; very quickly, however, not the fleet but the revolution was shipwrecked when the old powers re-established themselves and turned the clock back to the monarchic and particularistic order that had existed prior to 1848. The fleet was subsequently disbanded in 1852, with some of its vessels being taken over by the small Prussian navy. Nonetheless, the idea of a German navy remained popular with liberal middle class Germans as a symbol of liberalism and national unity.

With the Prussian-led unification of Germany in 1871 the Prussian navy became the Kaiserliche Marine (Imperial Navy), but in fact it remained a neglected annex of the army. This only began to change in 1888 after the accession to the throne of Wilhelm II, who was an ardent ship-lover. Furthermore, expanding the Navy seemed a logical course of action at the time, given Germany's recent colonial acquisitions of the mid-1880s, and even more so about ten years later when she dedicated herself to the vaguely defined idea of *Weltpolitik* (world politics). In addition, rapid industrialisation increased Germany's dependence on overseas markets and resources.

However, the Navy really stepped into the limelight when Alfred von Tirpitz became Secretary of the Navy in 1897. Tirpitz immediately inaugurated an ambitious fleet-building programme and managed to win the support of the German parliament, the Reichstag, which passed the first Fleet Law in 1898. A second Fleet Law, doubling the battle fleet, was passed in 1900 and several amendments to it followed throughout the years up to 1912. Not only was the law's systematic character, which exactly prescribed the Navy's required strength and the number of ships to be built each year, new to Germany, it was also the first time the German Navy was designed around a North Sea-based battle fleet able to challenge the British Royal Navy.

Not everything about this, however, was specific to the German case: before the First World War many states regarded battleship construction as the key to great power status and regarded maritime expansion as essential for their own survival; this ideology, called 'navalism', owed much to the American captain and naval historian Alfred T. Mahan, whose books were also widely read throughout Germany.⁵ Nonetheless, the ambition and persistence of Tirpitz's fleet building coupled with Germany's industrial capacity and her location close to Britain sparked a fatal naval arms race which contributed to Germany's isolation prior to 1914. Ultimately, the German battle fleet proved to be a political and strategic miscalculation: contrary to Tirpitz's intentions, the fleet was not strong enough to deter Britain from entering the coalition against Germany. During the war, the battleships were of little strategic value as they could not break the British blockade, and the only major clash between the two battle fleets, the Battle of Jutland in 1916, ended indecisively without changing the overall maritime balance of power.

In the past, Volker Berghahn interpreted the German naval armament of the Tirpitz era as a social-imperialistic gamble aimed at stabilising the position of the dominant pre-democratic social classes. Bound by the long-term Fleet Law, he argued, the Reichstag had no control over

the Navy, which the Emperor could then use for a prestigious overseas policy designed to enhance his authority and distract attention from domestic problems.⁶ Although this interpretation is still influential in today's literature on the German Empire, there is very little to support it.⁷ Certainly the government strove for prestigious successes in its foreign policy, as every government does, but it seems that the admiralty was mostly interested in having a large navy so as to enhance its own importance and step out of the shadow of the army. But, most of all, fleet building on this scale would not have been possible without popular support. And indeed, the Fleet Laws and their amendments were consistently passed with growing majorities.

This expansion was facilitated by a large amount of literature supporting increased naval armament, written mostly by German academics – the so-called Fleet Professors ('Flottenprofessoren').⁸ There was also the German Navy League (Deutscher Flottenverein), a mass organisation that also rallied behind the Navy.⁹ While the Fleet Professors' pamphlets, resolutions and articles, as well as the Navy League, mostly appealed to the educated middle class, a popular cult of the navy in the mass media and entertainment industry attracted a broader public in Germany, as it did in other countries.¹⁰ Much of this public support for the fleet was not completely spontaneous, as the Navy's innovative Press Bureau took every opportunity to try to spark enthusiasm for the fleet.¹¹ However, the widespread public support for the Navy cannot be explained solely as a result of manipulation by the government. It is therefore more appropriate to assume that the pro-Navy texts, which appeared mostly in 1900, reflect a genuine popular belief in the importance of the fleet and the sea for the future of Germany.

What conceptions and beliefs lay behind this hypertrophic and ultimately counterproductive fleet building? First of all, the Fleet Professors' texts reveal a social-Darwinist world-view: there were fears of British aggression caused by jealousy of Germany's growing overseas trade, and of the imminent carving-up of the world among the established colonial powers, with Germany coming away empty-handed and sinking into irrelevance. An ever-recurring theme was the growing scale of German maritime trade, which – unless properly protected – would leave the Empire at the mercy of any naval power capable of interrupting the sea lanes.¹²

But there are also domestic aspects of the fleet in the Tirpitz era which, though often overlooked, link it directly to the navy of the 1848 Revolution. Though the fleet enthusiasts of 1900 certainly had nothing revolutionary about them, the Navy was still associated with the middle class and its bourgeois values such as liberalism and national unity. The national unity achieved in 1871 left much to be desired in the eyes of many, as the Empire still displayed many particularistic traits and was split along several fault lines. While historians used to pay much attention to the different social classes, contemporaries also bemoaned the noticeable divisions between the north and the south, or Protestants and Catholics.¹³ The Navy, however, was still conceived as an unquestionably unitary and national institution. The idea of sea power and the Navy, as Nauticus's 'Yearbook for German Maritime Interests' put it in 1900, had kept alive the desire for a unified Germany in the years before 1871, and now the task fell upon it to overcome the disunion within the nation and direct all minds towards the common goal of the fatherland's greatness and glory.¹⁴ A professor of economics even identified the disunion and particularism, which he regarded as typical of Germany, as a bad habit characteristic of the inland regions. The sea, on the other hand, would train the people for unity.¹⁵ The Navy League also at least imagined itself as a model for national unanimity, uniting Germans of all classes, regions and denominations. At its 1903 general congress in Munich a speaker combined the economic and domestic hopes that were pinned on maritime expansion and predicted that 'the new German Empire lies in the sea, where the old Germany's two-headed dragon – fraternal strife and poverty – will no longer exist.'¹⁶

But the sea also stood for civic liberty, which in the eyes of the fleet's supporters went perfectly well with the idea of a strong monarchy.¹⁷ The liberal expectations associated with the sea

were clearly expressed by the law professor Georg Jellinek: 'Civic liberty has always been bound up with ruling the sea. Sea air brings freedom.'¹⁸ The public, and especially middle-class, enthusiasm for the Navy also fell within the framework of a contemporary debate as to whether Germany should go further in the direction of industrialisation or whether she should remain essentially agricultural.¹⁹ At the centre of this debate was of course the struggle for dominance between the bourgeoisie, who controlled industry and commerce, and the agriculturally-based aristocracy. The expansion of Germany's fleet and maritime trade considerably favoured industry and commerce, while Prussia's still powerful aristocratic landowners were threatened by cheap grain imports from overseas. In 1900, Friedrich Naumann made it very clear that the Navy and industrialisation went together, and that both were directed against the hegemony of agriculture.²⁰

The naval officer corps was also an opportunity for the middle class to catch up on the nobility's prestige and influence. In the army there were a growing number of untitled officers too, but the higher and more prestigious positions were still a bulwark of the nobility in Wilhelmine Germany. The Navy, however, was thoroughly middle-class, even at the level of its highest ranks, although many admirals like Tirpitz himself were raised to the nobility at the peak of their career. But thanks to the Kaiser's addiction to his Navy and its popularity, even an untitled naval officer could match the standing of an aristocratic officer in the Guards.²¹ Socially-minded left-wing liberals like Friedrich Naumann and Ernst von Halle hoped that Germany's turn towards the sea would promote not only the middle class but also the working class. They called for a combination of expansionist power politics abroad and social reforms at home.²²

Naval armament in Wilhelmine Germany was therefore on the one hand a result of a social-Darwinist conception of international politics coupled with a last-minute panic in the face of the carving-up of the world. On the other hand, its popularity owed much to middle-class ideals of a unified, modernised, liberal, civic rather than aristocratic and yet at the same time imperialistic Germany. Only if these domestic expectations associated with sea power are taken into account is it possible to explain Tirpitz's fleet and its ultimately counterproductive and hyper-trophic nature in terms of military strategy and international relations.

National Socialist autarky and the oceans

Even prior to 1914 there were doubts, both in Germany and abroad, about the emphasis placed on sea power. Geostrategists and writers of fiction could envisage that air power or improved means of land transport would give continental powers an edge over naval powers, at least in the near future.²³ In the 1930s National Socialist Germany mostly followed this school of thinking, and dominance of the sea was no longer thought of as the key to a nation's greatness. The new expansionist policy aimed rather at opening up 'Lebensraum' ('living space') in the east and creating a continental empire. Likewise, the liberal values linked to the sea in the past were not honoured in the new Germany. The public lawyer and political scientist Carl Schmitt, in his booklet *Land und Meer* ('Land and Sea'), published in 1942, still associated liberalism, individualism and hostility towards the authoritarian state with the sea, but at the same time linked them with the English and with Jews. But, according to Schmitt, the heyday of sea power, and therefore of British influence, was by now past and the future would belong to the continental 'Großraum' ('Great Space'), which in Europe would be under German domination.²⁴

However, the oceans gained a new economic importance within the framework of National Socialist Germany's striving for autarky. Against the background of the difficulties experienced under the British blockade during the First World War and the effects of the World Economic Crisis on Germany since the end of the 1920s, and given the political priority accorded to re-

armament, economic autarky became a prime objective of National Socialist policy. Autarky was therefore one element in the guidelines of the Four-Year Plan announced in 1936, which placed most areas of the economy under state control. Self-sufficiency was almost achieved in many parts of the agricultural sector, although production of vegetable and animal fats never met the demand and still had to be imported for hard currency. Economists described this as the 'Fettlücke' ('fat gap').²⁵

One means of tackling the problem was the development of a German whaling fleet. Hitherto, Germany had already been one of the world's largest consumers of whale oil, which was used mainly for the production of margarine and detergents, but it had to be imported from Norway. Ever since large-scale industrial whaling had started in Antarctic waters shortly after the turn of the century, Norway had been the leading nation in this activity. Henkel, a major producer of detergents in Germany, experienced severe difficulties in obtaining supplies for its production, as imports were strictly limited under the policy aimed at achieving autarky, and most supplies were directed to the food industry. Hence the company decided in 1935 to build its own whaling fleet, which was actually completed in time for the 1936/37 season. The Walter Rau company and the German branch of the Unilever group, both producers of margarine, followed suit and their newly-built fleets were ready in time for the next season. Other companies from the same sector turned instead to Norway. They bought one fleet there and chartered another two. Altogether, six fleets, each consisting of a factory ship and six to nine catcher boats, were working on behalf of the German industry in the 1937/38 season. An additional fleet was bought from Norway for the 1938/39 season.²⁶ Despite the fact that Germany had never historically played a major role in whaling, many German writers on this topic tried to depict this new industry as the revival of an ancient German tradition, rather than as a completely novel way of acquiring raw materials. They wrote about the 'necessity to resume German whaling'²⁷, the continuation of the 'old, venerable German whaling'²⁸, or entitled a book *Tausend Jahre deutscher Walfang* ('A Thousand Years of German Whaling').²⁹

While the whaling industry had to be built up from scratch, Germany had already had a deep-sea fishery since the 1880s. Under the National Socialist autarky policy, however, the plan was to expand it considerably. Fish was meant to replace and complement land-based food and raw materials that so far had to be imported to some extent. For example, not only could fish replace meat, but in addition protein derived from fish could be used instead of eggs. Shoes and handbags made from fish skin saved precious leather. Therefore deep-sea fishing was regarded as an important contribution to Germany's struggle for self-sufficiency and independence of international markets. An advertisement by the fishing industry showed a picture of a humble trawler with the description: 'Battleship in the fight for alimentary freedom.'³⁰ Consequently, the state authorities tried, with some success, to encourage higher consumption of fish and fish products.³¹ The Germans were told that they should at least double their consumption of salt-water fish, thereby helping to achieve self-sufficiency in accordance with the Four-Year Plan and at the same time improving their health.³² The aspiration was for a vast increase in catches, but this would have required using new, more distant fishing grounds in the waters of Greenland and Newfoundland. Such long journeys, however, made ships with deep-freezing facilities necessary to preserve the quality of the catches up to the time of landing. Only two such ships were actually built, but owing to the outbreak of the war neither of them went into operation as intended.³³ In 1939, whaling and deep-sea fishing came to a sudden end because, just as in the First World War, the German Navy was not able to keep the sea lanes open and protect German shipping on the open seas.

What was it that made marine biological resources so attractive within the framework of the autarky policy? Already at the time of the German enthusiasm for the Navy before the First World War, deep-sea fishing was occasionally mentioned as part of Germany's 'maritime inter-

ests.' In this context, the *Nauticus Yearbook* of 1909 pointed out the advantages of deep-sea fishing as compared to other resources. The use of conventional land-based resources like coal would sooner or later result in the depletion of the deposits and was therefore made at the expense of future generations. Deep-sea fishing opened up a hitherto untapped source which, moreover, so the yearbook claimed, was inexhaustible, as stocks would always regenerate themselves.³⁴

Most of the German literature on marine biological resources in the 1930s followed that path and envisaged the sea as the ultimate solution to the difficulties experienced under the policy of autarky. Without the need to spend hard currency, fishing and whaling promised to provide a new and inexhaustible source of raw materials. All the other measures taken to achieve autarky could only limit consumption or encourage the efficient use of existing stocks, or they would lead to an accelerated depletion of domestic deposits. Nevertheless, in the 1930s, there were already concerns about the sustainability of whaling, which led to an international treaty signed in London in 1937 and intended to control and limit whaling to some extent. The treaty's regulations were also incorporated into the German Whaling Law of October 1937. The need for whaling control was sometimes mentioned in German popular literature on whaling. Generally these texts considered the precautions taken by the treaty and by German law to be sufficient.³⁵ In 1939, Nicolaus Peters, director of the newly founded Reichsstelle für Walforschung (German Reich Centre for Whale Research), completely dismissed any concern about whale stocks: Peters emphasised the vast size of the Antarctic whaling grounds and claimed that whales were fast-growing and short-lived animals – in other words that they reproduced quite quickly.³⁶ Other authors also invoked the 'unimaginable vastness of the southern hunting grounds' or the 'infinitely large Antarctic seas' to calm all anxieties about diminishing whale stocks.³⁷ And above all, as Carl Kircheiß, an influential campaigner for German whaling, claimed, newspaper reports about the possible extinction of whales were simply a ploy by foreign countries to keep Germany out of the business.³⁸

Nevertheless, the German literature still pointed out that overexploitation had to be avoided, and so it was mandatory to use the whale as completely as possible. This 'totale Walauswertung' ('total utilisation of whales') was praised as the most valuable German contribution to modern whaling and to protection of the stocks.³⁹ In actual fact, however, it was mainly economic considerations that prompted German whaling companies to produce canned meat, hormones from different glands, meat-and-bone meal and vitamins, in addition to the oil. It was even hoped that the whale's fibre could be turned into a kind of wool.⁴⁰ Fish stocks were thought of in the same way, and accordingly there were no real worries about overfishing, as it would always be possible to move on to new productive fishing grounds.⁴¹

Another element in this perception of the sea was to see it as a colony. If the oceans were a *no man's land* that could be usurped to satisfy a nation's need for food and raw materials, this comparison was not far-fetched. Writing about the sea as Germany's last remaining colony or as a replacement for the colonies that had been lost actually formed a recurrent theme in texts on fishing and whaling from this period.⁴² Germany had been stripped of all her colonies after World War I, and so calling the oceans Germany's one remaining colony meant that the exploitation of marine resources, like many other things in National Socialist Germany, was celebrated as an act of defiance against the alleged injustice inflicted upon Germany after 1918. Against this background it is striking not only that overfishing was barely mentioned, but that equally little mention was made of the problem of the conflicting claims of different nations to marine resources or certain areas of the sea. The outbreak of war banished Germany from the oceans before the National Socialists had made noticeable inroads into these resources, but if there had been more time to implement the planned expansion of the industry, conflicts would have been inevitable. This is especially true of fishing in the North Atlantic, where such conflicts did

indeed emerge in the postwar period.⁴³ However, within the framework of the autarky policy too much was at stake for Germany, and the promise of marine resources was too tempting for predictable problems arising from overexploitation and conflicting claims to be understood or acknowledged. What was imagined to be the infinite and inexhaustible nature of the oceans clearly made such concerns unthinkable.

Deep-sea mining for manganese nodules

Given that the greater part of the world's surface is covered by water, the idea of searching for raw materials in the oceans is one that comes naturally to mind. In *Twenty Thousand Leagues under the Sea*, written in 1870, Jules Verne already envisaged deposits of raw materials under the seabed that could be used when land-based reserves ran out. And indeed, today's demand for oil and gas can only be met by means of off-shore drilling supplementing land-based production. However, there were also hopes of marine mineral resources that never lived up to expectations. One of the most fascinating ideas was the project to extract gold from sea water. This idea was seriously pursued by the Nobel Prize-winning chemist Fritz Haber in the 1920s. Prior to 1914, Haber had found a way to produce ammonia from nitrogen and hydrogen taken from air and water (the Haber-Bosch process). This invention had a tremendous influence on the German war effort because ammonia was needed for the production of fertiliser and explosives. After the war, Haber thought that the gold dissolved in sea water might be used to help Germany pay the reparations. Ultimately this proved unfeasible because the concentrations of gold turned out to be too small. Haber had expected to find roughly six milligrams of gold per ton of sea water, whereas the actual concentration is on average only 0.0044 mg/t. The gold could therefore not be extracted in a cost-effective way.⁴⁴ The project was prototypical of subsequent ideas, as it was obviously based upon the virtually infinite size of the oceans, which promised enormous amounts of the desired resource even if concentrations were quite small.

Apart from oil and gas drilling, which is restricted to the relatively shallow waters of the continental shelf, the project which had the greatest impact on politics, on international law and on the imagination of contemporaries was deep-sea mining for manganese nodules. Manganese nodules are mostly potato-shaped objects of roughly five to ten centimetres in diameter. Apart from manganese, they contain iron, nickel, copper and cobalt. The last three metals are of commercial interest. Manganese nodules cover the abyssal plains at a depth of four to six kilometres and can be found in all oceans, but especially in certain parts of the Pacific. In the 1870s, the Challenger Expedition discovered the first manganese nodules, though it was only in the 1950s and '60s that scientists began to regard them as a potential source of valuable ores. Two preconditions had to be fulfilled before manganese nodules could be turned from a scientific curiosity into objects of great economic and political interest. On the one hand, oceanography and underwater technologies made considerable advances after 1945. The submarine world was sometimes likened to outer space, and various uses, such as colonies of aquanauts living on the seabed, seemed to be almost within reach.⁴⁵ On the other hand there had to be a need for this unconventional source of raw materials. The interest in manganese nodules arose against the background of forecasts predicting the depletion of many continental mineral deposits in the near future. Such concerns were caused by the rapid economic development of many states after World War II and the resultant increased consumption of raw materials. Probably the most popular expression of this perception was the first report for the Club of Rome, the book *Limits to Growth* published in 1972.⁴⁶

One of the first writers to highlight the potential of oceanic mineral resources was John L. Mero. In an article published in 1968, Mero presented various ways of using oceanic resources,

including extracting elements from sea water, which was already being commercially done with common salt, magnesium, and bromine. Mero suggested that it could also be done with uranium and, once again, gold. Another possible resource that he pointed out were sediments from the Red Sea containing iron, zinc, copper, silver, and gold.⁴⁷ Red Sea sediments were later also more closely examined by a German research vessel, the VALDIVIA, in the 1970s.⁴⁸ But manganese nodules were, as Mero put it, 'probably the most interesting of the oceanic sediments, especially from an economic standpoint.'⁴⁹ As Mero saw it, oceanic mineral resources offered at least three advantages. Deep-sea mining and the preceding exploration would be cheap because the nodules cover most parts of the ocean floor. Furthermore, many metals, Mero claimed, would be accumulating faster in the manganese nodules than they were presently being consumed, thus making the nodules an inexhaustible source of metal ores. They would be 'a renewable resource, as is the case with many mineral deposits of the sea.'⁵⁰ Finally, the legal situation spoke in favour of manganese nodules: 'Other advantages of utilizing the ocean floor sediments as a source of minerals are that they are politically free and royalty free materials.'⁵¹

The last point was already about to change when Mero wrote this, because the treasures of the ocean floor awakened desires on various sides. Against the background of a looming new form of colonial competition among maritime nations, or a partition of the ocean among the coastal states ('national lake solution'), Malta's ambassador to the United Nations, Arvid Pardo, put forward a revolutionary new concept to the General Assembly in 1967. Pardo proposed that the ocean floor should be declared the common heritage of mankind. It would not be appropriated by any state or company. Instead, Pardo suggested, an International Seabed Authority should regulate the exploitation of the seabed and ensure that developing countries benefited from any financial gains. Like Mero, Pardo pointed out that deposits of manganese nodules are not only tremendously large but would also accumulate faster than the world was consuming the metals they contained. Pardo received considerable support for his Common Heritage Principle, although the reaction of different states depended on their economic development and their geographical position. Industrialised countries favoured unrestricted access to the ocean floor; countries with long oceanic coastlines wanted to see the continental shelf under their jurisdiction extended as far as possible, while developing countries were in favour of regulation by the UN General Assembly.⁵²

Finally, the issue became one of the topics of the Third United Nations Conference on the Law of the Sea (UNCLOS III, 1973-1982). The conference did indeed internationalise the ocean floor, which together with its deposits was defined as the common heritage of mankind. An International Seabed Authority was established; this possesses an operational arm called the Enterprise. Originally it was intended that only the Enterprise itself would undertake the actual mining. At a later stage of the negotiations it was agreed that mining by states or companies would be allowed, but under strict regulation and supervision by the Enterprise. This included the transfer of technology and profits to poor countries via the Enterprise. Most industrialised countries still rejected the relevant clauses as a monopolistic, restrictive and dirigiste concept similar to a command economy. Private companies, it was feared, would face incalculable political obstacles and risks when forced to operate under a cumbersome supranational bureaucracy. Hence the Federal Republic of Germany, the USA and others did not ratify the Convention on the Law of the Sea for many years. Instead they adopted unilateral laws regarding deep-sea mining. Germany only joined the Convention in 1994, after an agreement relating to the implementation of the Convention took the edge off it. Furthermore, deep-sea mining was by this time no longer considered a burning issue.⁵³

The Common Heritage Principle was, however, warmly embraced by parts of the public in Western countries and especially by Elisabeth Mann Borgese, who tried to popularise it on various levels from the beginning of the 1970s onwards. Mann Borgese participated in the

UNCLOS III negotiations, first as an observer and later as a member of the Austrian delegation. She attached great hopes to the Common Heritage Principle and the new Law of the Sea: deep-sea mining for manganese nodules would imply 'a new international order for the world community in general', and the Convention would be 'potentially a model for, or nucleus of, a Constitution for the World.'⁵⁴ The Common Heritage Principle as originally envisaged would, she hoped, allow poorer countries to boost their economic development and gain independence from postcolonial structures. It would herald an age of peaceful international cooperation and collective economic security. According such significance to manganese nodules was conceivable only because Mann Borgese considered that the oceanic mineral deposits would become the most important source of raw materials in the near future, and that their stocks were inexhaustible. In the eyes of Mann Borgese and other supporters of the Common Heritage Principle, the sea holds the key for a better future at the global level.⁵⁵

In the end, however, nothing came of it. Manganese nodules have not yet begun to revolutionise the world economy, much less to initiate a new world order. However, deep-sea mining is absolutely feasible, as test runs proved. The first successful test took place in 1978, when manganese nodules were mined in relatively large quantities by the vessel SEDCO 445 in the Pacific. This was achieved by Ocean Management, Inc., a group of American, Canadian, Japanese, and West German consortia. The German partner was the 'Arbeitsgemeinschaft meeres-technisch gewinnbare Rohstoffe', consisting of several companies from the mining, metals and energy industry.⁵⁶ However, from the 1960s onwards deep-sea mining was obviously overburdened with expectations that it could not fulfil. The idea began as a cheap and convenient way of using allegedly inexhaustible deposits of raw materials situated in a no man's land. For a start, this view played down the considerable technological challenge involved in mining the nodules from a depth of five kilometres. Furthermore, the legal and political situation was soon to change and complicate things further. Later, environmental considerations were added, because the ocean floor was recognised to be a vulnerable ecosystem. While conditions in general have turned out to be less straightforward than anticipated, the predicted shortage of certain metals has not materialised and prices have not risen to levels that would justify investing in deep-sea mining. Accordingly, deep-sea mining has proved to be a utopian project, a relic of the late 1960s, when confidence in technological and economic progress was still intact. At least, this was the situation until very recently. The latest rise in the prices of most raw materials has renewed interest in unconventional mineral deposits, and the manganese nodules, among other oceanic resources, have come out of their hibernation, although at the moment doubts still seem to exceed enthusiasm.⁵⁷

Conclusion

The three projects that have been outlined above were not completely absurd, nor should they be ridiculed. Enhancing the Navy made sense for Imperial Germany to a certain degree, given the importance of overseas trade and the naval armament of other nations. Similarly, the increased exploitation of fish and whales actually contributed to the drive for autarky. And finally, looking for alternatives to diminishing continental mineral resources was, and still is, a reasonable ambition. Nevertheless, in all three cases some of those involved at the time attached far-reaching, utopian expectations to the utilisation of the sea. What do the three projects have in common in this respect, apart from the fact that none of them have lived up to the expectations vested in them? It seems that there is a set of three ideas or imaginative notions that links them together.

Firstly, the sea was associated with a better, freer society. The oceans were repeatedly used as

a starting-point for imagining a better alternative to the existing social and political order. Whether the issue was domestic liberal reforms in Germany or new, equitable economic and political relations at the global level, the oceans seemed to hold the key. This notion harks back to a long tradition in the history of ideas as well as in literature: Plato's *Atlantis* and Thomas More's *Utopia* were situated on islands somewhere in the ocean. And Jules Verne's Captain Nemo in *Twenty Thousand Leagues Under the Sea* also fled from the oppressive and despotic conditions on the earth's surface into the ocean, where the NAUTILUS was his own free-floating and independent realm. In National Socialist Germany, however, all liberal thought was rejected. Such ideas were denounced as English or Jewish, but nevertheless, at least in the case of Carl Schmitt, they were still linked to the sea.

Secondly, both biological and mineral oceanic resources were imagined as vast or actually inexhaustible. Not only the stocks of sea creatures but also mineral deposits were recurrently envisaged as renewable resources, since they would regenerate themselves faster than they could be consumed. While this is not necessarily wrong, the capacity of these resources for renewal was all too often overestimated. Their supposed infiniteness was the promise which set them apart from conventional, continental resources and gave these projects such a tempting and fascinating character. Oceanic resources appeared as the definitive solution to all problems of raw material shortages.

Thirdly, the perceived infinite, limitless character of the oceans themselves represents the common denominator of both the notions mentioned above. The sea was the space outside the known and inhabited world that still appeared to be unclaimed and untouched. Given its vast size and global extent, limits to resources were almost unthinkable. It was also easy to overlook the possibility of conflicting claims, as there seemed to be sufficient space and resources for everyone. Of course the expectations placed on the limitless seas were all too quickly frustrated: limits became perceptible and conflicts broke out over the use of resources. The recurring frustration of hopes manifested itself in the evolution of the Law of the Sea. Step by step, the Freedom of the Sea was curtailed in the twentieth century by the extension of territorial waters. As a consequence, the oceans have to some degree lost their special character, and have been brought more in line with the perception of the land.

Notes:

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- 3 Friedrich List, 'Die deutsche Flotte in der Wiege,' in: Friedrich Lenz and Erwin Wiskemann (eds.), *Friedrich List: Die politisch-ökonomische Nationaleinheit der Deutschen* (Berlin, 1931): 60-62.
- 4 See the speeches in the debates on 8 and 14 June 1848: Franz Wigard (ed.), *Stenographischer Bericht über die Verhandlungen der deutschen constituirenden Nationalversammlung zu Frankfurt am Main*, Vol. 1. (Frankfurt, 1848): 251-252, 305-309.
- 5 Rolf Hobson, *Maritimer Imperialismus. Seemachtsideologie, seestrategisches Denken und der Tirpitzplan 1875-1914* (Munich, 2004): 175; Holger H. Herwig, 'Der Einfluß von Alfred Th. Mahan auf die deutsche Seemacht,' in: Werner Rahn (ed.), *Deutsche Marinen im Wandel. Vom Symbol nationaler Einheit zum Instrument internationaler Sicherheit* (Munich, 2005): 127-142.
- 6 Volker Berghahn, *Der Tirpitz-Plan. Genesis und Verfall einer innenpolitischen Krisenstrategie unter Wilhelm II* (Düsseldorf, 1971).
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- 11 Wilhelm Deist, *Flottenpolitik und Flottenpropaganda. Das Nachrichtenbureau des Reichsmarineamtes 1897-1914* (Stuttgart, 1976).
- 12 Cf. the statements in: Arthur Kirchhoff (ed.), *Deutsche Universitätslehrer über die Flottenvorlage. Gutachten hervorragender deutscher Universitätslehrer über die Bedeutung der Flottenvorlage. Gesammelt von der Berliner Wissenschaftlichen Correspondenz* (Berlin, approx. 1900).
- 13 Jonathan Steinberg, *Yesterday's Deterrent: Tirpitz and the Birth of the German Battle Fleet* (Aldershot, 1992): 32-35.
- 14 'Die deutschen Arbeiterinteressen, der Weltmarkt und die Flotte,' *Nauticus. Jahrbuch für Deutschlands Seeinteressen*, 2 (1900): 225.
- 15 Richard Ehrenberg, 'Die Seefahrt im Leben der Völker,' in: Gustav Schmoller, Max Sering and Adolph Wagner (eds.), *Handels- und Machtpolitik*, Vol. 1. (Stuttgart, 1900): 79.
- 16 Karl Theodor Ritter von Heigel, 'Die geschichtliche Entwicklung der deutschen Seemacht,' *Die Flotte*, 6 (1903): 77.
- 17 It has to be remembered that in the Revolution of 1848 the majority also opted for a liberal nation state with an Emperor as the head of state.
- 18 Georg Jellinek, in Kirchhoff, *Deutsche Universitätslehrer über die Flottenvorlage*: 54.
- 19 Hans-Ulrich Wehler, *Deutsche Gesellschaftsgeschichte. Dritter Band: Von der Deutschen Doppelrevolution bis zum Beginn des Ersten Weltkrieges. 1849-1914* (Munich, 1995): 618-620.
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- 38 Kircheiß, 'Der neue deutsche Walfang': 385.
- 39 Hugo, *Deutscher Walfang in der Antarktis*: 91.
- 40 Kircheiß, 'Der neue deutsche Walfang': 387.
- 41 Heidbrink, *Deutschlands einzige Kolonie ist das Meer*: 60.
- 42 Carl Röver, 'Geleitwort,' in: Hugo, *Deutscher Walfang in der Antarktis*, 7; Janssen, *Tausend Jahre*: 204; Albrecht Janssen, *Segen des Meeres. Ein Buch von Deutschlands Hochseefischerei* (Berlin, 1939): 191; Walter Ludorff, *Walfang und Ausbeutung für die deutsche Volksernährung und Volkswirtschaft* (Leipzig, 1938): 1.
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Die Weltmeere: Eine utopische Ressource im 20. Jahrhundert

Zusammenfassung

Der Aufsatz folgt einem kulturgeschichtlichen Ansatz und fragt nach Wahrnehmungen und Vorstellungen vom Meer und den Bedeutungen, die ihm zugewiesen wurden. Dargestellt werden drei Gegenstandsbereiche, in deren Rahmen sich mit dem Meer als Quelle politischer Macht sowie biologischer und mineralischer Ressourcen weitreichende, oft utopische Erwartungen verbanden, die sich jedoch regelmäßig nicht erfüllten. Bei diesen drei Gegenstandsbereichen handelt es sich um die deutsche Flottenrüstung unter Alfred von Tirpitz ab 1898, Fischerei und Walfang als Teil der nationalsozialistischen Autarkiepolitik in der Zeit vor dem Zweiten Weltkrieg, und schließlich das Projekt des Tiefseebergbaus nach Manganknollen seit den 1960er Jahren.

Die Tirpitzsche Flottenrüstung wird hier abweichend von der in den 1970er Jahren geprägten Lesart nicht als antiparlamentarische Krisenstrategie verstanden, sondern als ein bürgerliches Projekt, das in der Tradition der Flottenbewegung von 1848 Seemacht mit zentralen Werten des Bürgertums wie der Einheit der Nation und dem Liberalismus assoziierte. Die vom Bürgertum getragene Flottenbegeisterung erscheint so im Kaiserreich als systemimmanente Bewegung, die außenpolitische Machtentfaltung, wirtschaftliche Modernisierung und innenpolitische Reformen verbinden wollte. Nachdem sich die Tirpitz-Flotte im Ersten Weltkrieg als Fehl kalkulation erwiesen hatte, verbanden sich in Deutschland weitreichende Hoffnungen mit dem Meer erst wieder im Rahmen der nationalsozialistischen Autarkiepolitik. Hier erschienen die Ozeane als der ideale wirtschaftliche Ergänzungsraum, um die Lücke zwischen Deutschlands Fett- und Proteinbedarf und der Produktion der eigenen Landwirtschaft ohne Devisenausgaben zu schließen. Teil dieser Hoffnung auf das Meer als deutsche Kolonie war die Vorstellung, dass die Fisch- und

Walbestände praktisch unerschöpflich seien. Die Vorstellung unendlicher mariner Ressourcen kam erneut Ende der 1960er Jahre auf internationaler Ebene auf. Diesmal richteten sich die Hoffnungen auf Manganknollen auf dem Tiefseeboden. Vor dem Hintergrund einer befürchteten Erschöpfung der kontinentalen Erzlagerstätten versprach der Tiefseebergbau nach Manganknollen unbegrenzte Mengen wirtschaftlich wichtiger Metalle. Diese Hoffnungen gewannen eine zusätzliche politische Dimension, da bis dahin kein Staat Ansprüche auf die Tiefsee erhoben hatte. Viele Drittwellstaaten, aber auch Stimmen in den westlichen Gesellschaften forderten nun, den Tiefseebergbau unter UN-Aufsicht zu stellen und mit einem Transfer des Know-hows und der Gewinne an ärmere Staaten zu verbinden. Angesichts der erwarteten zentralen Rolle des Tiefseebergbaus für die künftige globale Rohstoffversorgung hoffte man auf dieser Grundlage eine neue und gerechte Weltwirtschaftsordnung errichten zu können.

Diese drei Projekte verbindet, dass das Meer jeweils als Ausgangspunkt für weitreichende, letztlich nicht einlösbare Erwartungen diente. Weiterhin finden sich von drei bestimmten Vorstellungen des Meeres jeweils zumindest zwei in allen drei Zusammenhängen: Es handelt sich erstens um das Versprechen unbegrenzter Ressourcen, zweitens um die Hoffnung auf politische Reformen, die mit der Nutzung der Ozeane verbunden wird, und drittens um die Wahrnehmung des Meeres selbst als grenzenlos und unendlich, so dass die Grenzen der Nutzung und die Möglichkeit von Konflikten der Nutzer leicht ausgeblendet wurden.

Les mers du globe: une ressource utopique au XX^e siècle

Résumé

L'article, en effectuant une approche sur le plan historico-culturel, interroge les perceptions et les idées que l'on se fait de la mer et des significations qui lui ont été attribuées. Trois domaines y seront présentés, dans le cadre desquels des attentes à longue portée, souvent utopiques, qui, toutefois, se virent régulièrement déçues, étaient liées à la mer en tant que source de pouvoir politique et de ressources biologiques et minérales. Il s'agit de l'armement d'une flotte allemande par Alfred von Tirpitz à partir de 1898, de la pêche et de la chasse à la baleine comme élément de la politique d'autarcie nationale-socialiste avant la Seconde Guerre mondiale et pour finir, du projet d'exploitation minière sous-marine du manganèse depuis les années 60 du XX^e siècle.

L'armement de la flotte par Tirpitz sera ici considéré sous un angle divergent de l'interprétation marquée par les années 1970, et compris non pas comme une stratégie de crise anti-parlementaire, mais comme un projet bourgeois qui associait le pouvoir maritime aux valeurs centrales de la bourgeoisie, telles que l'unité de la nation et le libéralisme, ceci dans la tradition du mouvement pour une flotte allemande de 1848. L'enthousiasme concernant la flotte, véhiculé par la bourgeoisie, apparaît ainsi dans l'empire comme un mouvement immanent au système, qui aurait voulu réunir un déploiement de pouvoir extérieur, une modernisation économique et des réformes de la politique intérieure. La flotte de Tirpitz s'étant révélée être une déception au cours de la Première Guerre mondiale, c'est seulement dans le cadre de la politique d'autarcie nazie que de grands espoirs furent à nouveau fondés sur la mer en Allemagne. Ici, les océans apparaissent comme l'espace idéal de complémentarité économique, afin de pallier la lacune entre le besoin de graisse et de protéines de l'Allemagne et la propre production de l'agriculture, sans avoir pour autant besoin de dépenser des devises. Une partie de ces espoirs, portant sur la mer en tant que colonie allemande, était l'idée que les stocks de poissons et de baleines étai-

ent pratiquement inépuisables. Cette idée des ressources maritimes infinies est revenue à l'échelle internationale à la fin des années 60. Cette fois, les espoirs se tournaient vers les nodules de manganèse sur le fond de l'océan. Avec pour arrière-plan l'épuisement redouté du minerai de fer continental, l'exploitation sous-marine de nodules polymétalliques promettait une quantité illimitée de métaux à valeur économique. Ces espoirs furent parés d'une soudaine dimension politique puisque jusque lors, aucune nation n'avait revendiqué de droits sur le sol marin. De nombreux états du Tiers-Monde, mais aussi des voix dans les sociétés occidentales, réclamèrent dès lors de placer l'exploitation du sol marin sous surveillance de l'ONU et en transférant le savoir-faire et les profits, de les associer aux pays plus pauvres. En raison du rôle central que l'on s'attendait à ce que l'exploitation minière sous-marine joue dans l'approvisionnement global futur en matières premières, on espérait pouvoir ériger un nouveau système économique mondial équitable sur cette base.

Ce qui relie ces trois projets, c'est que le point de départ de chacun d'entre eux était la mer, porteuse de grands espoirs qui, finalement, ne se sont pas réalisés. En outre, des trois idées bien déterminées que l'on se fait de l'océan, au moins deux d'entre elles se retrouvent dans les trois contextes. Il s'agit en premier lieu de la promesse des ressources inépuisables. En second lieu, de l'espoir de réformes politiques liées à l'exploitation des océans. Et en dernier lieu, de l'image des mers elles-mêmes, perçues comme illimitées et infinies, tant et si bien que les limites de l'exploitation et l'éventualité des conflits des exploitants furent facilement ignorées.