I

The Whaling Order

The more I dive into this matter of whaling, and push my researches up to the very spring-head of it, so much the more am I impressed with its greatness and antiquity; and especially when I find so many great demi-gods and heroes, prophets of all sorts, who one way or another have shed distinction upon it. . . .

But even stripped of these supernatural surmisings, there was enough in the earthly make and incontestable character of the monster to strike the imagination with unwonted power.

Herman Melville, *Moby-Dick*
(1851, chapters 82 and 41)

2

An International Political Economy of Modern Whaling

Whaling is an ancient craft that has been traced back to 15,000 B.C. (Stoett 1997). Yet, in a sense, *modern* whaling was born against all odds: after the discovery of mineral oil in Pennsylvania in 1859, whale oil was progressively replaced in its most important uses, lighting and lubrication. Despite this ostensible substitution, the next hundred years saw an unprecedented expansion of whaling and the emergence of the large-scale, industrial whaling properly known as the "modern whaling industry" (Tonnessen and Johnsen 1982), able to hold its place among the staples of the industrialization process well into the 1960s. How can the endurance of whaling in modern societies be explained? Before answering this question, the chapter begins by mapping out the various forms of whaling, according to the different ways of utilizing the parts of the whale, so as to introduce the reader to practices that have largely fallen into oblivion today. This typology of whale-related consumptive practices serves to illustrate the extent to which whale parts pervaded everyday life. Whaling, it will be shown, was deeply embedded in the productive and consumptive structures of modernizing societies. The chapter then analyzes the factors accounting for the whaling industry's persisting competitiveness and its ability to continue to attract capital until the 1960s, in spite of the ongoing threat of substitution by other raw materials. Two lines of explanation are pursued successively. The whaling industry remained competitive because it adapted its production practices, which are appraised in the second part of the chapter. Furthermore, it was able to continue to sell. The third part of the chapter thus considers the market for whale products and how these fared in relation to potential substitutes. Price fluctuations, however, only partially capture the continued interest in whaling, which was steeped in political and strategic considerations that defeat strict market logic. Hence the fourth

and final part of the chapter considers the political and cultural significance of whaling as revealed by the wars of the twentieth century and in the more long-term phenomena of "whaling nationalisms."

In addressing the issue of material interests, this chapter operates a series of ground-clearing moves for the discursive approach deployed in the rest of the book. A widespread assumption is that the West stopped whaling simply because it had become uneconomical (Schneider and Pearce 2004, Mazzanti 2001, Stoett 1997, Davis and Gallman 1993, M'Gonigle 1980, Friends of the Earth [FoE] 1978, Scarff 1977, Small 1971).[1] In other words, material interests fully account for the West's withdrawal from whaling, such that the anti-whaling discourse would be nothing but a by-product of a reconfiguration of these interests—and therefore not worthy of study in its own right. What a closer examination of the international political economy of whaling draws out is, first, that the question is not why did whaling stop but rather why did it *last* so long, beyond the moment when it had become uneconomical. Second, it shows that the West remained interested in whaling even after it had largely pulled out. In other words, the end of whaling in the West was *not* coextensive with the end of the Western interest in whaling, and this interest is not reducible to its material interests. In the foregone whaling order, whaling was not only normal but it remained desirable, and Western countries were careful to cultivate the possibility of their resuming whaling at a later date. It would take another dominant discourse, the anti-whaling discourse, to rule out that possibility altogether by denormalizing whaling.

From Head to Tail: Using the Whale

The extent to which whale parts were ubiquitous in everyday life in the first half of the twentieth century is difficult to fathom today in the light of an extinct whaling industry. One needs to conjure up images of pipes, piano keys, cigarette holders, earrings, brooches, lipsticks, creams, candles, soaps, perfumes … The modern individual was constantly in contact with whale-derived goods. Some languages still hold traces of this pervasiveness if we listen closely enough. In French the baleens of the whale—the keratinous plate hanging from the roof of the mouth of certain species—have given their name to the structures in umbrellas and women's corsets ("baleines"). The whaling industry was the equivalent of today's petroleum industry. The whale oil, extracted from the blubber,

the bones, and the skin of most whales, comprised the fuel, and the baleens or "whalebones," as they were sometimes known, provided the equivalent of today's plastic—a robust and elastic manufacturing material.[2] Heated and shaped, they would make anything from corset stays, umbrella ribs, ramrods, and fishing rods to buggy whips and carriage springs. Cut into thin strips, they were used for sieves, nets, and brushes; further shredded, they made furniture upholstery. As for whale oil, it was used for lighting—the streets of London and New York were lit with whale oil until the late nineteenth century (Jackson 1978, 122–125; Creighton 1995, 14). As lubricating oil, it served in manufacture of soaps and cosmetics, as well as varnishes and paints. It was also employed in the tanning and textile industries and, notably, was important to the soaring British textile industry throughout nineteenth century for the cleansing of wool (Jackson 1978, 120). Furthermore, the wax-like substance in the head cavity of the sperm whale yielded another valuable substance, known as "sperm oil" or "spermaceti." It procured both a high quality lubricant and a wax that, unlike whale oil, does not smoke when burned.[3] The technique for separating out spermaceti was mastered in the eighteenth century, but its lubricating qualities were only fully exploited in the late twentieth century, as we shall see. Thus while whale oil illuminated city streets, spermaceti candles glowed in the drawing rooms. The ambergris, produced by the sperm whale's intestines, was used in perfumery and, briefly, in cookery (as flavoring fat). Other by-products of the modern whaling industry included whale meat, sporadically used as dog and fur farm food, fishing bait, and cattle meal, and the bones, which made fertilizers.

The ways of utilizing whales have been as varied and ingenious as the forms of whaling around the world. *Modern* whaling—the whaling that almost drove whales to extinction—can be seen on a line of continuum that begins with the *opportunistic* whaling of, for example, the eighth-century Norsemen, who first developed longer handheld spears better adapted to a larger prey, extending to the *traditional* whaling, first associated with the Basques in the Bay of Biscay in the eleventh to twelfth centuries, who organized hunting expeditions that exclusively targeted whales. These three forms of whaling are not to be understood as fixed categories, nor as occurring during neatly carved out historical periods, but rather as schematic ways of utilizing the whale that may coexist at one time. Both opportunistic and traditional whaling still occur today. It is not rare for incidents of whale use to crop up in the local news: a

whale stranded in Bangladesh a few years ago, for example, was sliced up and shared among the local villagers (Associated Press 2002). As for traditional whaling, it continues today in many coastal communities that have always turned to the sea for their resources. In Japan, four coastal towns still practice traditional whaling (Institute for Cetacean Research 1996a). There, anthropologists have traced back 800 years of dietary customs involving ritual celebrations of the animal's soul together with consumption of the meat (Institute for Cetacean Research 1988a, 1988c; Kalland 1989; Hiraguchi 2003). Larger whales were hunted as of 1675 after the discovery of new methods in the coastal town of Taiji. On the Island of Bequia, in St. Vincent and the Grenadines, the pilot whale, known as the "blackfish," is considered a bounty. In fact, the only form of whaling that has mostly disappeared is the large-scale modern factory whaling.

Geographically, whaling evolved increasingly further from the coasts. Thus the era of bay fisheries whaling, where the whales were caught along the shores, was succeeded by seaborne whaling, followed by an the era of *pelagic* (high seas) whaling, where the development of factory ships reduced the need to return to the land to unload and refuel and thus allowed for the exploitation of the remote waters of Antarctica. The whaling trade experienced a Basque, Dutch, British, American, Norwegian, and Japanese predominance, overlapping to some extent, with experience passing on from one group of whalers to the next. Every episode brought new people, new modes of organization, and sometimes new methods. Each one altered the geography of whaling: thus the Arctic—"Northern"—fishery, was followed by the Southern fishery, the Pacific fishery, the North Atlantic fishery. The Antarctic fishery marked the final chapter in the history of modern whaling, which is the story of a self-destructing trade. For modern whaling arose from the repetition of the same tragic cycle where the whalers found the whales, hunted them down, and moved on, until they reached Antarctica, the whales' most important breeding and feeding waters. Soon there would no longer be enough whales to sustain the trade.

A key difference between traditional and modern whaling revolves around their ways of utilizing the animal. In traditional whaling, the whale tends to be harvested in its entirety. It is, for one, an important food resource. Besides the whale meat, consumed in all whaling communities, the nutritious layer of skin and blubber (the fat under the skin)—or "mattak" as the Inuit know it—is enjoyed around the Arctic

(Greenland and Iceland) and in Japan, but not in Norway. The baleen provides construction material for the people of the Arctic, and the skin procures leather to the Alaskan Inuit (Freeman 2000). Both the bones and ivory of toothed whales are used as carving material by "scrimshaw" artists in the Northern Arctic and the South Pacific. Modern whaling, by contrast, made a very targeted, limited, and consequently wasteful use of the whale: it sought mainly the oils, and the baleens to a lesser extent. This meant that out of a blue whale weighing between 90 and 150 tons, 9 to 10 tons of whale oil would be extracted; the rest would be dumped back at sea. Another difference is that, whereas traditional whaling tended to be a localized practice, deeply embedded in the particular structures of meaning and social relations of small coastal communities, modern whaling increasingly evolved into an activity organized at the national level and brought under the gaze of the state, as we shall see in the next two chapters. This has sometimes been a source of social conflict at the local level. In the Finnmark region of Northern Norway, considered the birthplace of modern whaling, whalers were perceived by a poor, fishing proletariat as wealthy capitalists (i.e., boat owners) from the South who were coming to take over their fish (Tonnessen and Johnsen 1982, 63–66).[4] The fishermen accused the whalers of having driven the capelin from the seas. Years of tense relationships and even rioting eventually led to the proclamation of a whaling ban off the coast of Finnmark in 1902.

The rise of modern whaling was driven not by the needs of human consumption but by industrial demand. Its main products were the oils and baleens, two raw materials that went to the heart of industrialization. One exception is Japan, where the meat has always been a key motivation for whaling. Even in Norway, where the main produce of whaling today is whale meat, the formidable expansion of the whaling industry in the early twentieth century was mainly spurred by the price of whale oil. For this reason whaling historians Tonnessen and Johnsen (1982) distinguish between an inherently wasteful Western whaling, which was essentially for industrial purposes, and Japanese whaling, where human consumption remained a key driver throughout. Japan thus blurs the distinctions between "traditional" and "modern" whaling, in that the factory ships—the infamous emblem of modern whaling in the West today—that are still being operated for "scientific" whaling also yield whale meat. (Norwegian whaling, by contrast, no longer uses factory ships but rather smaller whalers that are comparable to the

vessels employed in the four Japanese coastal communities.) Thus, in Japan, factory whaling coexists today alongside traditional whaling.

Production Structures

Substitution was a long, drawn-out menace for the whaling industry (Schneider and Pearce 2004). It began in fact prior to the discovery of mineral oil with, notably, the import of rapeseed oil, which began replacing whale oil in British textile manufacturing in 1821 (Jackson 1978). Yet whaling thrived throughout the late nineteenth century, because it was able to meet the soaring demands for raw materials wrought by the rise of mass consumption. Whaling adapted its ancient practices and evolved into a proper modern industry, such that the whaling industry soon became a marker of being a modern, industrialized country. Here I rapidly survey the milestones of this modernization process. The 1860s marked a turning point: steamboats were used for the first time, and new killing methods improved catch efficiency (notably the exploding grenade harpoon introduced by the Norwegian Svend Foyn in 1868). Large-scale factory ships were introduced in 1903, thus enabling the whale to be processed directly on board and eliminating the need to tow the massive animals back to the whaling station. These also meant longer and more efficient hunting periods. For once processed, the risk of putrefaction was eliminated, and the whale produce could be stored on board. The first Antarctic whaling station was established in South Georgia in 1904, inaugurating the era of Antarctic whaling. Whaling could now take place farther, for longer, and in waters where the whales were prolific. By 1913 there were six landing stations in the Antarctic and twenty-one floating factories, and by the 1920s, only a small proportion of whaling was still conducted close to shore (Donovan 1995). Factory whaling was further improved in 1925 by the Norwegian "stern slipway," a mobile lower deck that facilitated the hauling of the carcass on board. It allowed industrial processing to take place in any condition (and no longer merely in the calm waters previously required for lifting the animal onto the upper deck). The production of oil increased nearly tenfold with the stern slipway. The number of catches also almost trebled as well: the forty-one factory ships that set off in 1930 caught 43,129 whales, compared with 15,000 in 1914 (Scarff 1977, 347). As the whales became harder to catch as the stocks became depleted (as of the early 1930s), the processing techniques were improved so as to extract more

oil from a single whale, such that volume increased more rapidly than the number of catches. Overall, these modernized methods yielded large production increases: on average, in one day of the 1927–28 whaling season, each factory ship produced 4,824 barrels of oil with 3.92 whales per day, increasing to 26,714 barrels per day with 10.45 whales each in 1938–39 (Tonnessen and Johnsen 1982, 333).

The whaling industry remained competitive because of technological innovations that provided vital new outlets for whale produce. Technological innovation was in fact a double-edged sword for the whaling industry, for it effectively buoyed up an industry that was constantly threatened by cheaper substitutes, which had themselves been brought about by a series of technological innovations. In the 1850s, the German chemist Justus Von Liebig, considered the founder of modern agrochemistry, invented a method for producing meat extract from whale meat, which would be used to add a "meat flavor" to sauces (Tonnessen and Johnsen 1982, 724). This yielded the first "meat cubes" in 1882. Repatented, the product saw widespread use in the years 1958 to 1961, with the Nestle Company as its largest consumer. Alfred Nobel's invention of dynamite (nitroglycerin) in 1860 created a more ominous outlet for the whale oil's glycerol (fatty acids). Third, the process of hydrogenation discovered at the turn of the twentieth century meant that whale oil could be transformed into solid fat and thereby replace the use of tallow (cattle fat) in the manufacture of soap and margarine, two emblematic products of rising mass consumption. As for sperm oil, its future was secured well into the 1970s in defense and space technologies by the development of sulfurization techniques, which processed it into one of the best lubricants ever known, especially resistant to extremes of temperature and pressure. A final example of a modern use was the pharmaceutical industry's discovery of the whale's hypophisis (a gland beneath the rear brain), containing a hormone (adrenocorticotropic hormone) used in the treatment of rheumatic ailments (particularly arthritis). Pharmaceutical demand peaked as late as 1951 and 1957 (Tonnessen and Johnsen 1982, 723).

The whaling industry's global reach was another important competitive advantage. Whale oil was a global commodity, first, in that its distribution was global. An inherently mobile raw material, it could be rapidly freighted around the globe to the highest bidder as it was being produced. This was whale oil's edge over other oils, both mineral and vegetable, a large proportion of which tended to be consumed by the

producer countries (Tonnessen and Johnsen 1982, 231). Furthermore, its seasonal nature meant that most of the production reached the market at the same time, that it could be bought all at once and stockpiled. This, in addition to its low price, is what enabled whale oil to play a larger role on the oil market than its actual volume warranted (Tonnessen and Johnsen 1982, 231). Second, production was organized on a global scale, both in terms of labor and capital. Whaling crews were typically international, a trait fictionalized in Melville's *Moby-Dick*. Norwegian gunners would sell their highly sought after skills to British, Dutch, Japanese, and then Soviet whaling captains. Norwegian whaling enterprises, in turn, were funded by British and German capital. Chilean and Argentinean whaling were for their part backed by Norwegian capital (Central Intelligence Agency [CIA] 1956, 33). This globalization of production continued even as the industry's main produce shifted from whale oil to whale meat, as we shall see. In the 1960s the Japanese whaling industry forged a set of transnational links with firms in other countries through purchase and investments. The large Japanese market for whale meat was supplied in the 1970s by Brazilian, Chilean, Icelandic, South Korean, Soviet, and Taiwanese, in addition to Japanese, firms (Peterson 1992).

An important attraction for investors was that the whaling industry had extremely low barriers to entry, as ships were converted into whaling vessels at a relatively low cost. The slightest increase in profits drew ships in from other trades, creating a flexibility unknown to land-based industries (where capital goods were more permanent). A ship merchant such as Aristotle Onassis, who was famously responsible for one of the most ferocious episodes of "pirate whaling" (which escaped all states' jurisdiction) from 1950 to 1954, could convert his ships into whaling factories while profits were high. Once these dropped, the same ships would be used for cargo transportation. This created significant instability in the trade, as rising prices had to be shared with newcomers out for a quick kill. Another attraction for investors was that, in whaling, profit returns were immediate, compared with the slower maturation of agricultural investments, notably in vegetable oils. As high whale oil prices signaled a period of expansion for the whaling industry, understanding how whaling was able to last well into the 1970s requires examining what sustained the peaks on the whale oil price curve (see figure 2.1).

Historically, the whaling industry was upheld by the formation of large industrial complexes characteristic of the second industrial revolu-

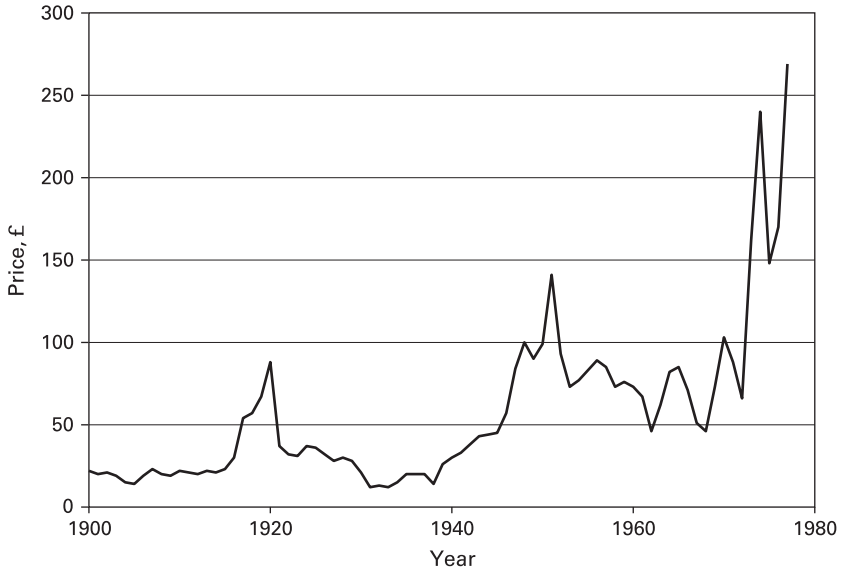

Figure 2.1
Prices of whale oil (in pounds sterling). Data source: Tonnessen and Johnsen (1982).

tion. This phase of industrialization saw the concentration of productive means along either a "vertical" or a "horizontal" axis, to draw on the language of economic historians. The horizontal merging of the soap and margarine industries in the early twentieth century directly impacted the whaling industry, as both were key clients. It enabled the producers of soap and margarine each to diversify their production (in a context when the demand for both products was still unstable) and together to consolidate the position of the soap and margarine industries as a buyer on the fats market. By 1920 there were four main groups left in the British soap and margarine industry—Crosfield, Gossage, Lever Brothers, and Watson. By 1927, these had been reduced to three, and on January 1, 1930, the gigantic Unilever Group was born (Tonnessen and Johnsen 1982, 235). A key concern was securing adequate supplies on a highly competitive market, and even before the birth of Unilever, the soap industry had sought to bring as much of the production process as possible in-house through vertical integration. The Lever Brothers, in particular, could not get enough whale oil for their soap production (Jackson 1978, 211). The first step was to buy a patent for hydrogenation, thereby

reversing the dependency with the whaling industries, which had hitherto held a monopoly over the hydrogenation process. The large Norwegian whaling company De-No-Fa, for example, had been the main supplier of hardened whale fat to the Lever Brothers. The soap industry thus became an indispensable buyer for the whaling industry, and British and Norwegian whalers vied for the business of the Lever Brothers in the interwar period. To shore up against insecure supplies, the Lever Brothers stockpiled the oil. The integration was completed in 1919 when the Lever Brothers purchased the Southern Whaling Company to secure their own supplies. The bond was thus sealed between the whaling industry and a nascent large-scale agro-industry.

Demand for Whale Produce

The Role of Whale Oil on the Fats Market: 1900–1940s

The introduction of whale oil into the making of soaps and margarine warrants closer inspection, as they account for the persistence of a product that was otherwise destined "to disappear from the world market," according to whaling historians Tonnessen and Johnsen (1982, 229). For in the mid- to late nineteenth century, the need for fats was largely covered by cattle fats, both in their edible (butter, lard, milk) and nonedible (tallow) forms, as well as a few edible oils, particularly olive oil. The opening of the Western American prairie marked a shift from an outward- to an inward-oriented economic development and, consequently, the progressive withdrawal of U.S. capital from whaling. (Whaling did, however, continue on an ad hoc basis until it was outlawed by President Nixon in 1970.) Thus the United States, who had dominated world whaling for over a century, now became the largest producer and exporter of cattle fats. However, by the turn of the century, the fats supply was outpaced by the formidable expansion of the soap and margarine industry. Altogether, soaring demographics, a general rise in living standards, and a new concern with hygiene had generated a demand for soap on an unprecedented scale. Margarine, for its part, had been invented in France in the 1870s. It was composed essentially of animal fats (compound lard and tallow, as the solid fat was indispensable for its consistency), mixed with vegetable oils and milk. A cheap alternative to butter, it rapidly found its way into popular eating habits and soon become a staple item in working-class diets in Germany, Great Britain, Holland, and Scandinavia. Production took off in the early 1900s, and

before World War I the manufacture of margarine exceeded that of butter in England and Scotland, for example (but not in Ireland; Jackson 1978, 184). By 1906, the combined demand for solid fats from booming soap and margarine industries created an exceptional fats shortage, driving the overall price of fatty raw materials to its highest peak for twenty years (Tonnessen and Johnsen 1982, 227–250). When tallow supplies proved unable to match industrial needs, the soap industry, in particular, turned to whale oil, the only oil whose price had remained stagnant since the late 1890s. Furthermore, it could now be processed into a solid fat using still very coarse hydrogenation technologies. It would take another two decades and considerable refinement of these processes before whale oil could be used in margarine; nonetheless, the impetus for their development had been provided. 1906 was a turning point for the whaling industry, as reflected in the price of whale oil (see figure 2.1). Fat hydrogenation, in turn, developed into a full-scale industry by 1911–1913, further stimulating the whaling industry: production more than doubled from 47,387 tons of whale oil in 1909–10 to 134,020 tons in 1913–14 (Jackson 1978, 178).

In 1929 scientists working both for the Lever Brothers and the Margarine Union discovered how to synthesize whale oil so that it could be used at 100 percent in the production of margarine. Significantly, these two firms merged the very next year to yield the huge agro-industrial corporation Unilever. At this point, margarine, rather than soap, became the most important outlet for whale oil. From then on, the decisive factors for the whaling industry would be the demand for margarine, the competition between margarine and butter, and the competition with vegetable oils, which could just as easily be hydrogenated to make margarine. Let us consider each factor in turn.

First, the rise of vegetable oils was an ongoing threat for the modern whaling industry. After rapeseed oil in the nineteenth century came cottonseed oil, launched on the fats market by Proctor and Gamble in 1911. In the 1930s, the danger came from soybeans. Once an expensive import from Manchuria, soybean oil production was being experimented with in the United States. So well did the crop fare on the American prairie that, over the 1930s, production increased twelvefold in the United States, such that, by 1938, the country had become an exporter of vegetable oils, thereby also collapsing the price of soybean oil (Tonnessen and Johnsen 1982, 457). Then came the tropical oils (coconut and palm) that were being developed in the colonies. The French, for one,

were intent on sustaining the trade with their tropical colonies and soon discovered how to make a margarine entirely from palm oil (until then, it had not been possible to obtain the "buttery" texture without mixing in some measure of butter). Despite these pressures, whale oil held its place on the fats market: the record 1930–31 production yielded a volume of whale oil comparable with the total production of olive oil of France, Italy, and Spain combined (Tonnessen and Johnsen 1982, 370). The price of whale oil remained competitive throughout the 1930s compared with other edible oils (Tonnessen and Johnsen 1982, 742). All in all, the trade remained profitable: between 1924 and 1929, whale oil was sold at 32 pounds sterling a ton, while production costs were estimated between 15 and 18 pounds (Tonnessen and Johnsen 1982, 370).

As for the demand for margarine, second, it was so robust in the 1920s that production doubled from 520 thousand tons in 1913 to 1,050 thousand tons in 1927, thus securing an increased demand for whale oil. The whaling industry, however, offset these auspicious conditions by overproducing: production skyrocketed from 1 million barrels of whale oil in 1930 to 3.5 million in 1931. The year 1931 marked both a record and a turning point in the history of modern whaling: never again would the industry be able to produce as much oil, despite a constant increase in fleets and materiél (Scarff 1977, 350). It was also a tipping point for whale populations, which had been depleted beyond recovery by an industry that proved unable to respect the ecological limits of the resource upon which it depended. That same year, the prices of whale oil plummeted (see figure 2.1) as the effects of overproduction were compounded by the Great Depression. Furthermore, margarine production experienced a lull in the early 1930s due to the competition with butter. For the price of butter had been halved during the late 1920s under the pressures from cheap margarine. As a result, butter became competitive once again in the early 1930s. In the United Kingdom, for example, butter consumption increased by 47.5 percent between 1929 and 1934, while margarine consumption fell by 37.8 percent (Jackson 1978, 220). In the same time, governments, concerned to protect both their dairy farmers and their foreign exchange reserves, began to place restrictions or taxes on the margarine manufacture—in Holland in 1932, in Germany, Denmark, Norway, Sweden, and Finland in 1933, and in Czechoslovakia and Italy in 1934. At that point, Unilever's European sales were a third lower than in 1929.

Third, considering the competition between margarine and butter, after 1934, the butter mountain melted, and the margarine trade revived. This was another turning point for whaling, which had become, with coconut oil, the main fat in margarine. Whale oil became a new, strong player on the market, its price exceeding 17 pounds sterling a ton in 1935 (see figure 2.1). Hence at the outcome of the Great Depression, the role of whale oil in the world fat market was reversed: while its price previously had risen or fallen in accordance with the dominant position of vegetable oils, whale oil had now become an important factor in setting world oil prices—so much so that the Food and Agriculture Organization's (FAO's) International Institute of Agriculture, looking back at the fats market in the prewar period, drew the following conclusion:

> The increasing use of marine oils, especially whale oil, in the foodstuff industry, particularly in the manufacture of margarine, led to the direct competition with the animal fats produced in agriculture. As the crisis developed, and purchasing power declined, the competition became increasingly severe. At last the production of whale oil became one of the most important factors in the unstable conditions and crises which affected the whole oil and fat market. Compared with production, the costs of which could be continuously reduced by means of improvement in technique and organisation, even the tropical plantations and the Manchurian Soya bean production were in a difficult position.

Thus in its analysis:

> Although the production of whale oil had a disastrous effect on the prices and markets of other oils and fats, the fact cannot be overlooked that, especially in Europe, fat supplies were greatly improved by whale oil production (quoted in Tonnessen and Johnsen 1982, 235).

The growth in margarine consumption (both in absolute terms and relative to butter) was sustained until the end of the decade, despite an improved economic climate, thereby buoying up whale oil prices. This was aided by periodic shortages on the fats market: the poor harvest of 1936, for example, increased the amount of vegetable oil consumed by producer countries, thereby relieving some of the competitive pressures for whale oil on the world oil market. Additional reprieves were brought by measures taken under the New Deal to curb agricultural production in the United States. For example, the area of land under cotton was limited under the 1933 Agricultural Adjustment Act, thereby decreasing the amount of cottonseed oil on the market. All in all, despite the competition, the place of whale oil on the fats market seemed relatively secure

at the onset of the most destructive periods of the history of modern whaling known as the pelagic era.

From Whale Oil to Whale Meat: 1947–1970s

The last period of expansion for the whaling industry was triggered by yet another fats shortage, which hit war-torn economies in 1947 under the cumulated effects of a poor harvest, a soaring demand for raw materials at large in a world in reconstruction, and a shortage of vegetable oils. This was due, in turn, to the suspension of agriculture during the war, coupled with an increased consumption by producer countries. That year, the newly established FAO estimated an import deficit of about 55 percent for Europe alone and a worldwide shortfall in fat production of 3 million tons (Tonnessen and Johnson 1982, 528). In a context where domestic fats production could not keep up with the swelling pressures of a general rise in population and living standards, whale oil was in high demand, contributing 12 percent of fat imports in 1947. The price of whale oil would remain on a steep incline for a couple of years, almost tripling from 57 pounds sterling per ton in 1946 to 141 in 1951. These high prices, in turn, coupled with the disappearance of a large number of competitors, either because their fleets were destroyed or because they were barred from whaling (German whalers in particular), served as a strong incentive to set out whaling. Indeed, in the immediate aftermath of the war, everybody, it seemed, wanted to whale. A flurry of national whaling plans were announced, by the Netherlands, Japan, Germany, the United States, Argentina, Australia, the USSR, and Denmark, and even by countries that had never been involved in whaling, such as Sweden, Italy, or even landlocked Austria (Tonnessen and Johnsen 1982, 522).

Many of these national whaling plans would never leave the shelf, for, in reality, there were no longer enough whales left in the oceans for a large-scale whaling industry. By the time the IWC finally introduced national quotas to limit the number of whales caught per country in 1962, so depleted were the whale stocks that these could not even be filled: Norway, who had dominated world whaling between the wars, could catch merely a third of its authorized catches in 1962, the United Kingdom filled two thirds of its quota, and Holland, only half (Tonnessen and Johnsen 1982, 611). The whaling industry had become overcapitalized, and the resource too scarce—there were simply too many whalers, too few whales. Key problems for the industry were the long life cycle

and the low reproduction rates of whales, which created an inherent tension between the rates at which the whale stocks could replenish and the rate of expansion of the industry. Furthermore, although the price of whale oil did continue to rise throughout the 1960s and 1970s (see figure 2.1), once vegetable oils had recovered and become once again extremely competitive, combined with the spread of plastic, it became clear whale produce would soon be replaced in its main uses and demand would peter out. The British and Norwegian private interests thus withdrew from an uneconomical trade in 1964 and 1968, respectively, and the Dutch state stopped subsidizing its whaling industry in 1964.

Only Japan and the USSR succeeded in filling (or exceeding, in the latter's case) their national quotas in the 1961–62 and 1962–63 seasons. From then on, whaling largely shifted eastwards, as these two countries took over world whaling.[5] Whale oil continued to remain central to the military–industrial complex during the Cold War, as we shall see. These strategic considerations, coupled with the enduring prices of whale oil, help explain the continued interest of the USSR. As for Japan, its modern whaling industry obeyed a completely different economic logic altogether. For whale meat had always been a key product of Japanese whaling, in addition to the oil and baleens. It had consistently sustained its industrialization throughout the 1930s. As a result, the Japanese whaling industry was always less sensitive to the fluctuations of the whale oil market than Western whaling. It was also far less wasteful, because it used every part of the whale. Thus out of a small whale, such as the minke, which was of no interest to Western factory ships, Japanese whalers could produce five to eight tons of meat, in addition to the two to three tons of oil extracted from the blubber and bones. This centrality of whale meat to the Japanese whaling industry was further accentuated by the way in which Japan returned to whaling after World War II. In a devastated country whale meat was seen by General MacArthur as a means to alleviate severe food shortages. Whale meat was thus the prime motivation for setting occupied Japan back to whaling in 1946—so much so that, in the first stages of the "symbiotic relationship" (M'Gonigle 1980) between U.S. capital and Japanese whaling, the Japanese retained the meat, while the oil went to the U.S. companies in return for their financing the expeditions.

By the late 1940s, the production of whale meat for human consumption had become an almost exclusively Japanese monopoly, despite attempts to introduce whale meat in other countries. The huge quantities

of wasted meat generated by prewar whaling now seemed indeed unacceptable to a hungry and rationed war-torn world. Upon resuming whaling, British whalers, seeing the success of whale meat in Japan, sought to launch it on the British markets in 1947, through a concerted effort with the government (Jackson 1978). Amid a minor blaze of publicity, Food Minister John Strachey waxed eloquent about the 600,000 tons of wasted quality meat, while a Dr. Edith Summerskill educated the British public to the virtues of whale meat. The Department of Scientific and Industrial Research and the Ministry of Food spent the three postwar seasons researching in the palatability of whale meat, which had been further improved by the introduction of the electric harpoon in the early 1950s. Whale meat, which was not subject to rationing, was served in hospitals and schools. Lyons Cornerhouses were serving 600 whale steaks a day in 1947 (FoE 1978, 57). However, despite favorable reception of canned "corned" whale meat at the British Food Fair, the British public never really took to whale meat. Thereafter it was used exclusively in the production of animal feed in the United Kingdom (such that, in 1978, the British firm Pet Foods Ltd. was still importing 2 percent of Japan's production of whale meat; FoE 1978). Although it never took hold in Western countries, the idea of a large-scale whale meat industry was still floating around in the 1970s, as evidenced by this piece of Canadian research whose conclusion would seem unfathomable in the West today: "It is quite possible that the average North American exposed to a properly prepared grade A cut of whale beef will welcome it as an excellent alternative to cows or steer beef" (quoted in Scarff 1977).

Whale meat sustained the formidable expansion of Japanese whaling through the collapse of whaling in the West. In fact, the ascent of Japanese whaling facilitated the West's exit from large-scale industrial whaling, as Japanese firms bought off Norwegian, British, and Dutch floating factories. It also decisively altered the production and export patterns of the whaling industry. As of 1961, meat production increased in inverse proportion to the production of oil. By 1967, the price of oil was 45 pounds sterling, that of meat, 125; and the total value of meat produced in the Antarctic was more than five times the total value of oil (Tonnessen and Johnsen 1982, 722). Whale meat also spurred Japanese whaling's global expansion: for example, the Brazilian fisheries firm COPESBRA was established in the mid-1970s in the Northern State of Paraiba as a subsidiary of Nippon Reizo Kabashiki Kaisha of Japan

(Stoett 1997, 75). And yet, although it was both the biggest whaling nation and the largest whale meat producer since the late 1950s, Japan could not seem to produce enough whale meat: in 1977, it was still importing 19.946 tons of whale meat, 85 percent originating from the USSR. Nor was Japan then the sole consumer of Soviet whale meat: Iceland, Brazil, Peru, South Africa, and Spain all counted among the importing countries for Soviet whale meat. Japanese whale oil, by contrast, was destined at 87 percent for export, notably to the Netherlands. That whale oil was considered a by-product of the meat production, and meat, rather than oil, was the key driver of Japanese whaling, is also illustrated by the lack of interest in sperm whales, whose meat is considered inedible in Japan. The renewed interest in sperm whale oil in the 1960s (see below) largely bypassed the Japanese whaling industry, for which sperm whale oil stagnated at 7.5 percent of its whale produce exports (destined mostly to the USSR).

Modern Whaling and the National Interest

Whaling and Wars

While the takeoff of modern whaling was triggered by the 1906 fats shortage, its good fortune was sealed by the First World War. More generally, wars tended to provide the most auspicious conditions for the industry's development throughout the twentieth century. The next chapter examines what this reveals about the connections between whaling and the making of the modern state. Here it is enough to consider that during the First World War whale oil first became a strategic raw material, implicated both directly and indirectly in the war effort. It was all at once a fuel, a key ingredient in the manufacture of explosives, and a raw material for basic industries that were placed under government protection, not least soap and margarine. Supplying whale oil thus became a matter of national security, and governments began stockpiling whale oil, an involvement in the whale oil market that would continue well beyond the war. Furthermore, controlling whale oil supplies became a key aspect of the German blockade in the Allies' maritime strategy. For when the war broke out, the Norwegians were producing 77 percent of all whale oil (against 16.7 percent produced in the British Empire) and selling over a third of their production to Germany (Tonnessen and Johnsen 1982, 292). The United Kingdom thus pressured a neutral Norway to grant it exclusive sales of whale oil, negotiations which were

facilitated by the heavy involvement of British capital in the Norwegian whaling industry, notably in the hydrogenation plants.

Furthermore, the war's propitious effects lasted beyond the war itself. Wartime rationing and government concerns about food security had decisively contributed to the acceptance of whale oil as a staple ingredient of products of mass consumption. In soap, they swept aside the soap manufacturers' lingering misgivings about perceptions of "fishiness" and how these would impair their sales. From then on, whale oil became a staple ingredient in the soap manufacture. The war equally removed any qualms about using whale oil in margarine. At a time when agricultural production of butter was suspended and margarine imports disrupted, the production of cheap, locally based margarine became a priority for the British government. It was thus upon the request of a government concerned by the dependency on the import of margarine from Germany that the Lever Brothers turned to the production of margarine in 1914. The British margarine industry exploded, the consumption of margarine overtaking that of butter by 1916. Furthermore, the war created the conditions that would ensure continued interest in developing the synthesization technologies that were eventually perfected in 1929. For the German blockade had effectively created a situation of client monopoly that directly benefited the Lever Brothers as the main buyers of Norwegian whale oil. They accumulated large stocks of whale oil that then needed to be used up after the war, thus securing the place of whale oil in the production of soaps and eventually margarine.

Whale oil took on increasing strategic importance in the buildup to the Second World War. The CIA, in the 1956 report mentioned earlier, attempted to gauge the perceived importance of whale oil, and thus the significance of whaling, for the British government. The CIA estimated that it formed "a significant part of the U.K food supply." It found that whale oil comprised 37 percent of the margarine content, 21 percent of the lard compound, and 13 percent of the soap content between 1932 and 1936, and these percentages "steadily increased" after 1936 (CIA 1956, 20). In 1938 the British government classified whale oil, alongside meat and sugar, as essential "national defence" commodities. Throughout the war itself, and although mineral oil had become the main fuel, whale oil derivatives remained "an important element in the manufacture of explosives and lubricant," according to the CIA. In 1938, Germany and the United Kingdom purchased 83 percent of the world whale output between them. Whale oil was once again at the heart of the war.

Its strategic control was so important that the British were prepared to concede rather liberal Norwegian exports of *fish* to Germany against rigid restrictions on whale oil. The war effort impacted positively on the price of whale oil, which increased from 14 pounds sterling a barrel on the eve of the war, to 26 in 1939, and 30 the following year, rising steadily to 45 pounds sterling in 1945. Compounding the effects of government demand, production remained in a lull, not least because most whaleboats had been converted into war vessels.

Beyond the world wars, the last reprieves in an overall trajectory of decline were granted by wars. The Korean War, for one, harbored fortuitous circumstances for the development of "pirate whaling." As China prohibited all oil-seed exports to the West when the war broke out in 1950, oil supplies began to thin out, thus ratcheting up whale oil prices. This provided the opportunity for a ship merchant such Aristotle Onassis, whose whaling enterprise was only one among many investments, to further inflate prices by sitting on his whale oil stocks. Average whale oil prices leapt from £99 per ton in 1950 to £144 the following year, while Onassis himself managed to obtain £172 (Tonnessen and Johnsen 1982, 523–525). Furthermore, Onassis had successfully placed his *Olympic Challenger* beyond any national jurisdiction by playing off one flag against another in the ship's registration. His catches thus went uncontrolled and unreported from 1950 to 1954. He had triggered one of the most destructive periods for whale stocks and left in his wake a practice that would continue to plague international efforts at regulating whaling. Two more bouts of pirate whaling occurred—first, in the 1960s (associated with the vessel *The Sierra*) and then in 1975–78 (linked to *The Tonna*, Day 1992).

National security concerns continue to prop up a dying Western whaling. The world energy crisis of 1973–74 saw whale oil prices heave momentarily. Furthermore, even as the demand for whale oil was petering out in the West, the interest in sperm whale oil was sparked anew by the development of sulfurization techniques, which could transform sperm oil into a high quality lubricant used in automatic transmission fluids and high technology applications.[6] One of the lesser products of the whale hunt had suddenly been rediscovered by the Cold War defense industry. From 1966 onwards, the world production of sperm oil exceeded that of whale oil. It became especially important for the USSR's space and military programs, as synthetic replacements were embargoed by the West (the United States and Europe). Sperm oil thus became a key

component of the Soviet–Japanese whale trade relations. Into the early 1990s, the U.S. and UK governments were still maintaining stockpiles of sperm oil and whale oil to a lesser extent for national emergencies (Ellis 1992, viii), even while officially deploying policies against Japanese and Soviet whaling.

Whaling Nationalisms

The wars of the twentieth century illustrate the ways in which whaling was implicated in the strategic and defense considerations of the modern state. They reveal that whale products represented far more than an economic interest; they went to the heart of the national interest. Now the national interest, as Randolph Persaud (2001, 202) aptly emphasizes, "is made, manufactured on the basis of material conditions. In particular, [it] is understood as the official, authoritative and public expression of a way of life, that is to say, a culture." The material conditions of the modern whaling industry have been at the center of the analysis so far, thereby largely leaving aside considerations about the symbolic and cultural significance of these whaling societies. This section now turns to consideration of the ways in which whaling was involved in the formation of cultural complexes revolving around ideas of the nation and the national interest as they took shape in the interwar period.

Throughout the early twentieth century whaling had remained largely a bilateral affair, with Norway and the United Kingdom still holding between them 49 and 48 percent of Antarctic catches, respectively, until 1934 (Donovan 1992). With the opening of the pelagic era, these two countries saw their preponderance threatened by the rise of new whaling nations. The period is marked by the development of a vast interstate, nationalistic competition known as the "whaling Olympics," where all the whaling countries were pitted against one another to catch as many whales as possible before they could be taken by another country's whalers. Brought on by the opening up of the trade to new whaling nations in the mid-1930s, these dynamics continued apace for another two decades. This period also saw the first efforts to regulate whaling internationally (see chapter 4), and with them the threat loomed large of national quotas. These were not introduced until 1962, and only once it was too late—the whale stocks were too decimated to even fill them. The long, drawn-out international negotiations merely fueled the destructive drive for whales, because each nation's catches would be capped according to the country's share of overall catches. In the 1930s

these "Olympics" drew out the whaling nationalisms especially acutely because they were bound up with the political buildup that led to the Second World War.

Japan and Germany were the two rising whaling nations in the 1930s, and in both countries, whaling was implicated in political economies revving up for war. In Japan, whaling had been mostly traditional, land-based, and localized. Japan's decision to enter into pelagic whaling in 1934 triggered a fundamental restructuring of its whaling operations and the emergence of the modern Japanese whaling industry. Pelagic whaling would play an integral part in Japan's military expansion in the 1930s and its integration into the circuits of international trade. Sales of whale oil to Europe (mostly to Germany) provided a valuable source of foreign currency to finance, notably, the war in Manchuria (Small 1971), and the vast quantities of whale meat that could be brought back from Antarctica once deep-freezing techniques were perfected (in 1938) suited Japan's food security objectives. Despite its late start, the Japanese whaling industry expanded with such speed as to cause considerable alarm among British and Norwegian competitors. Where British shipyards needed eighteen months to build a new floating factory in 1935, Japanese shipyards required four. Five new floating factories were converted or built between 1936 and 1938 (Tonnessen and Johnsen 1982, 418–419). Three years only after they began whaling in Antarctic waters, Japanese whalers were taking 11.6 percent of the whales caught (see figure 2.2). At the eve of the war, Japan's share was 19.2 percent, despite a pelagic fleet that still fell far short of either the Norwegian's or British's. From the Japanese perspective, the United Kingdom and Norway's newfound commitment to regulate whaling internationally, after decades (even centuries) of unregulated whaling, appeared as nothing more than an attempt to protect their own hands in the trade (see chapter 4). Hence Japan stayed away from these negotiations. The formidable expansion of Japanese whaling continued stealthily such that, by 1963, Japan had become the world's first whaling nation, with 41 percent of Antarctic catches.

Whaling had created new ties between Germany and Japan that were eventually sealed by a trade pact in 1939, whereby Japan committed its whale oil to Germany exclusively. One of the largest buyers of Japanese whale oil had been Unilever, whose profits were trapped in Germany in a complicated setup known as "the German fats plan" (Tonnessen and Johnsen 1982, 422–425). Hitler's policy of reconstitution

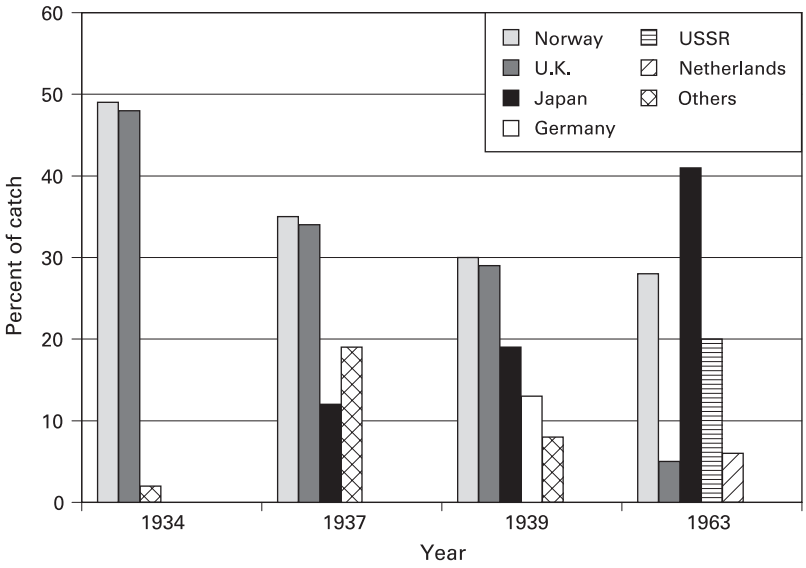

Figure 2.2
Composition of Antarctic catches (1930s–1960s). Data source: Tonnessen and Johnsen (1982).

of the German national interest meant protecting Germany against foreign interests while acquiring strategic raw material without spending any foreign exchange (which had been drained away the previous decade by the country's foreign debt). Whaling, it seemed, had a key part to play in Germany's policies of self-sufficiency. The success of margarine had posed a significant threat to German agriculture, a potent symbol of national interest in Nazi Germany. A 1933 decree restricted margarine's access to the German market, one of the largest markets in Europe. The problem was not margarine as such but that it should be produced on German soil by foreign interests (Unilever) with foreign (mostly Norwegian) whale oil. The importance to the German war plans of developing a modern German whaling feet was expressed by the military leader Hermann Göring himself, who remarked that foreign capital and Norwegian whalers "offer the possibility of supporting the supply of fats to our people, and thereby contributing to the attainment of the great goal of freedom in raw materials and food" (quoted in Tonnessen and Johnsen 1982, 398).

In the second act of the German fats plan, all earnings of Unilever's German subsidiaries were blocked and had to be reinvested in Germany. Unilever, who invested its profits in German shipyards as a result of this restriction, soon found itself effectively financing the building of a new German whaling fleet, in addition to buoying up Japanese–German whaling trade relations. Germany had thus embarked upon large-scale modern whaling by 1936.[7] By 1939, Germany was catching 13.3 percent of Antarctic whales (see figure 2.2).

The development of whaling nationalisms was not confined to the exceptional politics of the 1930s, nor were they dampened by the devastation of the war itself. In fact, they flourished with renewed vigor in its aftermath when the elimination of the third and fourth largest whaling nations was seen as a precious window of opportunity to enter into the trade by established and new whaling nations alike. We have already encountered the flurry of national whaling plans in the previous section. Let us examine in more detail here the Dutch whaling policies, as they provide a good case of postwar whaling nationalism steeped in whaling history.

Until the eighteenth century, the Dutch had dominated whaling. Since then, Dutch whaling had been on the decline, unable to withstand competition from successively British, then American, then Norwegian whalers. The plans to take up whaling anew had been hatched during the war by a group of businessman in a clandestine resistance movement (Tonnessen and Johnsen 1982, 523–535). The rationale was that, given that the destruction of the Dutch East Indies, effectively the country's granary, would require several years to repair, whaling would cover the country's immediate need for fats. The Dutch whaling plans were couched in terms of the country's autonomy and self-sufficiency, tainted in historical pride. At the end of the war the plan rallied government, monarchs, banks, and shipbuilding yards, in a vast national (re)building effort centered on whaling. A tanker was converted into a whaling vessel, and baptized after a figure of national glory, the explorer Willem Barendsz, who had given his name to the Barents Sea. The departure of the *Willem Barendsz* from Amsterdam in 1946 was celebrated as a national event. In 1950 the government turned down an offer by the USSR to buy out the floating factory well above its market worth, injecting instead vast subsidies to bail out this last remnant of a once glorious whaling fleet; it was eventually bought out by the Japanese in 1962 (and

renamed *Nitto Maru*). In Great Britain, similarly, the importance of the fats supply to the country's national reconstruction was also cited as a justification by the British government for its interest in British whaling (Schweder 2000).

Conclusion: Back to the Power of Words

Whaling was an archetypal modern industry of the Second Industrial Revolution, comparable to other staple raw materials industries, such as coal. The modernization of its production methods through the use of new technologies marked the shift from a craft to a large-scale industry and distinguishes modern whaling from "traditional" and "opportunistic" whaling. Whaling was inscribed in the emergence of a "global system" (Sklair 1995) at the juncture where capitalist expansion, scientific innovation, and the global politics combined. Focusing on the consumptive and productive structures in which whaling was enmeshed served to show its pervasiveness, from the individual level, in the life of the early twentieth century modern consumer, to the level of the state. And yet a practice that had fed vital raw materials to the industrialization process vanished abruptly from the economic life of Western nations in the early 1960s.

In clearing the grounds for the subsequent analysis of the anti-whaling discourse, a central purpose of this chapter was to show that this discourse emerged in the West because *it could*; that is, that it was not prevented from doing so by a set of material interests aligned against it. What this illustrates is not the preponderance of material interests as an explanatory factor but rather the coconstitutivity of discursive and material practices. Indeed, the argument of this book is not that discursive power can overturn material power, nor that discourses are more powerful than material interests. Such an argument indeed would imply the possibility of disjoining discourses from material interests, such that they could successfully emerge *in spite of* material conditions aligned against it. Rather, the argument here is exactly the opposite: it is precisely because discursive and material interests are so deeply entwined that discourses cannot flourish without the appropriate material conditions.

Moreover, this chapter has shown that the configuration of material interests examined in this chapter does not explain everything. For the West's interest in whaling was still acute: even as the United Kingdom

pulled out of whaling in 1963, three years later on the floor of the IWC it was still ferociously defending its right to resume whaling at a future date (Tonnessen and Johnsen 1982, 629). Even the United States, the whaling nation where whaling interests were most well and truly moribund, had systematically opposed the introduction of national quotas at the IWC from 1949 to 1962, because it too reserved for itself the possibility that it might once again engage in whaling (Tonnessen and Johnsen 1982). For whale produce had remained key to defense and national interest considerations, even after whaling had become uneconomical, as the involvement of the Dutch state has shown. Moreover, the prices of whale oil were steadily increasing, not collapsing. All of these factors sustained the West's continued interest in whaling, even after Western whaling had actually stopped on the ground. My contention is that whaling came to a halt in the West before it would have were it not for the anti-whaling discourse. Whaling could have resumed once the stocks had sufficiently recovered from overexploitation, as indeed it has done in Norway, and as these other Western governments also seemed to envisage at the time. Thus regarding the power of words, two main points can be drawn here. First, in this past whaling order, an exploitative whaling discourse sustained the Western interest in the practice beyond the life span of the practice itself in the West. In other words, this interest was maintained simply by the way the dominant discourse on whales and whaling ran. Second, it would take another dominant discourse, the anti-whaling discourse, to do away altogether with the possibility of that practice's ever resuming in most of those Western countries. What the anti-whaling discourse has done has been to make whaling inconceivable in the West today.