

## **‘Whaling and the Extermination of the Great Whale’: Norwegian and British Debate about Whale Stocks in Antarctica, 1913-1939**

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### **Abstract**

This article examines Norwegian and British investigations of the threat of Antarctic whale extinction in the interwar period. At the time whaling fleets hunted populations of hundreds of thousands of whales into the remnants that exist today. From the perspective of scientists and observers at the time, however, it was less obvious that whale populations declined. The article investigates what experts and the public knew about the health of Antarctic whale stocks. It contributes to the existing research about whale science and whaling diplomacy in two ways. First, it documents in more depth when and how a consensus about whale decline emerged. Secondly, it studied not only experts but also public discussion about the issue in the newspapers. It aims to understand the public assessment of the whale stocks. The article finds that concern over Antarctic whaling surfaced in expert British circles from around 1913, but that it did not become a serious issue in Norway before the late 1920s. In the mid-1930s, accumulated statistics in conjunction with new methods created a rough consensus among experts that whale stocks declined. From the late 1920s, there was intense Norwegian public interest in Antarctic whale stocks, which likewise moved to a consensus of decline around the mid-1930s. The media’s attention to the whale stock issue, however, often depended on strong personalities and relied on different types of evidence.

Keywords: Antarctica, environmental consciousness, extinction, polar science, whaling, history of knowledge

### **Introduction**

It is a cliché to start an article about whales with a reference to *Moby Dick*. Nevertheless,

Melville's interest in humanity's effect on nature justifies this indulgence.<sup>1</sup> In chapter 105, 'Does the Whale's Magnitude Diminish?—Will He Perish?', Ishmael asks whether humans will exterminate whales as they wiped out the buffalo on the American plains. After discussing reasons for and against extinction, he concludes, 'for all these things, we account the whale immortal in his species, however perishable in his individuality.'<sup>2</sup> Ishmael, however, acknowledges that whalers used to encounter more whales.<sup>2</sup> Although a work of fiction, *Moby Dick* portrays a real and ancient discussion: how does whaling affect whale stocks? This question became a topic of intense scientific, governmental and public discussion in Norway and the United Kingdom from 1913 to the Second World War. The title of a polemical book in this debate, *Whaling and the Extermination of the Great Whale* (1932), indicates the strong feelings about the issue.<sup>3</sup>

The state of Antarctic whale stocks has been a key topic in the history of whaling.<sup>4</sup> The work that originally defined whaling history as a field was Arne O. Johnsen and Joh N. Tønnessen's mammoth four-volume *The History of Modern Whaling* (final volume 1970).<sup>5</sup> This study treated whaling internationally but focused mostly on Norway. Gordon Jackson's *The British Whaling Trade* (1978) later covered British whaling.<sup>6</sup> These studies had an economic and technical focus, and their discussion of the whale stocks mostly concerned their economic dimension. The 2000s saw a wave of major works on whales and whaling. They have supplemented attention to the economic value of the whale stocks with perspectives about conservationism and environmentalism. Graham D. Burnett's *The Sounding of the Whale* (2012) examines the scientific endeavour to understand whales in the twentieth century.<sup>7</sup> A diplomatic perspective is taken by Kurkpatrick Dorsey's *Whales and Nations* (2013), which investigates international attempts to regulate whaling.<sup>8</sup> Peder Robert's *The European Antarctic* studies the

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<sup>1</sup> Elizabeth Schultz, 'Melville's Environmental Vision in Moby-Dick', *Interdisciplinary Studies in Literature and Environment* 7, 1 (2000): 97–113; Shawn Loewen, 'The New Canaan: Abundance, Scarcity, and the Changing Climate of Nature Writing In Nineteenth-Century America', *Interdisciplinary Studies in Literature and Environment* 8, 1 (2001): 97–114.

<sup>2</sup> Herman Melville, *Moby Dick: or, The Whale* (London: Signet Classic, 1988), pp. 444, 445, 446.

<sup>3</sup> Bjarne Aagaard, *Hvalfangsten og storhvalens utryddelse* (Oslo: Fram forlag, 1932).

<sup>4</sup> For an overview of this field, see: Bjørn L. Basberg, 'In the Wake of Tønnessen and Johnsen: Trends in Whaling History Research after 1970', in Jan Erik Ringstad's (ed.), *Whaling and History II: New Perspectives*, pp. 11–20 (Sandefjord: Sandefjord kunstforening, 2006).

<sup>5</sup> Arne O. Johnsen and Joh N. Tønnessen, *The History of Modern Whaling* (Berkeley: University of California Press, 1982). This reference is for the shortened English edition. The article will also use the volumes of the more extensive Norwegian edition, *Den moderne hvalfangsts historie: opprinnelse og utvikling* (Sandefjord: Norges hvalfangstforbund).

<sup>6</sup> Gordon Jackson, *The British Whaling Trade* (Hamden, Connecticut: Archon Books, 1978).

<sup>7</sup> Graham D. Burnett, *The Sounding of the Whale: Science and Cetaceans in the Twentieth Century* (Chicago: University Of Chicago Press, 2012).

<sup>8</sup> Dorsey, *Whales and Nations: Environmental Diplomacy on the High Seas* (Seattle: University of Washington Press, 2013).

relationship between science and different types of authority in Antarctica, in which whaling played a central role.<sup>9</sup>

Historians have cited different times as the moment when a consensus formed that whaling threatened Antarctic whales. Kurkpatrick Dorsey writes that ‘a consensus of sorts was developing that whaling efforts in the late 1920s could not be sustained.’<sup>10</sup> Gordon Jackson writes that scientists started to worry about the possibility of extinction in the 1930s.<sup>11</sup> Graham D. Burnett notes that some people inferred from evidence in the mid-1930s that whalers caught too many blue whales.<sup>12</sup> Last, Joh N. Tønnessen dismissively notes, ‘All the talk about the imminent extinction of the whale stock seems, besides, to have followed the whaling industry as long as it has existed.’<sup>13</sup>

A key reason for the different appraisals is the vagueness of the question, especially in two respects. First, which groups should one consider when one examines worries about the whale stocks? Secondly, what areas and species should one consider? These unclear points threaten to make the question meaningless. Nevertheless, it matters because both experts and newspapers asked the question with great interest. Norwegian reporters often asked scientists or whalers something along the lines of ‘What is your opinion about the whale stocks?’<sup>14</sup> This article will understand the question in a quite general way as ‘does the major whale species in Antarctica decline under current conditions?’ This definition reflects the usual meaning of the question. Of course, the question of whale decline was a moving target as the hunting pressure varied between years.

The article will differentiate itself from the existing research in two respects. First, it focuses more in depth on what experts knew about the whale stocks and when a consensus of decline emerged. It shows that new statistics in the 1930s in conjunction with new methods created a consensus of whale decline in Norway. The year 1935 was a key turning point when central scientists believed evidence documented stock reduction. This part of the article will mostly rely on archival and printed sources already used by other authors. Its findings do not contradict any previous research, but it is more specific about when and how.

Second, the article investigates the public discussion of the whale stocks in the Norwegian

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<sup>9</sup> Peder Roberts, *The European Antarctic: Science and Strategy in Scandinavia and the British Empire* (New York: Palgrave Macmillan, 2011).

<sup>10</sup> Dorsey, *Whales and Nations*, p. 40.

<sup>11</sup> Jackson, *The British Whaling Trade*, p. 214.

<sup>12</sup> Burnett, *The Sounding of the Whale*, pp. 137, 150, 151.

<sup>13</sup> Joh N. Tønnessen, *Den moderne hvalfangsts historie: opprinnelse og utvikling* (Sandefjord: Norges hvalfangstforbund, 1969), 3:p. 330.

<sup>14</sup> The exact phrasing here reflects the article: ‘Hvalbestanden’ in *Norges handels og sjøfartstidende*, 1 Aug. 1930.

newspapers. It argues that the public debate, in general, followed the development of whale science. In the late 1920s investigations of the whale stocks created media attention about the issue. In the mid-1930s the newspapers became more negative in their assessment of the whale stocks, often citing recent statistics and scientific research. The media discussion, however, often relied on different types of evidence than the scientific investigations. It also depended on the efforts of a few individuals to make the whale stocks a case relevant to the public.

The public perspective draws on recent arguments for a shift in the history of science from production of knowledge to its communication.<sup>15</sup> James Secord argues that the focus on discoveries and experiments threatens to become esoteric, if one does not look at the impact of this knowledge.<sup>16</sup> The most obvious present example of this is climate change, where the flow of knowledge or lack thereof, plays a central role in policy. This article will examine how scientific knowledge spread or did not spread to the newspapers, how it was presented and changed, and how newspapers also used other types of proof.

In the exploration of the second topic, the article will use two collections of newspaper clippings about whaling. One is located at the Whaling Museum Archives in Sandefjord and the second one is located at the National Library in Oslo.<sup>17</sup> The collection in Sandefjord belonged to Bjarne Aagaard, while the one at the National Library belonged to Johan Hjort. There are significant reasons to believe that they provide a good overview of the newspaper coverage of whaling. Firstly, they both cover articles from a great number of newspapers with different profiles over a long time period. Secondly, they contain many of the same articles, which indicate their inclusiveness.

A methodological challenge for the article is that newspapers do not represent the public as a whole. Nevertheless, the large number of newspaper articles in papers with different profiles, such as national and Conservative *Aftenposten*, radical *Arbeiderbladet* and regional *Dagsposten*, can reveal several things. They can show what information appeared in the public discussion, how this changed over time, and indicate common issues and arguments. Furthermore, interviews with whalers can suggest what this group thought about the issue.

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<sup>15</sup> This development has happened both in Anglo-American scholarship and in German-language scholarship. See for example: James Secord, 'Knowledge in Transit', *Isis* **95**, 4 (2004): 654–672; Daniel Speich Chassé and David Gugerli, 'Wissensgeschichte: Eine Standortbestimmung', *Traverse: Zeitschrift für Geschichte*, 1 (2012): 85–100.

<sup>16</sup> Secord, 'Knowledge in Transit': 654–672.

<sup>17</sup> Johan Hjort's newspaper clippings are located at the National Library of Norway Special Collection (hereafter NLN), Oslo, Norway under the catalogue signature Ms.4° 2911 in different thematic sub-sections marked 'Avisutklipp'. Bjarne Aagaard's newspaper clippings are located at The Sandefjord Whaling Museum, Sandefjord, Norway in a series of folders named 'Avisutklipp'.

The geographical scope of the article, like its title suggest, covers both the United Kingdom and Norway. These countries together led the scientific effort to understand the whale stocks, and the situation in one country cannot be understood in isolation. The article, however, focuses most on Norway because the country had the most vigorous public discussion, even debate, about the whale stocks. It will, therefore, use British newspaper articles only to offer a comparative perspective on the Norwegian debate.

### **1 British Whaling Committees: Harmer against Hjort**

The first part of the article investigates what the British and Norwegians knew about Antarctic whale stocks until the early 1920s. It examines the arguments and evidence from a series of British committees from 1913 to the 1920s. They constituted the start of the discussion of Antarctic whale stocks as a sustained dialogue, rather than isolated, cautionary voices. The director of the British Natural History Museum, Sidney Harmer, played an important role in their creation. During the committees, Harmer opposed the Norwegian expert witness Johan Hjort. Harmer warned that whaling drove humpback whales toward extinction, while Hjort argued that Antarctica likely contained plenty of whales. Evidence from the committees would later play a significant role in the Norwegian public debate.

At the eve of the twentieth century whaling expanded fast in Antarctic waters. In response some people started to warn about the impact of Antarctic whaling, most importantly Sidney Harmer. He was Keeper of Zoology at the Natural History Museum in London and from 1919 its director. He focused on whale research and convinced the coastguard to report all beached whales to the museum.<sup>18</sup> In this way he secured a significant role in British whale science. In *The Sounding of the Whale*, Burnett argues that Harmer played the main role in instigating a series of British committees about whale preservation.<sup>19</sup> Uncertainty, however, surrounds their exact establishment and development. Harmer's obituary stated:

It is not clear when the Colonial Office first asked for help from the Museum in connexion with the whaling industry, if, indeed, they did ask for it. All that seems to be recorded is that in 1913 Harmer prepared a 'Memorandum relating to whales and whaling' which was printed as a Colonial Office paper. Seven years later an

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<sup>18</sup> W. T. Calman, 'Sidney Frederic Harmer, 1862-1950', *Obituary Notices of Fellows of the Royal Society* 7, 20 (1951): 359–371.

<sup>19</sup> Burnett, *The Sounding of the Whale*, pp. 38, 39.

'Interdepartmental Committee on Research and Development in the Dependencies of the Falkland Islands' published a report.<sup>20</sup>

Furthermore, the number of committees is hard to establish. Burnet shows that even Harmer could not remember their number.<sup>21</sup>

Despite their murkiness, the concerns the committees responded to are clear. The first one aimed to act in 'the interests of the preservation both of the whales & of the whaling industry.'<sup>22</sup> The United Kingdom had already experienced anxieties about its local, coastal whale stocks. Fishers had protested in both Scotland and Ireland because they believed that whales helped improve the fisheries.<sup>23</sup> The existing concerns about local whales facilitated thinking about Antarctic whale stocks. Another factor was the United Kingdom's participation in the international effort to establish conservation treaties. One of the most important of these was The North Pacific Fur Seal Convention of 1911.<sup>24</sup> Such treaties aimed to reduce the hunting pressure on animal populations that lived in international territory or crossed borders. Hunting of such animals could cause both international cooperation and tension.<sup>25</sup> This was the case in the Antarctic, where a mainly Norwegian whaling industry depended on British possessions for land bases. The British government wanted investigations that could lay the groundwork for an international agreement on whaling.<sup>26</sup> It, therefore, recognised the need for Norwegian involvement.

The British committees on whaling included several Norwegian expert witnesses. The most important of these was Johan Hjort. As the director of the Directorate of Fisheries, he provided much of the framework for Norwegian fisheries science.<sup>27</sup> He was at the time himself perhaps the world's premier fisheries scientist. He had just published the landmark study *Fluctuations in the Great Fisheries of Northern Europe*. Its central argument was that natural variations accounted for the great difference in

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<sup>20</sup> Calman, 'Sidney Frederic Harmer, 1862-1950': 359–371.

<sup>21</sup> Burnett, *The Sounding of the Whale*, pp. 38, 39.

<sup>22</sup> O. A. Larsen to Hjort, Apr. 24 1914, Ms.4 2911: VIII A, Hvalfangstundersøkelsene: Korrespondanse, registrert og uregistrert, Uregistrerte brev 1914 Whaling Committee, NLN.

<sup>23</sup> Sigrid Alvestad, 'Opposition to Whaling in Scotland and Ireland before WWI', in Ringstad's (ed.), *Whaling and History II*, pp. 137–146, pp. 142, 143.

<sup>24</sup> Kurkpatrick Dorsey, *The Dawn of Conservation Diplomacy: U.S.-Canadian Wildlife Protection Treaties in the Progressive Era* (Seattle: University of Washington Press, 1998), p. 154.

<sup>25</sup> Ryan Tucker Jones, 'Running into whales: The History of the North Pacific from below the Waves', *The American Historical Review* **118**, 2 (2013): 349–377.

<sup>26</sup> Burnett, *The Sounding of the Whale*, p. 52.

<sup>27</sup> Vera Schwach, *Havet, fisken og vitenskapen: Fra fiskeriundersøkelser til havforskningsinstitutt 1860-2000* (Bergen: Havforskningsinstituttet, 2000), p. 98.

fish catches between years.<sup>28</sup> He had also researched whales and whaling on the coast of Finnmark in Norway. He portrayed the history of whaling as a succession of collapsing whaling grounds and had earlier recommended that Norway should regulate whaling in Finnmark for the benefit of future generations.<sup>29</sup>

The Norwegian whaling industry invited Hjort to the committee as their spokesperson. In an exchange of letters, the industry confirmed with Hjort that his opinion on whaling matched their own.<sup>30</sup> Hjort, therefore, filled an ambiguous role as both expert witness and industry representative.<sup>31</sup> This dual role appears an obvious conflict of interest. However, the committees needed both scientific expertise and dialogue with the Norwegian industry, which would bear the brunt of any regulation.

Hjort had previously investigated northern whales, but he had no expertise on Antarctic whales or whaling. This is evident in a letter Hjort wrote to Hans Krogh-Hansen, the leader of the Norwegian Whalers' Association. Hjort noted about the committee, 'Regarding the whaling itself, the question of the whale stock, I have no direct experience from the Southern Ocean, but presumably nobody else had this either.'<sup>32</sup> Hjort would later provide some of the key evidence to the committees. His assumption about the lack of 'direct experience' suggests a near absence of concrete knowledge about Antarctic whales at the time.

The Norwegians interpreted the British committee as a response to fear that whales would disappear on a global scale. In a letter to Hjort, Hans Krogh-Hansen wrote: 'It is probably for a very large part envy, which is the reason that people in the world now have become so afraid that the Norwegians will wipe out the whale from the globe, some people are apparently of the perception that it is equally easy to exterminate the whales as for example elephants in Africa'.<sup>33</sup> The comment indicates that the committees happened in the context of worries about the global future of whales. This global dimension differs from previous worries about whaling, which focused on quite restricted localities.

In the committees, Hjort argued that Antarctic whale stocks could sustain the current level of whaling. He emphasised that Antarctica contained a great number of whales, which did not seem to

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<sup>28</sup> Johan Hjort, *Fluctuations in the Great Fisheries of Northern Europe* (Copenhagen: Le Conseil, 1914), p. 202.

<sup>29</sup> Johan Hjort, *Fiskeri og hvalfangst i det nordlige Norge* (Oslo: J. Grieg, 1902), pp. 166, 200.

<sup>30</sup> Krogh-Hansen to Hjort, 3 Apr. 1914, Ms.4 2911: VIII A, Hvalfangstundersøkelsene: Korrespondanse, registrert og uregistrert, Uregistrerte brev 1914 Whaling Committee, NLN.

<sup>31</sup> Krogh-Hansen to Hjort, 8 Apr. 1914, Tønsberg, Ms.4 2911: VIII A, Hvalfangstundersøkelsene: Korrespondanse, registrert og uregistrert, Uregistrerte brev 1914 Whaling Committee, NLN.

<sup>32</sup> Hjort to Krogh-Hansen, 16 Apr. 1914, Ms.4 2911: VIII A, Hvalfangstundersøkelsene: Korrespondanse, registrert og uregistrert, Uregistrerte brev 1914 Whaling Committee, NLN.

<sup>33</sup> Krogh-Hansen to Hjort, 13 Apr. 1914, Tønsberg, Ms.4 2911: VIII A, Hvalfangstundersøkelsene: Korrespondanse, registrert og uregistrert, Uregistrerte brev 1914 Whaling Committee, NLN.

suffer from overexploitation. In a memorandum to the committee in 1914, Hjort wrote, ‘One thing, however, is certain: reports from all part of the Antarctic mention the occurrence of great numbers of whales, both in former and in more recent times.’<sup>34</sup> Hjort’s position may seem inconsistent with his account of whale extermination in the Arctic. Hjort, however, believed Antarctica differed in important respects from the Arctic. The former lay much farther away from Europe, which Hjort believed incurred industry costs that would limit whaling. In a letter to the committee, Hjort wrote:

Some people have expressed the opinion that the extensive pursuit of whales is bound to bring about extermination, but everyone acquainted with the prevailing conditions of the whaling industry knows such conditions to be untenable, because the heavy working expenses would cause a Company to stop operations immediately the catches [sic] decreased in any notable degree.<sup>35</sup>

In Hjort’s view, therefore, Arctic history would not repeat itself in Antarctica.

Hjort supported his argument that whales lived in large parts of the Antarctic with a map of whale sightings. The map (figure 1) gave an impression of an abundance of whales, with numerous whales observed on all sides of the continent. Hjort based the map and much of his 1914 memorandum on the research of Emile G. Racovitza, who was a Romanian biologist and Antarctic explorer. Racovitza had studied reports from expeditions in Antarctica, which ranged from Cook’s journeys to twentieth-century voyages.<sup>36</sup> Hjort noted that Racovitza warned that many sightings were uncertain in regard to the species of whale. Nevertheless, Hjort relied on Racovitza’s work for key evidence and called it ‘extremely valuable’.<sup>37</sup> His use of the whale map as evidence for the committee suggests the uncertainty about whale stocks at the time; sightings of whales is not the same as actual whale populations, at least in substantial numbers. Hjort himself pointed this out but still argued that the sightings offered grounds for considerable optimism.<sup>38</sup> He finished the memorandum with the conclusion that only further research could determine the stock situation.<sup>39</sup>

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<sup>34</sup> Johan Hjort, ‘Memorandum on the Distribution of the Whales in the Waters about the Antarctic Continent’, 1914, in *Report of the Interdepartmental Committee on Research and Development in the Dependencies of the Falkland Islands*, pp. 95-106 (London: H.M. Stationery Off., 1920), p. 100.

<sup>35</sup> Hjort to O. G. R. Williams, 18 May 1914, Ms.4 2911: VIII A, Hvalfangstundersøkelsene: Korrespondanse, registrert og uregistrert, Uregistrerte brev 1914 Whaling Committee, NLN.

<sup>36</sup> Emile G. Racovitza, *Resultats du voyage du S.Y. Belgica en 1897-1899* (Antwerp: J. E. Buschmann, 1903), pp. 62, 105.

<sup>37</sup> Hjort, ‘Memorandum on the Distribution of the Whales in the Waters about the Antarctic Continent’, p. 97.

<sup>38</sup> *Ibid.*, p. 100.

<sup>39</sup> *Ibid.*, p. 106.



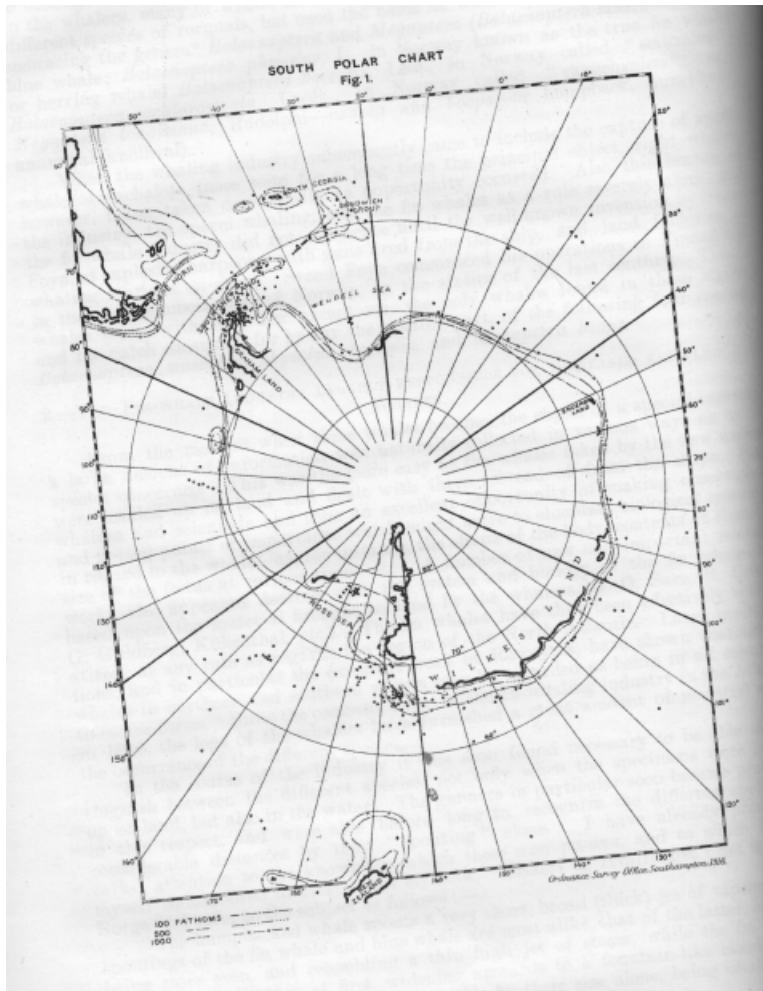


Figure 1. Hjort's whale map as shown in his memorandum.

In contrast and response to Hjort, Harmer argued that Antarctic whales faced grave and imminent danger. He sat on the original committee, but his main response to Hjort came in one of the later committees. In the meantime he had used new evidence coming from Antarctica to strengthen his case. In a memorandum from 1919, Harmer wrote, 'there are already grave signs of a depletion of the stock of humpbacks; and the history of rorqual hunting on the northern coast of Norway and off Newfoundland shows that whaling is capable of producing serious effects even in such species as the fin whale and the blue whale.'<sup>40</sup> At the time Harmer focused his criticism on humpback whaling, but his statement also shows that he worried about the larger whales. He wrote: 'There is perhaps not sufficient evidence that the numbers of fin whales and blue whales have been materially reduced at present; and it

<sup>40</sup> Sidney Harmer, 'Memorandum on the Present Position of the Southern Whaling Industry', in *Report of the Interdepartmental Committee on Research and Development in the Dependencies of the Falkland Islands*, pp. 69–83, p. 81.

may be hoped that with prudent management anything like extermination will be avoided.<sup>41</sup>

In his memorandum, Harmer relied on the history of whaling and whaling statistics for evidence. At the onset of the committees, the Colonial Office had sent a biologist to the Falkland Islands to investigate the situation, but he died on duty in 1914.<sup>42</sup> Harmer used his results and other sources to support his view of the situation. He presented whaling catch statistics for the seasons 1910-11 to 1916-17. The statistics showed a clear decline in the humpback catch, from 5,299 in the 1910-11 season to only around a half thousand for the seasons 1913-14, 1914-15 and 1916-17. Harmer argued that only the last season's low catches resulted from the disruption of the First World War, while the others at least in part reflected a decline in the stock.<sup>43</sup> The statistics Harmer employed from after 1914 were, of course, unavailable to Hjort when he wrote his memorandum in 1914. Yet, Hjort's emphasis on the vast geographical extent of Antarctic whale stocks entails that these numbers would have made little difference to his main argument.

Harmer and Hjort shared a similar view of whaling history, but not its consequences. Harmer documented how whaling previously had driven whales in numerous locations to commercial extinction.<sup>44</sup> Unlike Hjort, he believed that this history would repeat itself in Antarctica. In his memorandum, he counters the argument that high production cost would end whaling before extinction and 'Another argument tending in the same direction [...] by Dr. Hjort.' According to Harmer, Hjort argued that whales lived in vast areas around Antarctica, of which many would remain inaccessible.<sup>45</sup>

The implications of the argument were that Antarctic whales enjoyed safe havens, which could refill the devastated whale stocks in other places. This argument indeed had some currency at the time. The Norwegian whaling captain Carl Anton Larsen, for example, believed that whales migrated from ocean to ocean and that 'the humpback has his undisturbed haunts'.<sup>46</sup> This argument also resembled a common belief among trappers and whalers that sea mammals would respond to hunting by fleeing to new areas.<sup>47</sup> Harmer opposed such arguments. He pointed out that 'there is no case known in which a species of whale has been exterminated in any locality and has afterwards become common in that

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<sup>41</sup> Ibid., p. 71.

<sup>42</sup> Burnett, *The Sounding of the Whale*, p. 54.

<sup>43</sup> Harmer, 'Memorandum on the Present Position of the Southern Whaling Industry', pp. 69, 70, 83.

<sup>44</sup> Ibid., pp. 71, 72.

<sup>45</sup> Ibid., p. 80.

<sup>46</sup> Carl Anton Larsen, 'Views of Captain C. A. Larsen on the Question of a Close Time to Avoid the Risk of Extermination of Certain Species of Whales', in *Report of the Interdepartmental Committee on Research and Development in the Dependencies of the Falkland Islands*, pp. 94-95, p. 94.

<sup>47</sup> Jones, 'Running into Whales': 349-377.

locality'. He ended his memorandum with the suggestion that humpback whaling pause for a few years in order to let the species recover.<sup>48</sup>

Hjort's testimony suggests a perception of the ocean as more abundant and resistant to human impact than Harmer's view. Their different national backgrounds could have played a role. Vera Schwach argues that Norwegian scientists, in contrast to their British and continental European counterparts, doubted the possibility of overfishing.<sup>49</sup> This scepticism derived at least in part from their commitment to modernisation.<sup>50</sup> Norwegian university graduates formed the backbone of the nation's administration and government because the country lacked an aristocratic class.<sup>51</sup> Norway's elite wanted to use science as a way of bringing Norway on par with other European nations. Hjort embodied this sentiment as head of the Directorate of Fisheries from 1906 to 1917. He later applauded the modernisation of the Norwegian fishing fleet during his time as director.<sup>52</sup> Hjort's wish for modernisation may have inclined him to take an optimistic view of the sea's limits, especially under conditions of great uncertainty.

Another key factor in their assessments was likely Hjort and Harmer's different views of the non-utilitarian value of whales. In Norway nature enthusiasts had founded a national organisation for nature preservation, *Landsforeningen for naturfredning i Norge*, in 1914. Hjort personally knew several of its key members.<sup>53</sup> Nevertheless, his statements suggest that he viewed 'nature protection' as an overtly sentimental endeavour.<sup>54</sup> Harmer, on the other hand, had a strong commitment to the survival of the whales that clearly went beyond their economic value.

The committees ended in 1920 with little action, apart from protectionist measures against the Norwegians. The United Kingdom decided to introduce some new regulation and increase British participation in Antarctic whaling at the expense of the Norwegian industry.<sup>55</sup> Yet, Norwegian correspondence shows that the British in practice did little to regulate Antarctic whaling. A letter from Johan Rasmussen, a Norwegian whaling magnate, to Johan Hjort stated that the British Colonial Office was 'very benign' concerning the catching of humpback whales (the most endangered species), and that

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<sup>48</sup> Harmer, 'Memorandum on the Present Position of the Southern Whaling Industry', p. 83.

<sup>49</sup> Vera Schwach, *Til havs med vitenskapen: Fiskerirettet havforskning 1860–1970* (Ph.D. thesis: University of Oslo, 2011), p. 47.

<sup>50</sup> Schwach, *Havet, fisken og vitenskapen*, pp. 22, 23.

<sup>51</sup> Jens Arup Seip, *Fra embedsmannsstat til ettpartistat og andre essays* (Oslo: Universitetsforlaget, 1963), pp. 12, 13.

<sup>52</sup> Johan Hjort, *The Emperor's New Clothes: Confessions of a Biologist* (London: Williams & Norgate, 1931), p. 249.

<sup>53</sup> Schwach, *Havet, fisken og vitenskapen*, pp. 72, 164. These pages show that Hjort had contact with Nordal Wille and Hjalmar Broch, both founding members.

<sup>54</sup> Johan Hjort, 'Hvalundersøkelser i Norskehavet og i Sydhavet', *Sandefjords blad*, 7 Aug. 1928.

<sup>55</sup> Tønnessen, *Den moderne hvalfangsts historie*, 3:p. 164.

the Colonial Office did not have any hurry in implementing the committee's programme.<sup>56</sup> The result of the committees reflected the great uncertainty about the state of the whale stocks. The British government naturally did not want to introduce costly regulation, which might not be necessary.

The committees did not feature in the Norwegian newspapers, despite whaling being an important industry. The reasons for this were probably the bureaucratic and drawn out nature of the committees, which provided few good headlines. The First World War also soon became an overwhelming concern, even in neutral Norway. Less than a decade later, however, a fierce debate about whale stocks broke out in the Norwegian papers.

## **2 The Norwegian Whaling Debate: Hjort against Aagaard**

This part of the article explores the Norwegian debate about whaling from the late 1920s. After the British committees, concerns about Antarctic whaling's long-term prospects continued in the United Kingdom and Norway. In the United Kingdom anxiety about whale stocks prompted increased scientific investigation and some newspaper coverage. Most importantly, it became a major motivating factor for the launch of the Discovery Investigations, a whale research programme, in the 1920s. A whale science community also emerged in Norway a few years later. British and Norwegian whale scientist identified warning signs in the 1920s and early 1930s, but not any definite proof of stock decline. In contrast to the United Kingdom, Norway underwent a heated public debate about the whale stocks. Two persons, Bjarne Aagaard and Johan Hjort, kindled the debate and played key roles. The debate, however, eventually became greater than these two people, and took on a clear left-right ideological dimension.

In the 1920s The Antarctic whaling industry underwent a transformation in efficiency and reach. Until the interwar period, whaling depended on land-based factories. In response to this limitation, the industry in the 1920s developed factory whale ships. The new ships could haul in whales and process them on board. Whaling expeditions now became true fleets. They included around a dozen small killer boats in addition to the factory ship. The success of floating factories depended on several technologies, including hauling equipment and radio communication.<sup>57</sup> The new technologies enabled the industry to extend into new areas and thereby freed it from British sovereignty. The expansion of whaling happened

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<sup>56</sup> Rasmussen to Hjort, 22 Feb. 1923, Sandefjord, Ms. 4 291: XIX, Ordnet korrespondanse som ikke faller direkte inn under XVII, Johan Hjort etterlatte papirer, NLN.

<sup>57</sup> Tønnessen, *Den moderne hvalfangsts historie*, 3:p. 45.

fast; in the 1907-08 season total whale catches in Antarctica were 2,551, in the 1925-26 season the number was 14,219 whales, and finally in the 1930-31 season the catches reached 40,201 whales.<sup>58</sup>

The rapid expansion of Antarctic whaling made whale research more important. In the United Kingdom, the British committees developed into the Discovery Investigations, a major whale research programme. The reports of the Discovery Investigations trace their origins to the final committee in 1920.<sup>59</sup> According to Burnett, Harmer played a ‘formative role’ in launching the research programme.<sup>60</sup> It received funds from taxes on whaling and used this to procure a research vessel for expeditions. The first voyage to Antarctica launched in 1925 and was followed by many more cruises.

The research programme clearly responded to fears about overhunting of whales. Its first report state about the programme’s origins that: ‘As the industry grew, apprehensions were expressed that such intensive pursuit threatened the maintenance of the stock of whales.’ The lack of knowledge, however, posed a serious problem for the preservation of the stock. The report explains that ‘it soon became evident that the biological knowledge required for scientific control was almost totally lacking’.<sup>61</sup> In addition to stock concerns, the desire to deepen the British Empire’s engagement with Antarctica was also a key, but more implicit, motivation.<sup>62</sup>

In Norway a whale science community emerged a few years later. From the early 1920s, Hjort’s interest in whales and whaling rekindled. He began to plan his own scientific whaling cruise and hoped for cooperation with the British.<sup>63</sup> In Oslo he steadily built up what would become a powerful hub for whale research. In 1929 the Norwegian government founded the Whale Council, whose role was to monitor the whaling industry and produce research useful for whaling. Hjort was a key person in both its administrative and scientific divisions, and he led the latter, the State’s Institute for Whale Research. It overlapped with several other organisations. It was based on the University of Oslo’s premises and its leader had a designated professorship there.<sup>64</sup> The Whale Council also had a strong connection to International Whaling Statistics, likewise founded in 1929, which collected worldwide whaling

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<sup>58</sup> Johnsen and Tønnessen, *The History of Modern Whaling*, pp. 185, 346, 385.

<sup>59</sup> Rowland Darnley, ‘preface’, in *Discovery Reports*, 1:pp. ix–xii (Cambridge: Cambridge University Press, 1929), p. x.

<sup>60</sup> Burnett, *The Sounding of the Whale*, pp. 26, 38.

<sup>61</sup> Darnley, ‘preface’, p. ix.

<sup>62</sup> Roberts, *The European Antarctic*, p. 32.

<sup>63</sup> Burnett, *The Sounding of the Whale*, p. 135.

<sup>64</sup> Tønnessen, *Den moderne hvalfangsts historie*, 3:pp. 334, 549.

statistics. Hjort had a place on its three-man committee and co-authored its annual reports until 1939.<sup>65</sup> By the early 1930s, he had placed himself at the helm of a substantial Norwegian whale science complex.

Like the Discovery Investigations, the Norwegian whale scientist focused on the state of the whale stocks. The first report of International Whaling Statistics expressed the need for a ‘reliable statistical basis on which to appraise the expansion of this industry’.<sup>66</sup> The reports presented key types of information for estimating the stocks. Most importantly they provided the number of whales caught in different regions and how much oil each whale produced. The later issues also included information about the average size of the caught whales. This last metric could be used to investigate the whales’ age.

In the first few years, both British and Norwegian scientists treated the state of the whale stocks as an open question. The Discovery Investigations did not prove that whale stocks faced any significant danger. The 1929 report stated under the heading ‘Conclusions regarding the whole stock’ that:

The general similarity of all the whales examined suggests that it is possible for interchange to take place between the whales of different localities and for a reduced number of whales in one locality to be replenished from the population of another. In a sense this is a negative result, but it is important.

This result suggested that whale migration could alleviate the high hunting pressure in some places. The article at the end presented some points for and against ‘the maintenance of the stock’.<sup>67</sup> It, therefore, did not conclude any particular way, although it did flag areas of concern. Norwegian scientists could likewise not make any firm conclusions these first years. Hjort and co-authors wrote: ‘This great problem cannot be solved by means of the material we possess at present’.<sup>68</sup>

The Norwegian media from the mid-1920s started to raise concerns about the whale stocks. This first happened in response to the Discovery Investigations and Hjort’s plans for a scientific expedition to Antarctica. An article from 1924 discussed Hjort’s plan for a whale research cruise in the Arctic, and the possibility for cooperation with the British. It argued that the British ‘movement for common whale conservation’ threatened Norwegian interest. It also expressed the need to learn more about the whale

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<sup>65</sup> Ibid., pp. 334, 335.

<sup>66</sup> Gunnar Jahn, Johan Hjort and Sigurd Risting, *International Whaling Statistics I* (Oslo: Steenske boktrykkeri, 1930), p. 5.

<sup>67</sup> N. A. Mackintosh and J. F. G. Wheeler, ‘Southern Blue and Fin Whales’, in *Discovery Reports*, 1:pp. 453–470, pp. 463, 469.

<sup>68</sup> Johan Hjort, J. Lie and Johan T. Ruud, ‘Norwegian Pelagic Whaling in the Antarctic’, *Hvalrådets Skrifter* 3 (1933): 5-48.

stocks.<sup>69</sup> Several similar articles discussed Antarctic whale stocks, often in reference to the Discovery Investigations.<sup>70</sup> The newspapers at this stage reveal little anxiety about the whale stocks, but they do raise the issue. Hjort in 1928 stated in an article, which included his ‘whale map’, that the question of the whale stocks depended on their distribution around Antarctica. He argued for a research expedition to further investigate their location.<sup>71</sup>

The media interest in the whale stocks in the late 1920s turned into a fierce debate, which pitted Johan Hjort against Bjarne Aagaard. The latter came from a humble background in Sandefjord, the city at the heart of the Norwegian whaling industry. As a teen, he had joined the merchant fleet and afterwards acquired managerial positions abroad. He later returned to Norway and founded the mineral water company, Farris, which went bankrupt in the aftermath of the First World War. In 1927, Aagaard started working on a history of Norwegian science and hunting in Antarctica, with support from the whaling magnate Lars Christensen.<sup>72</sup> This project made Aagaard interested in seal conservation, an interest which soon turned to whaling.<sup>73</sup>

The conflict between Aagaard and Hjort started when the former in 1929 wrote a newspaper article named ‘The Ones Condemned to Death’. Its title may have referred to either the Norwegian whalers or the whales. The article critiqued Hjort and other key people in whaling policy for not doing enough to save the whales, which he argued faced commercial extinction within four to five years.<sup>74</sup> Aagaard would continue to write a flurry of newspaper articles in the next decade. In the beginning, he accused Hjort of encouraging whale extermination by allowing misleading use of evidence from the British committees. In the newspaper article, ‘What is Truth?’ from 1929, Aagaard criticised Hjort for letting his whale map from the 1914 committee circulate in the newspapers as evidence for the abundance of whales. He writes:

The so-called whale map that he in the past published, on which the whale stocks around Antarctica are marked as fly shit on a mirror and which he knows has been used by speculators and entrepreneurs, which he has defended, is as he should know totally misleading, and he has not protested against the

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<sup>69</sup> ‘Norge og England skal samarbeide om videnskabelige hvalundersøkelser’, *Tidens Tegn*, 10 Apr. 1924.

<sup>70</sup> ‘Vil det lykkes at etablere samarbeide til undersøkelse av hvalens biologi?’; *Morgenbladet*, 2 Aug. 1928; ‘Nye rapporter fra «Discovery» kan snart ventes’, 1 Sep. 1926

<sup>71</sup> ‘Norsk videnskabelig hvalfangstekspedisjon til Sydhavet neste sommer’, *Norges handels og sjøfartstidende*, 22 Sep. 1928.

<sup>72</sup> Roberts, *The European Antarctic*, p. 62.

<sup>73</sup> Ringstad, ‘Bjarne Aagaard and His Crusade against Pelagic Whaling in the Late 1920s’ in Jan Erik Ringstad’s (ed.), *Whaling and History II*, pp. 167–178, p. 175.

<sup>74</sup> Bjarne Aagaard, ‘De dødsdømte’, *Norges handels og sjøfartstidende*, 19 Feb. 1929.

entrepreneurs' use of it.<sup>75</sup>

Aagaard claimed Hjort's sin was a failure to act, rather than harmful action. He made clear that he did not count Hjort among the group of 'optimists', which he called those who argued that whale stocks did not decline.<sup>76</sup> Rather Hjort allowed people to misuse his work and he did not dare make a public stand. Hjort responded to Aagaard's critique in public and private that he was 'agnostic' about the presence of whales in the areas marked on the map.<sup>77</sup> In his view, the evidence did not yet show any compelling reason for significant action.

Aagaard fired up the Norwegian debate with bold statements and coarse language. The passage about the whale map above shows his rhetorical style. He called Hjort's whale map 'so-called' and says that it shows 'whale stocks around Antarctica [...] as fly shit on a mirror'. Likely he hoped his forceful rhetoric would cause furore and create attention about the issue. This confrontational style also extended to his arguments, which had a marked sensationalist flair. He argued not that the whale stocks would diminish over time, but rather that they faced extinction in the immediate future. This event would cost numerous hard working Norwegians their jobs. In 1932 he published a booklet called *Whaling and the Extermination of the Great Whale*, which argued that 'the great armada that now is being prepared in order to in the next season hasten the extermination of the great whale, will soon bring unemployment to thousands of our countrymen'.<sup>78</sup> In 1935 he set the date for commercial whale extinction only 36 months in the future.<sup>79</sup> Aagaard's claims seemed exaggerated to many. One whale manager for example sarcastically noted that it was the 'newspapers that exterminate the whale.'<sup>80</sup>

Another way in which Aagaard intensified the debate was by making it personal. He strongly implied that Hjort had wilfully introduced 'totally misleading' evidence to the public. He would in the following years repeatedly call for the resignation of Hjort and the reorganisation of the Whale council.<sup>81</sup> His attacks on Hjort, as well as other members of the council, made the debate in part about concrete persons and their actions.

The bold rhetoric and arguments of Aagaard played a major role in making the whale stock

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<sup>75</sup> Bjarne Aagaard, 'Hva er sannhet?', *Tidens tegn*, 24 Jun. 1929.

<sup>76</sup> Ibid.

<sup>77</sup> Hjort to Aagaard, Fredriksvern 4. May, Ms. 4 2911:19A, Aagaard, Bjarne (1873 - 1956), konsul til Hjort, Johan, NLN.

<sup>78</sup> Aagaard, *Hvalfangsten og storhvalens utryddelse*, p. 18.

<sup>79</sup> 'Hvalen blir utryddet i løpet av 36 måneder', *Dagbladet*, 22 May 1935.

<sup>80</sup> 'Stor masse av knølhval og finnhval på syd-feltene', *Norges handels og sjøfartstidende*. 17 Apr. 1934.

<sup>81</sup> Bjarne Aagaard, 'Bjarne Aagaard om hvad der skjedde i Berlin i 1930.', *Tønsbergs blad*, 28 Oct. 1932.



question a debate in Norway. It must have caught people's attention, and made the somewhat dry question of far-away whale stocks engaging. Evidence for this is the increase in number of articles about the whale stocks after he launched his attack. He is also mentioned in a great number of articles about the stock question.

In the course of the discussion about the whale stocks, newspapers interviewed whalers and explorers about their opinion on the stocks. Several whalers argued that whaling did not affect Antarctic whale populations because the ocean around Antarctica was too big, and because the influx of migrating whales solved local extinctions. Such claims echoed previous arguments from the British whaling committees. When a newspaper interviewed him, the whale captain Otto H. Paulsen said:

If one, however, takes a globe and marks the places where the catching takes place, one will see that it is like small grains of sand against the limitless part of the South Sea where whaling has not yet been carried out. [...] [T]he whale in all likelihood is a migratory animal, because it is unlikely to have any drive toward some or other specific place.<sup>82</sup>

Likewise Captain Hjalmar Riiser-Larsen in an interview in 1931 claimed whaling posed no threat to whale stocks: 'Few people think about the enormous extent of ocean on the globe and how much of this ocean that is found in the Southern Hemisphere.'<sup>83</sup> As the interviews show, the sheer size of the ocean was still a significant argument for the health of the whale stocks.

The Norwegian whaling debate centred on the questions of whether whale stocks diminished, and if so, how to prevent this. The underlying premise for this debate was an interest in whaling as a source of jobs, profits and as a part of Norwegian tradition. The debate focused mostly on whaling's contribution to the economy. Yet, many newspaper articles also expressed the view that whaling had value as a traditional, Norwegian industry. They often started with a survey of its history.<sup>84</sup> An article in the national newspaper *Aftenposten*, 'The Hunt for the Giants of the Sea', stated, 'our whaling and maritime culture have deep roots in our people, and [...] it is carried forth by a thousand year tradition.'<sup>85</sup>

A comparison with British newspaper articles suggests a difference in national sentiment about

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<sup>82</sup> 'Hvalfangsten, hvalbestanden – og Bouvetøen: En samtale md kaptein Otto H. Paulsen, Mandal', *Fædrelandsvennen*, 31 Jan.1928.

<sup>83</sup> 'Hvalmengden i Sydishavet: Et intervju med kaptein Riiser-Larsen i "Cape Times" og en samtale med Bjarne Aagaard', *Aftenposten*, 1 Jan. 1931.

<sup>84</sup> Per Løyning, 'Norsk hvalfangst i Sydishavet og dens problemer', *Aftenposten*, 29 Oct.1928; 'Jakten efter havets giganter: Hvalfangst før og nu', *Aftenposten*, 14. Jul. 1928.

<sup>85</sup> *Ibid.*

the whaling issue. The British shared the concerns of the Norwegians, but also cared more about the preservation of the whales and the cruelty of the industry. British newspaper articles sometimes expressed a sadness about whale extinction generally alien to Norwegian newspapers.<sup>86</sup> A letter to *The Manchester Guardian* in 1931 argued that whale extinction would leave ‘the world robbed of some of its most wonderful, most inoffensive, and least known mammalian inhabitants.’<sup>87</sup> Such arguments about the whales’ unique, fascinating qualities and peaceful manner hardly ever occurred in Norwegian newspapers. Some British articles also worried about the cruelty of whaling.<sup>88</sup> This sentiment featured little in Norwegian newspapers, although some articles discussed the possibility of using electrical harpoons in order to kill whales with less pain.<sup>89</sup>

An important aspect of the Norwegian whaling debate was its ideological divide between the Left and the Right. Hjort and Aagaard both had deep political loyalties, but on opposite sides of the political spectrum. Conservative newspapers expressed the view that Aagaard ‘at most has support from the Socialist and Communist press’.<sup>90</sup> Aagaard repeatedly made the claim that the whaling industry caught too many whales in a greedy and short-sighted scramble for profits. He criticised ‘speculators’ and contrasted them to ‘legitimate whalers’.<sup>91</sup> Hjort, on the other hand, had strong Conservative sympathies. He wrote two books for a popular audience that vehemently opposed Marxism.<sup>92</sup> The ideological divide dominated a debate in 1931 between Hjort and Aagaard at the University of Oslo’s Student Society.<sup>93</sup> There Aagaard together with Erling Falk, a leading Communist, faced Hjort and Ragnvald Walnum. In the debate, Aagaard and Falk argued, ‘that the way out of the problem is to organise the whalers.’<sup>94</sup> They believed that common whalers would act in their own interest and maintain the stocks.

Aagaard’s argument that Antarctic whales represented a social problem made sense in the interwar context. Politically, Norway suffered from strong tensions between Socialists of various stripes and Conservative forces. Economically, this was the time of the Great Depression and unemployment

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<sup>86</sup> F. V Morley, ‘Following the Whale Track’, *The Manchester Guardian*, 14 Aug. 1923.

<sup>87</sup> Tavistock, ‘Exterminating the Whale’ *The Manchester Guardian*, 24 Mar. 1931.

<sup>88</sup> Ibid; James Blake, ‘The Threatened Whale’, *New Statesman and Nation*, 10 Jul. 1937.

<sup>89</sup> Alf Jørgensen, ‘Elektrisk avlivning av hval’, *Norges handels og sjøfartstidende*, 16 Mar. 1936.

<sup>90</sup> ‘Replikk til Hr. Aagaard.’ *Tønsbergs Blad*. 1 Apr. 1932.

<sup>91</sup> Aagaard, ‘De dødsdømte’.

<sup>92</sup> Johan Hjort, *The Emperor’s New Clothes*; Johan Hjort, *The Human Value of Biology* (Cambridge, Mass: Harvard University Press, 1938).

<sup>93</sup> ‘Studentersamfundet diskuterer hvalfangsten’, *Norges handels og sjøfartstidene*, Sep. 29. 1931.

<sup>94</sup> Ibid.

represented a massive problem. The link to social problems, therefore, made the whale stock question relatable for common people as a part of issues that they faced in daily life. Aagaard emphasised that the ruin of the whale stocks would cause massive unemployment.<sup>95</sup> In contrast to Aagaard, Hjort understood the whale stock problem as one of scientific management and diplomacy. In his newspaper articles about the issue, he focuses on how international negotiation and some modest regulation could alleviate the problem.<sup>96</sup>

The Left viewed the whale stock situation as graver than the Right. Several factors made them more willing to believe that whales diminished. Firstly, those on the Left supported government control of the economy and could therefore easily endorse whaling regulation. Those on the Right may have faced some cognitive dissonance in this regard because to acknowledge the problem would create a moral impetus for action. Secondly, there already existed a radical tradition in Norway for whale protection. Socialists had at the turn of the century sought to limit coastal whaling in Norway because of its perceived ill effects on the fisheries.<sup>97</sup> Thirdly, the Socialists did not control the state and could, therefore, attack whaling policy free from the compromises of government. In this regard, the break between Aagaard and the Social Democratic *Arbeiderpartiet* after it gained power in 1935 is telling.<sup>98</sup> At this time, however, new evidence had shifted the scientific and public discussion about the whale stocks. As the next section explores, it was Aagaard's nemesis Hjort that in the 1930s led much of the research that changed the debate.

### **3 Statistics Matter: A Consensus Forms in the mid-1930s**

This part of the article investigates how knowledge about the whale stocks developed and a consensus emerged in the mid-1930s. It relies on Norwegian whale science journals, especially whaling statistics, and the reports of the British Discovery Investigations. After the early 1930s, the scientific community and the public debate moved to a bleaker view of the Antarctic whale stocks. At this time the Discovery Investigations and Norwegian whale science community started to produce copious research on whales and whale stocks. By the middle of the decade, they had proved that the whale stocks shrank. The better understanding of the whale stocks derived from more whaling statistics and new theoretical approaches

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<sup>95</sup> Aagaard, *Whaling and the Extermination of the Great Whale*, p. 18.

<sup>96</sup> Johan Hjort, 'Hvalfangstspørsmålet', *Tidens Tegn*, 17 Sep. 1935.

<sup>97</sup> For an overview of this event see: Sigrid Alvestad, "*We are fighting for our existence*": *striden om hvalfangsten i det nordøstlige Atlanterhav 1880-1914* (M.A thesis: University of Bergen, 1999).

<sup>98</sup> Bjarne Aagaard, 'Statsråd Madsens løftebrudd', *Tønsbergs blad*, 17 Dec. 1937.

to interpreting them. Hjort, despite his earlier cautious optimism in regard to the whales, drove much of the research that eventually documented their plight. The new consensus also emerged in the newspapers, although not as clear-cut. They relied on the recent results from whale science, but also placed great weight on other types of evidence, such as eye-witness accounts.

Hjort in the early 1930s played a key part in the development of new theoretical approaches to the whale stock question. In 1933 he together with Gunnar Jahn and Per Ottestad published the article 'The Optimum Catch' in the Whale Council's scientific journal. It attempted to provide a new management model in order to safeguard wildlife resources in general and the Antarctic whale stocks in particular. Hjort, Jahn and Ottestad wrote: 'We propose to confine ourselves in this paper to one aspect of this complicated question: the relation between the toll levied by man upon a given stock of animals, and the capacity for renewal shown by that stock.'<sup>99</sup>

In order to establish a scientific basis for the harvest of whales, the article sought to find methods of identifying the 'optimum catch'. This term means the level of harvest where one over the long term gains the maximum value from an animal population. The article proposed to establish this level by analysis of catch statistics. It introduced the method of Amund Helland of Norway, who based his calculations on the assumption that a reduction of the catch by half represented a reduction of the population by half. The authors, however, noted the method's simplifying assumptions. Furthermore, it could only calculate the stock, not illuminate the factors that affected it. They, therefore, sought to supplement it with an emphasis on the varying rates of reproduction of the animal stock, which Amund's model held static, but which vary according to the number of animals in a population.<sup>100</sup>

Their new approach to wildlife management formed part of a trend in biology. In the 1920s mathematical approaches to biology started to appear alongside older, qualitative biology. Increasingly, biologists sought to model the dynamics of animal populations.<sup>101</sup> Hjort had learned about such developments while updating his knowledge of physiology and zoology at the University of Cambridge a few years around the early 1920s.<sup>102</sup> This knowledge served him well when investigating whale catches a decade later. In the 1930s, Hjort began to analyse the statistics of the already defunct Icelandic whaling industry. According to Tim D. Smith, the fast drop he observed in these catches convinced him

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<sup>99</sup> Johan Hjort, Gunnar Jahn and Per Ottestad, 'The Optimum Catch', *Hvalrådets Skrifter* 7 (1933): 92-127.

<sup>100</sup> Ibid.

<sup>101</sup> Sharon E. Kingsland, *Modeling Nature: Episodes in the History of Population Ecology, Science and Its Conceptual Foundations* (Chicago: University of Chicago Press, 1985), pp. 94, 98.

<sup>102</sup> Tim D. Smith, *Scaling Fisheries: The Science of Measuring the Effects of Fishing, 1855-1955* (Cambridge: Cambridge University Press, 1994), p. 215.

that whaling differed in important respects from fishing. He, therefore, concluded that it needed new methods.<sup>103</sup>

A source of inspiration for these he would discover in the work of Amund Helland. He had in 1914 modelled the decline of Norway's predators, especially its bears, based on hunting statistics.<sup>104</sup> Quite characteristically for Norway at the time, Helland wanted to halt the decline of Norway's bears.<sup>105</sup> He wrote approvingly about Swedish attempts to preserve bears and noted that one should not aim to exterminate them.<sup>106</sup> Hjort borrowed from Helland the underpinning that one could use a fall in catches to estimate a population.<sup>107</sup>

'The Optimum Catch' article proposed a solution to identifying the 'optimum catch' in conditions of uncertainty, such as in Antarctica. The whaling level of the 'optimum catch' corresponded to the point where the whale stocks would have their greatest reproduction. In order to estimate this point, the authors introduced the concept 'catch per boat', which meant the number of whales taken by a whaling ship each day. As Burnett notes, this type of catch efficiency estimate was not new, and Hjort was already familiar with it from fisheries science.<sup>108</sup> The appeal of the concept lay in its ability to predict that whaling had tipped over the maintainable point of maximum harvest, even in a situation of uncertainty about the stock size. According to the theory, a decline in 'catch per boat' (as long as the technology remained the same) meant that the whale stock declined.<sup>109</sup>

Hjort's statements from the mid-1930s reveal a different judgement about the Antarctic whale stocks than earlier. In the article 'The Story of Whaling', based on a lecture at Harvard University in 1936, he argued: 'The statistics show signs of a decrease of the stock of blue whales, the most valuable species [...] The future is therefore certainly full of anxieties.' He also wrote: 'Nowhere has whaling succeeded in establishing a permanent equilibrium or a stable industry'.<sup>110</sup> Clearly, Hjort at this time worried deeply about the whale stocks.

The explanation for Hjort's new position lay in the disturbing whaling statistics that emerged in the 1930s. Much of the evidence came from the organisation International Whaling Statistics, which collected global whaling statistics. Figure 2 shows the numbers of International Whaling Statistics for

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<sup>103</sup> Smith, *Scaling Fisheries*, p. 221.

<sup>104</sup> Hjort, Jahn and Ottestad, 'The Optimum Catch': 92–127.

<sup>105</sup> Berntsen, *Grønne linjer: natur- og miljøvernets historie i Norge* (Oslo: Grøndahl Dreyer, 1994), p. 74.

<sup>106</sup> Amund Helland, *Rovdyrene i Norge* (Oslo: Grøndahl & søns boktrykkeri, 1914), pp. 16, 17.

<sup>107</sup> Smith, *Scaling Fisheries*, p. 222.

<sup>108</sup> Burnett, *The Sounding of the Whale*, p. 434.

<sup>109</sup> Hjort, Jahn and Ottestad, 'The Optimum Catch': 92–127.

<sup>110</sup> Johan Hjort, 'The Story of Whaling: A Parable of Sociology', *The Scientific Monthly*, **45**, 1(1937): 19–34.

total Antarctic catches between the 1919-20 season and the 1938-39 season.<sup>111</sup> They revealed a general trend of increasing Antarctic whale catches. The catches reached massive levels from the 1930-31 whaling season. They decreased the following season in the aftermath of the Great Depression, but then climbed again the following years. The whaling industry topped the 1930-31 season in the 1937-38 season, when it caught over 45 000 whales in Antarctica. As Hjort and co-authors in 1933 pointed out, the total catch in Antarctica for one season exceeded the total catch every year in the Arctic between 1868 and the fizzling out of Arctic stocks in the early twentieth century.<sup>112</sup> Granted, Antarctica contained more whales than the Arctic ever had. Nevertheless, it seemed unlikely that it could sustain such intense harvest.

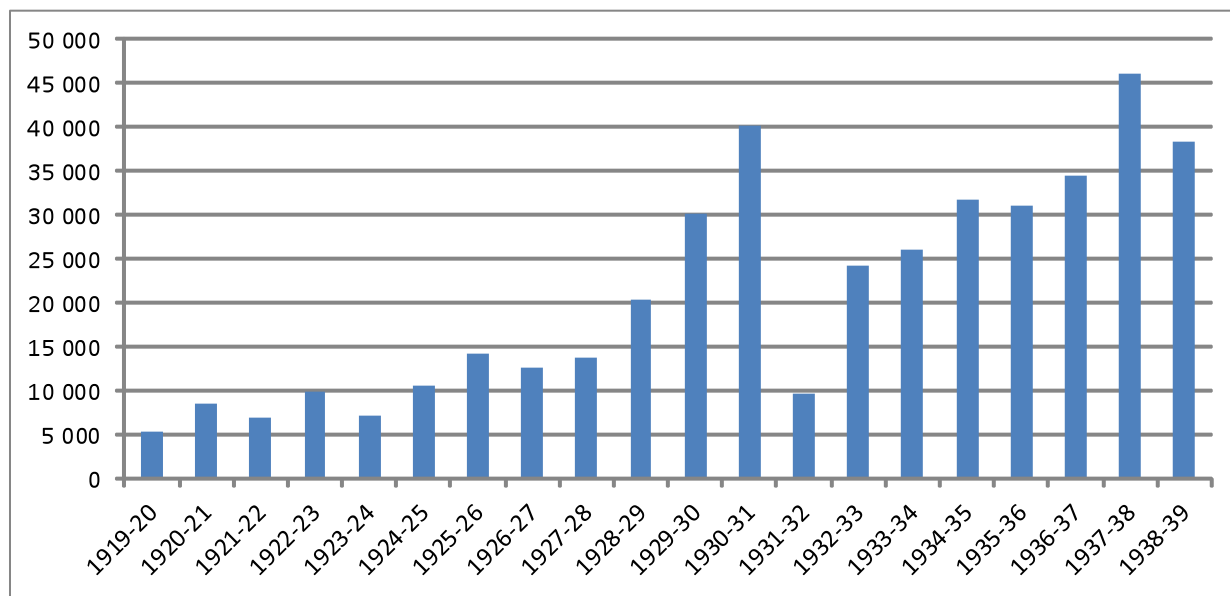


Figure 2. Whale catches per season in Antarctica. *International Whaling Statistics*, vol. XIV, p. 4.

Other key indicators also exposed overharvest of whales. Hjort had in the ‘The Optimum Catch’ article introduced ‘catch per boat’ as a way to estimate whether the number of whales decreased. He remained committed to this concept as the primary measure of the health of the whale stocks. In 1936 he argued: ‘Because the stock of whales [...] can never be known, the catch, the average catch of the individual unit [boat] will have to be considered as the most sensitive barometer of the status of the

<sup>111</sup> Birger Bergersen, Gunnar Jahn and Harald Paulsen, *International Whaling Statistics XIV* (Oslo: Grøndahl & søn, 1940), p. 4.

<sup>112</sup> Gunnar Jahn, Johan Hjort and Sigurd Risting, *International Whaling Statistics IV* (Oslo: Steenske boktrykkeri Johannes Bjørnstad, 1933), p. 28.

industry.’<sup>113</sup>

From the 1935-36 season, the data revealed a stark drop in ‘catch per boat’. Figure 3 shows International Whaling Statistics’ ‘catch per boat’ figures.<sup>114</sup> In the 1931-32 season the ‘catch per boat’ was 223, while in the 1938-39 season it was down to 136. The authors of the 1940 *International Whaling Statistics* report wrote:

We observe a considerable drop in last season's catch per boat—from 181 in 1937-38 to 136 in 1938-39—the lowest result ever recorded. [...] the varying length of the whaling season in later years makes it difficult to draw definite conclusions from the figures. The drop for the last season, however, as compared to the previous one, is so great that we might be allowed [...] to state that the drop gives an indication as to the overtaxation of the stock on the Antarctic grounds.<sup>115</sup>

This statement talks about ‘indication’ rather than proof. The ties of International Whaling Statistics to the government and whaling industry, however, encouraged its members to employ cautious language. Nevertheless, the actual numbers they presented left little doubt.

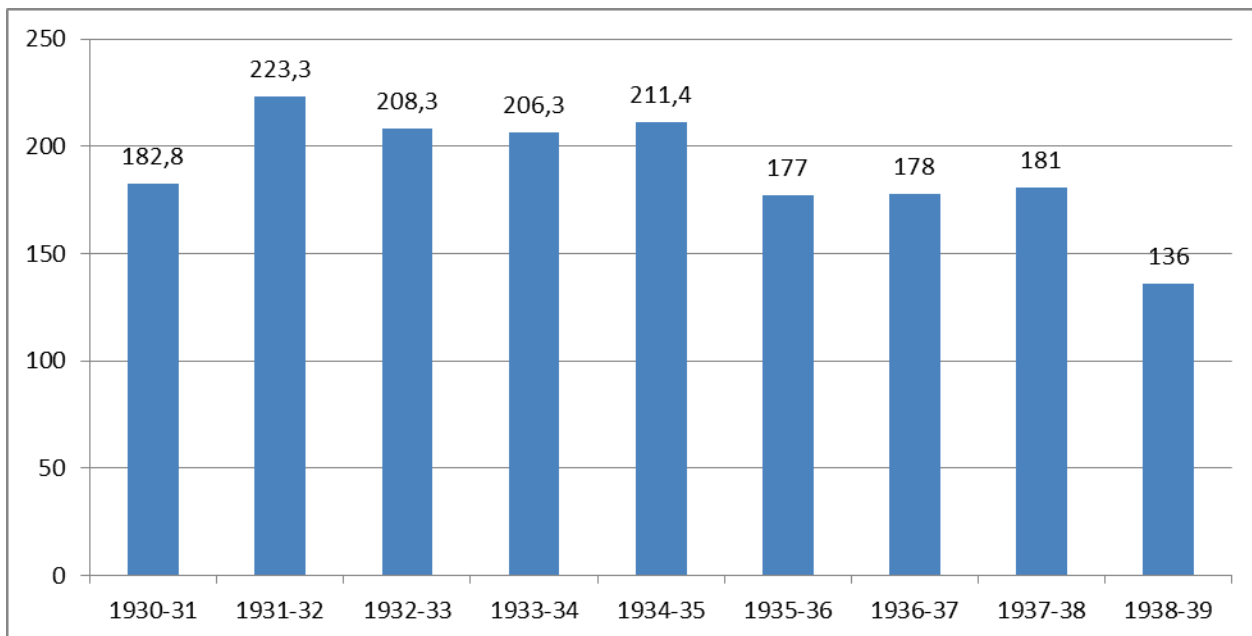


Figure 3. ‘Catch per boat’ per season in Antarctica. *International Whaling Statistics*, vol. XIV, p.6.

In addition to total catches and ‘catch per boat’, other statistics confirmed the downward trend in whale stocks. The whaling industry caught many species of whale in Antarctica, but three types brought

<sup>113</sup> Hjort, ‘The Story of Whaling’: 19–34,

<sup>114</sup> Bergersen, Jahn and Paulsen, *International Whaling Statistics XIV*, p. 6.

<sup>115</sup> Ibid.

in the majority of the revenue: humpbacks, fin whales and blue whales. Statistics from earlier whaling grounds showed that a decrease in one type of whale shifted whaling to other species. In Antarctica the most valuable species was the blue whale. During the late 1930s, fin whales became a greater part of the total catch at the expense of the valuable blue whales.<sup>116</sup>

Like their Norwegian counterparts, the Discovery Investigations produced evidence that whale stocks diminished. The 1934 *Discovery Reports* argued that whaling had decimated the humpback whale population. This was the development that Harmer had cautioned against in the committees. The same report argued that the evidence ‘strongly suggest reduction’ in the major Antarctic whaling grounds near South Georgia.<sup>117</sup>

In the 1937 *Discovery Reports*, Alec H. Laurie examined the South Georgia and other whaling grounds. He found evidence for a depletion of the whale stocks based on their age distribution. The article examined the changes in the average age of female blue whales. Laurie had investigated hundreds of whale ovaries and used Norwegian whaling statistics. The article argued that the number of immature whales caught had almost doubled in four years. This indicated that the whale stocks declined. He wrote:

The stock is already seriously depleted and further hunting on the same scale bids fair to make Blue whales so scarce that they will cease to be a source of profit to the industry and so diminished in numbers that the stock even if completely protected may take many years to recover.<sup>118</sup>

Even more ominously, it also meant that fewer whales had the chance to reproduce themselves.<sup>119</sup>

The increasing evidence for a decline in the whale stock prompted a response from the Norwegian Whale Council, whose members included Hjort. Its role was to guard and regulate the whaling industry. Initially the Whaling Council enjoyed a cosy relationship with the whaling companies, at least in part because of the ties between them. In 1935, however, it warned them about the need for regulation. This happened in the context of plans by many companies to expand whaling, especially foreign.<sup>120</sup> The chairman of the council, Ragnvald Walnum, started a letter by pointing out the council’s earlier positive assessment:

On the basis of this work we have hitherto believed that we could draw the conclusion that a tolerable equilibrium seems to be maintained in recent years between the reproductivity of the stock of whales and the catch of the fleet.

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<sup>116</sup> Gunnar Jahn, Johan Hjort and Harald Paulsen, *International Whaling Statistics XII* (Oslo: Grøndahl & søn, 1939), p. 5.

<sup>117</sup> J. F. G. Wheeler, ‘On the Stock of Whales at South Georgia’, in *Discovery Reports*, 9:pp. 353–372 (Cambridge: Cambridge University Press, 1934), pp. 353, 366.

<sup>118</sup> Alec H. Laurie, ‘The Age of Female Blue Whales and the Effects of Whaling on the Stock’, in *Discovery Reports*, 15:pp. 225–283 (Cambridge: Cambridge University Press, 1937), pp. 267, 268.

<sup>119</sup> *Ibid.*, p. 267.

<sup>120</sup> Tønnessen, *Den moderne hvalfangsts historie*, 3:pp. 486, 487.



[...] we have not deemed it necessary to advise the State to intervene so long as there is no decline in the catches per catcher's day's work.<sup>121</sup>

The letter then, however, changed its tone and aired significant misgivings. Walnum stated that if whaling would expand the coming year, 'we shall feel it our duty, in conformity with the principles quoted above, to propose measures that would restore the aforementioned equilibrium.' In other words, the council would encourage the state to regulate the industry if it further increased whaling. During the same year, a cabinet minister also began in public to express the need to address 'serious danger for the whale stock.'<sup>122</sup>

The change in the Whale Council's position shows that 1935 was a key year in the reassessment of the whale stocks. The statements of the council's members in the newspapers confirm this. In an article in response to Aagaard, Hjort and Walnum in 1934 stated that their research on 'catch per boat' did not indicate any clear signs of a reduction. They argued that the government, therefore, has no reason to introduce new regulation.<sup>123</sup> In a similar article in response to criticism in 1935, Hjort had changed position. He argued that when the Norwegian government early had discussed regulation of whaling, it was because 'one from the first moment understood that a catch of the dimensions like the one in the Southern Ocean, must lead to a reduction of the stock'. He furthermore emphasised that Norway always had done everything in its power to preserve the whale stocks.<sup>124</sup> This change shows that Hjort realised the severity of the situation around 1935.

Hjort had earlier perceived any problems with overhunting of whales as a question of diplomacy and management. As the stock decline became evident, however, he also started to understand the issue as one of human overpopulation. He believed that whaling was 'a new and extremely illustrative example of [...] the great Malthusian problem of overpopulation – human activity being ruined by its own growth'.<sup>125</sup> Hjort's writings show that he in the 1930s became increasingly worried about the pressures on the world's resource base.<sup>126</sup>

The conclusions drawn by the scientists were shared by the Norwegian media. The newspapers shifted to describing the decline of the whale stocks more as a given fact, rather than a point of

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<sup>121</sup> Ragnvald Walnum to The Whalers' Association, 20 Feb. 1935, Oslo, Ms. 4 2911: XIX, Ordnet korrespondanse som ikke faller direkte inn under I-XVII, Johan Hjort Etterlatte papirer, NLN.

<sup>122</sup> 'Statsråd Madsen bebuder drastiske forholdsregler til regulering av hvalfangsten', 28 Nov. 1935.

<sup>123</sup> Bryn, Hjort and Walnum, 'Herr Bjarne Aagaard og situasjonen i hvalfangsten' *Aftenposten*, 29 May 1934.

<sup>124</sup> Johan Hjort, 'Hvalfangstspørsmål' *Tidens Tegn*, 17 Sep. 1935.

<sup>125</sup> Hjort, 'The Story of Whaling': 19–34.

<sup>126</sup> Hjort, *The Emperor's New Clothes*, p. 202.

contention.<sup>127</sup> The discussion moved to the severity of the situation and possible solutions to it. A newspaper article from 1936 gives a good indication of the new sentiment: ‘everything depends on whether the whale stock can sustain such a great harvest year after year. From many places, there have been warning voices that claim that the whale stocks with such powerful harvest move toward its certain destruction.’ The article then interviewed a whaling manager, who said that he believed that whaling could only continue for a few years. The article concluded with the comment that the numbers ‘speak in plain language’ about the issue.<sup>128</sup> There was, nevertheless, long some scepticism. A few newspaper articles still presented a more or less positive view of the whale stocks.<sup>129</sup> One article had the title ‘Abundance of blue whales, but smaller size.’ Even this article, however, noted the decreasing size of the blue whales.<sup>130</sup>

The most common arguments for reduction of the whale stocks did not build directly on the scientific investigations. Newspaper articles often emphasised the amount of whales harvested year after year. Many articles presented this as indicating, or proving, that whale stocks declined based on common sense in light of the catch numbers.<sup>131</sup> This was the most important evidence for Aagaard, who believed that the number of whales caught proved that Antarctic whales headed for extinction. Another key type of evidence was reports from eye-witnesses, who would compare recent trips to the Antarctic with the situation in the past. Such interviewees would often state that they saw fewer whales than earlier. One article interviewed an old whaler who since 1892 had ‘been part of “exhausting” whaling grounds all over the earth’. He said about the Antarctic whale stocks that they had ‘decreased colossally’.<sup>132</sup> In another article, a whaler humorously reflected on how they earlier ‘used to walk with dry feet’ over the whales.<sup>133</sup>

Other arguments drew more directly on statistics and the scientific investigations. Several articles pointed out that the whales in the catches were smaller and therefore younger than previously.<sup>134</sup> Here they often presented quite specific numbers. A whaling ship-owner noted that ‘there is almost not caught old whales anymore, blue whales of over 100 feet and longer, but that the average size has fallen

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<sup>127</sup> Se for example: ‘Skal hvalfangsten ødelegges, hvorfor kan vi ikke da gjøre det selv!’, *Aftenposten*, 14 Aug. 1935; ‘Kan hvalfangsten reddes?’, *Tidens Tegn*, 15 Apr. 1936.

<sup>128</sup> ‘34,000 Sydhavshval i år?’, *Arbeiderbladet*, 8 Dec. 1936.

<sup>129</sup> ‘Bra med hval ved Bouvet. Også blåhval’, *Norges handels og sjøfartstidende*, 12 Apr. 1937.

<sup>130</sup> ‘Rikelig med blåhval, men mindre størrelse’, *Tidens Tegn*, 30 Apr. 1936.

<sup>131</sup> Se for example: ‘34,000 Sydhavshval i år?’ *Arbeiderbladet*, 8 Dec. 1936; ‘Blåhvalen’, *Tidens Tegn*, 1 Oct. 1935.

<sup>132</sup> ‘Hvalbestanden’, *Norges handels og sjøfartstidende*, 1 Aug. 1930.

<sup>133</sup> ‘Dengang en kunde gå tørrskodd over knølhvalryggene’, *Aftenposten*, 11 Jan. 1937.

<sup>134</sup> ‘34,000 Sydhavshval i år?’

to 70-80 feet and less, and that there mainly is caught young animals.<sup>135</sup> A related argument concerned the declining amount of whale oil relative to the whales caught.<sup>136</sup> Many articles also noted the decreasing amount of blue whales in comparison to other species in the catch.<sup>137</sup> Such arguments show an interest in similar types of evidence as the whale scientist. Indeed, some articles directly discussed the Norwegian research on whale stocks.<sup>138</sup> Other articles also featured the British research. They reported that the Discovery Investigations had concluded that Antarctic whale stocks diminished.<sup>139</sup> In the case of most articles, it is hard to gauge how informed they were by Hjort and the whale science community. They did, however, include many of the same arguments for a reduction in the whale stocks. What seems to have mattered less in the newspapers, at least in articles not written by Johan Hjort or other scientists, is the 'catch per boat' concept. Perhaps journalists deemed it too complex for the readers.

## Conclusion

In *Moby Dick*, Ishmael proclaims the whale 'immortal in his species'. The British committees show that during the first decades of the twentieth century, this statement represented a credible assessment of Antarctic whale stocks. As this article has demonstrated, whale research finally disproved this argument in the 1930s, when they documented that Antarctic whale stocks diminished. One of the main contributions of this article is to examine this development in detail. During the British committees, experts still did not know how whaling affected whales. This lack of knowledge in the 1920s led to substantial whale research projects in Norway and the United Kingdom. These developed new methods and gathered statistics on whaling. In the late 1920s and early 1930s, the research recognised some warning signs, but the question remained unresolved. In the 1930s both Norwegian and British scientists concluded that whale stocks declined. Different types of whaling statistics, especially 'catch per boat', but also catch numbers, types of whales caught and whale size, proved this. In Norway the crucial year, at least for Hjort and the Whale Council, was 1935. It then became clear to experts that Antarctic whaling did reduce the stocks of important whale species in Antarctica. In the case of Norway, it is, therefore, justified to speak about a rough consensus from around 1935. It continued to solidify in

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<sup>135</sup> Jens Andevig, 'Hvalsituasjonen', *Tidens Tegn*, 28 Nov. 1935.

<sup>136</sup> Hans Bogen, 'Fryd dig hver hval som blir skutt', *Dagbladet*, 13 Feb. 1936.

<sup>137</sup> Andevig, 'Hvalsituasjonen'; 'Blåhvalen', *Tidens Tegn*, 1 Oct. 1935.

<sup>138</sup> 'Hvalbestandens bevaring i Antarktis', *Norges handels og sjøfartstidende*, 10 Dec. 1935; 'Hvalfangsten', *Aftenposten*, 1 Mar. 1935.

<sup>139</sup> 'Rov-fangsten på hval har nådd et høit og farlig nivå', *Aftenposten*, 28 Jun. 1937; 'Hvalbestanden – Discovery-komiteens rapport', *Aftenposten* 29 Jun. 1936.

the following years, especially when the ‘catch per boat’ plunged in the 1935-36 season.

Several historians of science have argued for a shift away from knowledge production to communication and public reception. The debate about whaling is a good case for such an approach because the public found the issue important and interesting. The second contribution of this article is therefore to explore the newspaper discussion. This is a new perspective in the literature. The article shows that the public discussion of the whale stocks generally followed developments in whale science, but with some differences. The discussion of whale stocks started in the Norwegian newspapers around 1928, about the same time as the research on whale stocks intensified. Hjort and especially Aagaard played key roles in bringing the issue to public attention. Aagaard made the whale stocks interesting by his fierce, often personal, attacks and arguments bordering on the sensational. His emphasis on Norwegian jobs also contributed to giving the debate a marked political dimension. The newspapers’ assessment of the whale stocks followed the experts and turned more negative around the mid-1930s. They, however, often relied on other types of proof than the scientific investigations. They focused more on evidence such as the sheer catch numbers and eye-witness accounts. This reflected the need to make the issue interesting and understandable to the public.

An interesting question is how the expert and public views of whale stocks affected the attempts to regulate whaling. This article cannot cover this question in depth, but finishes with some reflections about it. A strong suspicion that whaling overtaxed whales emerged in the 1930s, and around the same time diplomats made the first serious attempts at international whaling regulation. In the mid-1930s a consensus formed, at least in Norway, that Antarctic whales diminished. A few years later the international community agreed to comprehensive (but not sufficient or effective) regulation agreements in 1937 and 1938.<sup>140</sup> On the other hand, two factors suggest that the cause-effect relationship may have worked in multiple directions. First, the efforts at whaling regulation in the 1930s might have raised public awareness about the whale stocks. They might, therefore, have contributed to the consensus that whales diminished. Secondly, the political interest in whaling regulation also resulted from the effects of the Great Depression on whale oil prices. Their volatility gave producers, such as Norway and the United Kingdom, an incentive to restrict supply. One way to justify this was to point out the need to hunt fewer whales. This situation may have encouraged scientists to take a less optimistic view of whaling. In consequence, the exact relationship between views of the whale stocks and whaling regulation remains hard to untangle.

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<sup>140</sup> Dorsey, *Whales and Nations*, pp. 79, 80.