

Science, Markets, and Power –

Adolf Severin Jensen in the debate over Greenland's fisheries development during the early twentieth century

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Adolf Severin Jensen (1866-1953), the consultant to the Danish colonial administration as fisheries biologist and later professor of zoology in Copenhagen, had a central role in introducing large-scale commercialised fishing to Greenland. Since the beginning of the Danish-Norwegian Lutheran mission and colonisation of Greenland in the mid-eighteenth century, seal hunting had been rigorously promoted in the Danish dependency. As a result, the industrialisation of fisheries since the turn to the twentieth century led to radical economic and social changes for the indigenous people. The dimension of this transition is only comparable to today's extension of oil and mining industries.¹ On closer examination, the debate over the development of large-scale fisheries in Greenland illustrates how environmental, colonial, and economic history intersect with the history of science. The case study of this paper is an example of what has been termed 'epistemic drift', that is, the processes that lead researchers to emphasise the uses of their results for specific cultural and political contexts.² It is neither new nor unknown that the practices and goals of science have been (and are constantly) shaped by a complex interplay of interests outside the discipline. Yet, I claim the dynamics of markets and power that framed the questions and results of science are still underestimated in historiographical accounts of Greenland's early commercialised fisheries under colonial rule.

Jensen followed and was an active commentator of all stages of the commercialisation of Greenland's fishing industry – from the early assessment shortly after 1900 to the sector's peak in the 1930s, and the first signs of a changing trend in the 1940s. In 1908 and 1909, he conducted the fishing trials and hydrographical measurements along the Greenlandic west coast that were said to have led the way for large-scale commercialised fisheries. Almost four decades later, the Nuuk-based newspaper *Grønlandsposten* printed an interview with Jensen in 1946 on the occasion of his 80th birthday earlier in the year.³ After being introduced with praise

¹ See 'Climate change brings new risks', *The Guardian*, 23 Jan. 2014.

² See Aant Elzinga, 'The Science-Society Contract in Historical Transformation: With Special Reference to "Epistemic Drift"', *Social Science Information* 36, no. 3 (1997): 411-45 and Thomas Kaiserfeld, 'Why New Hybrid Organizations Are Formed: Historical Perspectives on Epistemic and Academic Drift', *Minerva* 51 (2013): 171-94.

³ 'Det Grønlandske Fiskeris Tilblivelse Og Opblomstring', *Grønlandsposten* 1 Mar. 1946, 30-35 (all quotes from Danish sources are translated by the author of this paper). *Grønlandsposten* was first published in 1942 as independent media when Denmark was under German occupation during the Second World War and acted as the administration's central organ. It had a print run of 800 copies in 1942 which grew to 1 500 in the late 1940s when Greenland had a population of about 17 000 indigenous inhabitants and 400 Danish

for his merits, the interview is Jensen's own, uninterrupted account of how he remembered the early beginnings of the industry and his personal contribution to Greenland's economic reformation. Jensen emphasised the blessings fishing had brought to the Greenlanders after he had initiated new processing methods as a result of his first trials: In 'great delight I saw how the people had regained their strength, lived in better houses and had acquired better equipment'.⁴ In Greenland, the readers were assured in the editor's concluding remarks, there were 'hundreds of happy fisher families who with gratefulness think about their loyal friend and reliever who, with unshakeable courage and commitment, has stepped into their existence – for the better'.⁵

Generally, the newspaper's narrative is in line with the self-proclaimed image of Denmark as benevolent motherland of its colonies and dependencies – a prevailing image that is only recently assessed in a critical light.⁶ The paternalistic stand was a relict of Denmark's past as a North Atlantic empire and its persisting 'national image of former grandeur'.⁷

citizens; see Axel K. Sørensen, *Denmark-Greenland in the Twentieth Century* (Copenhagen: Museum Tusulanum Press, 2007), p. 35.

⁴ '[...] der var mig da en stor glæde at se, hvorledes befolkningen var kommet til kræfter og havde faaet bedre huse og redskaber', 'Grønlandske Fiskeris Tilblivelse', 33. Jensen was invited to Julianehaab (today Qaaqortoq) by the director of the Administration of Greenland Jens Daugaard-Jensen (in office 1912-1938).

⁵ '[...] hundrede af lykkelige fiskerfamilier, der med taknemmelighed vil tænke paa deres trofaste ven og vælgører, der med uforfærdet mod og initiativ paa en saa heldig made engang greb ind i deres tilværelse', 'Grønlandske Fiskeris Tilblivelse', 35.

⁶ See, for instance, Kirsten Thisted, "'Where Once Dannebrog Waved for More Than 200 Years": Banal Nationalism, Narrative Templates and Post-Colonial Melancholia', *Review of Development and Change* XIV, no. 1/2 (2009): 147-72 and Karen F. Olwig, 'Narrating Deglobalization: Danish Perceptions of a Lost Empire', *Global Networks* 3, no. 3 (2003): 207-22. Greenland's economic transition from seal hunt to fishing was and is still commonly interpreted as necessary and successful adaptation to a growing indigenous population, warming water temperatures and the subsequent increase of fish stocks in the region; see William G. Mattox, *Fishing in West Greenland 1910-1966. The Development of a New Native Industry* (Copenhagen: Reitzel, 1973), p. 105 and Jes Adolphsen, 'Hvad er Magt – i Grønland', in G. Winther (ed.), *Demokrati og Magt i Grønland*, pp. 31-38 (Aarhus: Aarhus Universitetsforlag, 2003). For earlier historiographical accounts written under colonial rule see, for instance, Knud Oldendow, *Træk af Grønlands Politiske Historie. Grønlændernes egne Samfundsorganer. En Oversigt i Anledning af de Grønlandske Landraads 25 Aars Bestaaen* (Gads Forlag: Copenhagen, 1936) and Paul Ibsen and Poul P. Sveistrup, *Den Erhvervsmæssige Udvikling i Julianehaab Distrikt 1899-1939* (Reitzel: Copenhagen, 1942). Moreover, see Mogens Boserup and Viggo Svendsen, *Økonomisk Politik i Grønland* (Copenhagen: Grønlandsudvalget af 1960, 1963), and Pia Boisen and Bue Nielsen, 'Årsager til Erhvervsskiftet fra Fangst til Fiskeri i Vestgrønland', *Tidskriftet Grønland* 4 (1982): 125-39. Critical responses regarding Boisen's and Nielsen's method were given, for instance, by Axel K. Sørensen, 'Fra Fangst til Fiskeri i Vestgrønland (Julianehåbdistriktet) – En Indsigelse', *Tidskriftet Grønland* 10 (1982): 343-46 and Erik L.B. Smidt, 'Om Overgangen fra Fangst til Fiskeri i Vestgrønland', *Tidskriftet Grønland* 5 (1983): 125-44. In terms of quantitative studies of e.g. catch and employment, the development of industrial fisheries in Greenland is extensively covered; see Axel K. Sørensen, 'Fishing by the Greenlanders', in P. Holm, D. J. Starkey, and J. Th. Thór (eds), *The North Atlantic Fisheries, 1100-1976. National Perspectives on a Common Resource*, pp. 89-104 (Esbjerg: Fiskeri- og Søfartsmuseets Forlag, 1996), p. 91.

⁷ Olwig, 'Narrating Deglobalization', 208.

Denmark derived its claim to Greenland historically from the medieval Norse settlers whose last colony collapsed in the fifteenth century. Until 1523, the Union of Kalmar had united the North Atlantic islands (Iceland, the Faroe Islands, and Greenland) under the Danish Crown. Since the 17th century, however, the presence of English and Dutch whalers increasingly threatened Danish sovereignty in Greenlandic waters.⁸ On behalf of the Crown, the first trading post was established by Danish-Norwegian Lutheran missionaries in 1721 and marked the beginning of formal colonization. The gospel served as vehicle for reinforcing sovereignty over the island as well as an opportunity to obtain sought-after trading goods like seal skins, blubber, and whalebone.⁹ In 1776, the state-led Royal Greenland Trade Department (Den Kongelige Grønlandske Handel) was provided with the monopoly on trade and authority over civil administration. It banned all foreign and restricted even Danish private ventures in the colony. The trade monopoly remained in place until the formal integration of Greenland into the kingdom in 1953. After several administrative reforms, mission, trade and administration were separated and came under the control of the Administration of Greenland (Grønlands Styrelse) in 1912. Its director was placed under the authority of the Home Office (Indenrigsministeriet).¹⁰ In the course of further revisions, a Greenlandic elite gained participation rights. Modernisation on Denmark's terms radically changed the social fabric in the decades to come.

From its very beginning, Danish rule in Greenland was defined by the rationale of a civilising mission and the dynamics of resource colonialism. Today, both continue to shape historiographical narratives. Rather than giving one more account of the fishing sector's technological advancements, this paper puts Jensen's perceptions of Greenlandic fisheries in dialogue with ideas of rationalisation, economic efficiency, and colonial power. The scope of this paper is defined by Jensen; yet, I analyse him as an instance of how science was a 'critical element in the rationalizing gaze of colonialism'.¹¹ At the same time, I aim at problematising how the colonial setting impacted on the way science was carried out and communicated. Under Danish rule, science and knowledge of the environment was already firmly established as basis for claims to authority over Greenland.¹² The fisheries biologist Jensen illustrates how this notion of environmental

⁸ See Jean-Pierre Proulx, *Whaling in the North Atlantic. From Earliest Times to the mid-19th Century* (Ottawa: Canadian Government Publishing Centre, 1986), p. 31.

⁹ See Fin Gad, 'History of Colonial Greenland', in D. Damas (ed.), *Arctic* (Handbook of North American Indians, vol. 5), pp. 556-94 (Washington: Smithsonian Institution), p. 561.

¹⁰ In matters concerning the church and schools the director of the Administration of Greenland was answerable to the Minister of Church and Education. See Sørensen, *Denmark-Greenland in the Twentieth Century*, p. 32.

¹¹ William M. Adams, 'Nature and the Colonial Mind', in W.M. Adams and M. Mulligan (eds), *Decolonizing Nature: Strategies for Conservation in a Post-Colonial Era*, pp. 16-78, (London, Sterling, VA: Earthscan Publications Ltd, 2003), p. 24.

¹² Janet Martin-Nielsen, *Eismitte in the Scientific Imagination. Knowledge and Politics at the Center of Greenland* (New York: Palgrave Macmillan, 2013), p. 116.

authority also permeated the early debate on fisheries and modernisation with a colonial rhetoric of possession, utilisation, and control.¹³

A new approach – Fisherman and Scientist

Danish attempts to establish regular fisheries for commercial purposes with land bases in Greenland, the strictly isolated dependency in the North Atlantic, had failed throughout the nineteenth century because of lack of infrastructure and strong fluctuations in stock abundance. In 1900, however, a power shift in domestic politics changed Copenhagen's view on colonial governance and opened for reconsidering conservative ideals.¹⁴ At that point, aggravating social problems in Greenland had already paved the way for new attempts to modernise economic policies. The state monopoly and the almost exclusive promotion of the seal hunt was at the centre of the critical discussions. Although large-scale fishing had been on the agenda as means of modernising the dependency's economy, the observed sudden presence and disappearance of cod stocks had left the colonial administration sceptical about making fish the main economic resource. It was not considered a reliable basis at this stage.¹⁵

In 1902, Jensen joined a scientific expedition led by Johan Hjort (1869-1948), the director of the Norwegian Fisheries Investigations (since 1906 Directorate of Fisheries), where he was introduced to research focusing on efficient exploitation.¹⁶ While traveling to Norway's fjords and Iceland on the Norwegian research vessel *Michael Sars*, Jensen recalled that he got inspired to initiate similar trials for commercial fishing in Greenland.¹⁷ As he had acknowledged earlier, he owed the support for his idea to the Home Secretary, Sigurd Berg (1868-1921, in office 1905-1908), who requested the necessary funding from the parliament.¹⁸ Jensen advocated managed, large-scale fisheries and was in consonance with the goals of the young discipline of fisheries biology. The field had only recently emerged when Atlantic states became financial supporters of research on the ocean's living resources, their most valuable economic resource. The trend fostered a new perspective on marine species as manageable asset that could be subjected

¹³ On environmental authority, see Adrian Howkins, 'A Formal End to Informal Imperialism: Environmental Nationalism, Sovereignty Disputes, and the Decline of British Interests in Argentina, 1933-1955', *British Scholar* 3, no. 2 (2010): 235-62.

¹⁴ The shift was marked by the so-called system change ('systemskifte') of 1901 that marked the rise of liberal governments and the end of royal conservative domination.

¹⁵ The historian Daniel Thorleifsen refers especially to fluctuations in cod abundance throughout the nineteenth century; see Daniel Thorleifsen, 'The Prelude to Greenland's Commercial Fishery', in P. Holm, D. J. Starkey, and O. Marquardt (eds), *From Sealing to Fishing: Social Economic Change in Greenland, 1850-1940*, pp. 62-83 (Esbjerg: Fiskeri- og Søfartsmuseets Forlag, 1999). For a detailed account of fishing activities and trade with fish products from Greenland's west coast from the seventeenth until the early twentieth century see Mattox, *Fishing in West Greenland*, pp. 81-104.

¹⁶ See 'Grønlandske Fiskeris Tilblivelse', 32.

¹⁷ See 'Grønlandske Fiskeris Tilblivelse', 30.

¹⁸ See Adolf Severin Jensen, 'Fiskeriundersøgelser i Grønland 1908 & 1909. Af et foredrag holdt i Foreningen "De Danske Atlanterhavsoer" den 18. Marts 1910', *Atlanten* 82 (1910): 607-29, 607.

to efficient methods of exploitation, similar to the aims that had been set by scientific forestry.

At the turn to the century, a number of private stakeholder groups that applied for concessions to access Greenland and to industrialise fisheries on their own initiative put pressure on the Danish government.¹⁹ As a first reaction to respond to the growing dissatisfaction with its strict state monopoly in the dependency, Danish authorities commissioned the Faroese fisherman Napoleon Andreasen in 1906 to conduct trials. Andreasen should explore the potential for a commercial fishing industry.²⁰ He referred to known fishing places, but the results were ‘a disappointment’.²¹ Andreasen stated that the current colonial policy to keep settlements outspread along the coast (to cover large areas for seal hunting) impeded any serious attempt to build up a fishing industry. The latter needed a concentrated workforce. Moreover, the colonial trading posts still sold salted and dried cod (the so-called ‘klipfisk’) from Iceland and imported cans of fish. As was commonly assumed, this practice had contributed to a reserved attitude towards increased fishing efforts among the indigenous population.²²

In contrast to Andreasen’s practical trials, Jensen planned scientific research. The fisheries scientist had the same goal, yet, approached it from a different perspective that quickly gained governmental support despite the setback shortly before: Jensen’s primary intention was the ‘*valuation* of the Greenlandic fishing grounds [...] that is best achieved through systematic research as had been recently conducted in Finmarken and Iceland by two research vessels, the Norwegian “Michael Sars” and the Danish “Thor”, where science and praxis works hand in hand’.²³ The role Jensen would attain was owed to the importance science had in the justification of imperial ventures. Moreover, the emergence of fisheries science at the nexus of science and practical advice as well as the dominion of economic goals in the discipline played a critical part.²⁴

Science as superior means to control and utilise nature had long been a groundwork for imperial powers because the knowledge it provided built the basis for bureaucratic structures and policy measurements.²⁵ The idea was mirrored in the development of scientific forestry and modern agriculture especially since the 19th century. Both were a phenomenon of the ‘utilitarian discourse’ of modern states that valued nature in terms of

¹⁹ See Sørensen, *Denmark-Greenland in the Twentieth Century*, p. 23.

²⁰ See Henning Bro, ‘Dansk Privatkapital og KGH’s Monopol i Grønland omkring 1900-1917’, *Tidskriftet Grønland* 1 (1991): 225-49, 237.

²¹ ‘[...] en Skuffelse’, Ole Bendixen, *Grønlandsfiskeriet. Dets Historie Og Fremtidsmuligheder* (Copenhagen: H. Aschehoug & Co., 1930), p. 34.

²² See Bendixen, *Grønlandsfiskeriet*, p. 48.

²³ ‘[...] en Bonitering af det grønlandske Fiskevande [...] bedst erholdes ved at sætte i Gang lignende systematiske Undersøgelser som dem, der i de senere Aar er foretagne ved Finmarken og ved Island fra de to Undersøgelsesdampere, den norske “Michael Sars” og den danske “Thor”, paa hvilke Videnskab og Praxis arbejder Haand i Haand’, Adolf Severin Jensen, ‘Om de for Aarene 1908-09 planlagte Fiskeriundersøgelser ved Grønland’, *Grønlandske Selskabets Aarsskrift* (1907): 79-99, 85 (original italics).

²⁴ See Tim D. Smith, *Scaling Fisheries. The Science of Measuring the Effects of Fishing, 1855-1955* (Cambridge: Cambridge University Press, 1994), p. 5.

²⁵ See Adams, ‘Nature and the Colonial Mind’, p. 27.

revenue.²⁶ Applied sciences became the pillars of colonial economies as they made the land subject to valuation and thus measurable in fiscal value.

Effective resource use as sign of sovereignty over land was and still is a prevailing theme in Western discourses on nature inspired by the Christian credo that man was created to subdue the earth. Mission and trade were from the beginning closely tied together in Denmark's colonial ventures in Greenland. Yet, the two conflicting goals of modern, effective resource exploitation on the one hand and the conservation of an idealised, Greenlandic tradition on the other hand embodied the 'ambiguousness of the civilizing mission'²⁷ even well into the twentieth century.

The new liberal government was appointed in 1901 and showed, in contrast to its conservative predecessors, great sympathy for Greenland's economic modernisation. The openness towards Jensen's plan was also owed to a changing view on the marine resources as part of industrialised economies. In the course of intensifying competition on their fishing grounds since the late nineteenth century, North Atlantic states increasingly financed scientific investigations on fisheries. They sought to secure their economic basis that seemed more fragile than ever and eventually defied the common notion of the ocean's inexhaustibility.²⁸ Jensen was a representative of the 'urban, lettered, male authority'²⁹ that dominated scientific and colonial discourses at the time. The urge to categorise and inventory was prevailing in both of them – for political, economic, and knowledge purposes.³⁰ Jensen had an education in natural history, geography and zoology. Since 1901, he focused his research on the Arctic environment and published extensive works on marine fauna. Between 1917 and 1936, Jensen taught zoology at Copenhagen University. He was noted to be particularly active in the dissemination of his research in seminars and academic workshops.³¹ Several of his works were presented in and published by the Danish Natural History Association (Dansk Naturhistorisk Forening) where Jensen was both a steering board member and editor of the association's Scientific Reports (*Videnskabelige Meddelelser*) since 1916.³²

In 1906, the Home Secretary Berg assured his personal commitment to Jensen's plan to value Greenlandic fisheries. Berg requested the necessary

²⁶ See James C. Scott, *Seeing Like a State. How Certain Schemes to Improve the Human Condition Have Failed* (New Haven / London: Yale University Press, 1998), p. 13 and Karen Brown, 'The Conservation and Utilisation of the Natural World: Silviculture in the Cape Colony, c. 1902-1910', *Environment and History* 7, no. 1 (2001): 427-47.

²⁷ Søren Rud, 'Governance and Tradition in Nineteenth-Century Greenland', *Interventions* 16, no. 4 (2013): 551-71, 556.

²⁸ See Jennifer Hubbard, 'In the Wake of Politics: The Political and Economic Construction of Fisheries Biology, 1860-1970', *Isis* 105, no. 2 (2014): 364-78, 365 and Vera Schwach, 'A Sea Change: Johan Hjort and the Natural Fluctuations in Fish Stocks', *ICES Journal of Marine Sciences* (2014): 1-7, 6.

²⁹ Marie Louise Pratt, *Imperial Eyes. Travel Writing and Transculturation* (New York: Routledge, 1992), p. 38.

³⁰ See also Sabine Höhler and Rafael Ziegler, 'Nature's Accountability: Stocks and Stories' *Science as Culture* 19, no. 4 (2010): 417-30.

³¹ See Svend Cedergreen Bech (ed.), 'Ad. S. Jensen', in *Dansk Biografisk Leksikon* (Gyldendal: Copenhagen, 1979-84).

³² See *Videnskabelige Meddelelser fra Dansk naturhistorisk Forening i København*, vol. 67 (1916).

funding for the first fishing trials from the parliament, resulting in the total amount of 135 000 Danish Crowns allotted over three years. Ernst Johannes Schmidt (1877-1933), the fisheries biologist at the Danish Biological Station (Dansk Biologisk Station), modified the brig *Tjalfe* formerly belonging to the Royal Greenland Trade Department (Kongelige Grønlandske Handel), a state institution that managed the trade monopoly and administration in the dependency. Schmidt equipped *Tjalfe* as research vessel, including stronger motorisation and a laboratory on board.³³

Jensen conducted the fishing trials and hydrographical measurements in the summer months of 1908 and 1909, both close to the coast and in deep waters, from Cape Farewell at the southernmost tip of Greenland up to Uummanaq (Umanak) about 600 km north of the Arctic Circle. The team was accompanied by each one Danish, Icelandic, and Faroese fisherman on board. The trials' aim was to 'examine on a practical scientific basis if fisheries in the region would employ a larger part of the population through production for export'.³⁴

The promise of science

Reliable scientific knowledge of spawning areas and migration patterns of the fish stocks in Greenlandic waters was still quite fragmentary. Jensen's experiments were only the beginning of systematic research in this region and were an example of the early tasks of the young discipline of fisheries biology. The field had emerged since about 1900 as distinctive approach mainly from zoology. The discipline developed in the course of advancing ocean sciences – however, with a double agenda. It was closely tied to political agendas. Conserving and restoring fisheries was the declared goal of fisheries biologists. Yet, the discipline's early history shows that it was from the beginning also aiming at increasing scope and exploitation rates in the interest of states as main sponsors.³⁵ The so-called *fishing question*, the question if overfishing caused the fluctuations in stocks abundance observed in several regions of the North Atlantic, was a major concern for all adjacent nations in the early years of the twentieth century.

The awareness led to coordinated international efforts to tackle the problem of overfishing in non-territorial waters. The International Council for the Exploration of the Sea (ICES) in 1902, one of the most long-lived institutions in ocean sciences, is a remainder of these times.³⁶ While its main effort was to further marine research and advance knowledge, ICES

³³ See 'Fiskeriundersøgelser ved Grønland i 1908', *Beretninger og Kundgørelser vedrørende Kolonierne i Grønland* 2 (1909): 11-12, 11, Danish National Archives.

³⁴ '[...] paa praktisk videnskabelig grundlag at undersøge, om der paa fiskeriets omraade var udsigt til, at en del af Grønlands befolkning i højere grad end tidligere kunde føres over til fiskeri med eksport for øje', 'Grønlandske Fiskeris Tilblivelse', 31.

³⁵ See Hubbard, 'In the Wake of Politics', 365.

³⁶ ICES' founding member states were Denmark, Germany, Finland, the Netherlands, Sweden, Norway, Russia, and Great Britain; see Helen M. Rozwadowski, *The Sea Knows No Boundaries. A Century of Marine Sciences Under ICES* (Seattle: University of Washington Press, 2002), p. 51.

likewise acted as consultant to governments of its members states regarding the question ‘how to best manage fisheries [...] and how to best promote new fisheries in underutilized areas’.³⁷ The article ‘What is overfishing?’ of 1903 by Carl Georg Joh. Petersen, the founder of modern Danish ocean sciences and representative in ICES’ working group on overfishing, was well known and encouraged discussions on an international level.³⁸ The language and aims of fisheries science resembled those of nineteenth-century agriculture and especially German forest management as they were geared towards practical problem solving, focusing on reproduction, maximum exploitation yields, and productivity.³⁹ The tenor of the discipline’s ambitions reflected what the environmental historian Samuel P. Hays termed the ‘gospel of efficiency’, upheld by the conservationist movement in the early twentieth-century US: ‘They emphasized expansion, not retrenchment; possibilities, not limitations’.⁴⁰ The promise of applied disciplines like fisheries science merged the belief in science and technology with visions of abundant prosperity.

After the fishing trials he led in 1908 and 1909, Jensen sent regular reports about the state of fisheries to the colonial administration. In return, the authority provided him with information it received from other sources in Greenland on the industry’s development, for instance reports by civil servants. Jensen became a central hub for knowledge on fisheries in the dependency: ‘In the years since the *Tjalfe* expeditions [in 1908 and 1909, A.N.]’, Jensen proclaimed, ‘has the Greenland Administration on the basis of this research and with my assistance as consultant worked to make these experiences fruitful for the Greenlandic people’.⁴¹ When a research vessel was named after Jensen in 1967, the Greenlandic-Danish newspaper *Atuagagdliutit* praised the scientist’s merits and gave a laudatory retrospect of his impact on the sector’s development. On the basis of Jensen’s first trials, the newspaper asserted, ‘could the colonial administration start to establish several fishing stations, where Danish fishermen taught the Greenlanders modern fishing and processing methods for export; he was to a high degree involved in the upswing of the sector as fisheries consultant to the administration’.⁴² Jensen’s work is an example of the cross-boundary

³⁷ Helen M. Rozwadowski, ‘Science, the Sea, and Marine Resource Management: Researching the International Council for the Exploration of the Sea’, *The Public Historian* 26, no. 1 (2004): 41-64, 46.

³⁸ See Carl G. J. Petersen, ‘What is Overfishing?’ *Journal of the Marine Biological Station* 6 (1903): 587-94 and David H. Cushing, ‘In Praise of Petersen’, *Journal du Conseil International pour l’Exploration de la Mer (ICES)* 36, no. 6 (1976): 277-81.

³⁹ See Jennifer Hubbard, ‘Mediating the North Atlantic Environment: Fisheries Biologists, Technology, and Marine Space’, *Environmental History* 18, no. 1 (2013): 88-100, 89.

⁴⁰ Samuel P. Hays, *Conservation and the Gospel of Efficiency. The Progressive Conservation Movement, 1890-1920* (Pittsburgh: Pittsburgh University Press, 1999), pp. 2-3.

⁴¹ ‘I de Aar, der er forløbet siden Tjalfe-Ekspeditionen, har Grønlands Styrelse, paa Grundlag af disse Forundersøgelser og under min Medvirkning som Konsulent, arbejdet paa at gøre de indvundne Erfaringer frugtbringende for den grønlandske Befolkning’, Adolf Severin Jensen, ‘Udviklingen af Grønlandernes Fiskeri 1910-1925’, *Det Grønlandske Selskabs Aarsskrift* (1925-26): 15-28, 15.

⁴² ‘[...] kunne den grønlandske styrelse skride til anlæggelse af en række fiskeristationer, hvor indkaldte danske fiskere lærte grønlænderne brugen af moderne fiskeredskaber og fiskens behandling til eksport; siden var han som fiskerikonsulent for styrelsen yderligere i

impact of a science expert who was active in field work and scientific experiments, as well as in political consultancy – a two-track approach that was emblematic for fisheries science.

In 1910, when Jensen summed up his first experiments in 1908 and 1909 he concluded with a statement in biblical rhetoric: ‘The day when Denmark has gotten the Greenlanders to subdue Earth and Sea, her mission in Greenland is completed. Only then can we see forward to the future of this beautiful land with confidence’.⁴³ While the wording reminds of the Christian credo of resource use as legitimate claim to territory, it is also a hint to the dependency’s financial situation. Greenland’s alleged deficit at the turn to the twentieth century was subject of various discussions in the parliament.⁴⁴ Throughout his career, Jensen was aware of the role industrial fisheries could attain in view of the dependency’s economy. With the help of a large-scale commercialised fishing industry, Jensen asserted, would the dependency eventually ‘pay for itself instead of being a financial burden’ for Denmark.⁴⁵

The ideological nexus of science and power added yet another dynamic in the relation between the scientist and the results of his research. The acquisition and communication of scientific knowledge was central to the Danish idea of a civilising mission and its sense of superiority. It was fueled by the ‘triumph of science and reason over the forces of superstition and ignorance which [was] perceived to be rampant in the nonindustrialized world’.⁴⁶ The appropriation of knowledge went hand in hand with the appropriation of power over the land, as colonialism ‘promoted the naming and classification of both people and places, as well as nature, in each case with the aim of control’.⁴⁷ An ideological notion was necessarily revealed in how Jensen communicated his findings.

First results and economic recommendations

høj grad medvirkende til det store opsving, det grønlandske fiskerierhverv tog’, ‘Adolf Jensen og hans indsats for det grønlandske fiskerierhverv’, *Atuagagdliutit*, March 30, 1967, 8.

⁴³ ‘Den Dag da Danmark har bragt Grønlænderne saa vidt, at de har gjort sig Jord og Hav underdanige, er dets Mission i Grønland fuldbragt. Thi først da kan vi med Fortrøstning se dette skønne Lands Fremtid imøde’, Jensen, ‘Fiskeriundersøgelser i Grønland 1908 & 1909’, 629.

⁴⁴ See, for instance, Thorleifsen, ‘Prelude to Greenland’s Commercial Fishery’, p. 63 and Aage V. Strøm Tejsen, ‘The History of the Royal Greenland Trade Department’, *Polar Record* 18, no. 116 (1977): 451-74, 464.

⁴⁵ ‘[...] i Stedet for at tyngge Statskassen med stadige Underskud [...] atter vil kunne komme til at bære sig’, Jensen, ‘Fiskeriundersøgelser i Grønland 1908 & 1909’, 625.

⁴⁶ Michael Adas, *Machines as the Measure of Men. Science, Technology and Ideologies of Western Dominance* (Ithaca; London: Cornell University Press, 1989), p. 204.

⁴⁷ Adams, ‘Nature and the Colonial Mind’, p. 24. For instance, the publication of the series *Reports on Greenland (Meddelelser om Grønland)* was initiated in 1897 in an attempt to manifest Denmark’s sovereignty over Greenland’s physical environment when the island’s effective occupation was increasingly challenged; see ‘Legal Status of Greenland’, *The Geographical Journal* 82, no. 2 (1933): 151-56, 152.

The nature of Jensen's research was economic advice at heart and was at the same time embedded in a political setting. This entanglement was mirrored in the scientist's communication that was tinged by its colonial setting. Jensen's trials in 1908 and 1909 were of central importance to the development that changed the face of Greenland's economy – even though, as Jensen himself stated on various occasions, his first results were not necessarily a cause for great hopes.⁴⁸ In October 1908, after the first five months of research, Jensen sent a report to the Danish Home Office, which was in charge of Greenlandic affairs. The report chronicled his group's results of fishing after different species and the hydrographical measurements in detail. Jensen tested in how far different species were suitable for processing and storing which would make them a handy export product, for instance when salted and transported in barrels: The 'salted Angmagssæt [*Mallotus villosus*, capelin, A.N.] proved to be most suitable; this product could be exported to Denmark with profits, where every year several thousand barrels of salted Ang[magssæt] are currently imported from Norway. And even with heavy fishing activities one does not have to fear an exhaustion of the stock in a discernible degree either'.⁴⁹ This part of the report focused on various species suitable for processing and preserving for export to Denmark. The assessment of economic value for large-scale export was central in the narrative that unfolded in Jensen's assessments. He also commented on the current trading policy, which was, in his eyes, detrimental to a thriving fishing industry in the future. One major point of his critique were the low prices that Greenlanders were paid for delivering their catches of fish to the trading stations – if the species was an accepted item on the official trading list all. As Jensen recalled, this policy had the intention to not drive away the people from seal hunting. However, he was clear in pointing out the inconsistency he saw especially in the halibut fisheries:

'The consequence is that the fishermen actually rather sell their halibut privately to their own people and Danes, who at least pay the same price as the *Handel* [Royal Greenland Trade Department, A.N]. But by far the biggest part of the catch is withheld from the *Handel* (especially in the Umanak and Ritenbenk district) *because it is used as dog food*. Since the dogs play an important role in northern Greenland both for communication and hunting in

⁴⁸ This statement related especially to the hopes Jensen had in halibut fisheries, which did not give the results he had expected during the trials; see 'Det Grønlandske Fiskeris Tilblivelse', and Adolf Severin Jensen, 'Rapport Til Indenrigsministeriet over Briggen Tjalfe's Praktisk-Videnskabelige Fiskeriexpedition Til Grønland. Foreløbig Beretning Om Undersøgelserne i 1908', *Beretninger Og Kundgørelser Vedrørende Kolonierne i Grønland* (Oct. 1908), p. 15, Danish National Archives. This account was written by Jensen in December 1908 before the second half of his research was completed in late 1909.

⁴⁹ '[...] den saltede Angmagssæt viste sig fortrinligt egnet; maaske kan denne Vare med Fordel eksporteres til Danmark, hvor der aarlig indføres flere Tusinde Tdr. saltet Agn[magssæt] fra Norge. Og man behøver ikke at frygte for, at selv et nok saa kraftigt drevet Fiskeri vil kunne formindske Bestanden i kendelig Grad', Jensen, 'Rapport Til Indenrigsministeriet', p. 13.

the winter, this would not be as such something one needed to object to – if not the exceptional value of this product would make this practice very questionable, seen from a national economic viewpoint'.⁵⁰

Jensen criticised that a barrel of halibut was purchased for only two Danish Crowns from the Greenlanders, while the Trade Department sold it for 70 to 85 Danish Crowns back in Denmark. He presumed that the low price paid to the Greenlanders caused them to use the fish for other purposes, for instance as dog food. Highlighted by the original italics, Jensen did not approve of this situation that went against economic logic in his opinion.

Jensen's critique was directed towards the traditional conservative policy that he thought had led to such dynamics ever since it solely promoted the seal hunt. The image of the seal hunter as true Greenlander was a construction vigorously maintained as result of Denmark's economic interest in animal train oil throughout the nineteenth century.⁵¹ The Danish ideal of the seal hunting Greenlander steered the paternalistic and protectionist policy in the dependency. Official directions had sought to preserve an allegedly traditional lifestyle for almost two centuries. The conservative view on Greenlanders was upheld vehemently by the Royal Greenland Trade Department which was in charge of colonial affairs: 'The seal hunter is the type of the Greenlandic people [...]. The Greenlander trusts in the future and he is, so to say, careless, but the same applies probably to every hunter community'.⁵² The notion that hunters were not used to planning the sustainable use of their resources permeated the accounts that assessed the future of fisheries. The Trade Department's position had manifested understandings of Greenlandic identity that lived on in the attitude of colonial policy during the early commercialisation of fisheries.

⁵⁰ 'Men Følgen er bleven, at Fiskerne hellere sælger Hellefisken til deres Landsmænd og til de Danske, da de betaler i alt Fald samme Pris som Handelen. Langt *den største Del af Fangsten unddrages derved* (særlig i Umanaks og Ritenbenks Distrikt) *Handelen for at bruges til Hundefoder* i Grønland. Da Hundene spiller en stor Rolle i Nordgrønland baade for Kommunikation og for Grønlændernes Vinterfangst, vilde der i og for sig ikke være noget at indvende mod denne Anvendelse af Hellefisken, hvis ikke netop dens overordentlige Værdi som Handelsvare gør Sagen noget betænkelig, set fra et *nationaløkonomisk* Standpunkt', Jensen, 'Rapport Til Indenrigsministeriet', p. 18 (original emphases).

⁵¹ See Jens C. Manniche, 'Den store og den lille kolonialisme - Grønlands kolonihistorie i internationalt lys?' in D. Thorleifsen (ed.), *De Vestnordiske Landes Fælleshistorie*, pp. 117-124 (Nuuk: Direktoratet for Kultur, Uddannelse, Forskning og Kirke, 2003), p. 123 and Rud, 'Governance and Tradition', 561.

⁵² 'Det er Sælfangeren, der er Typen for den grønlandske Befolkning [...]. Grønlænderen stoler paa Fremtiden, og han er, om man vil, letsindig, men det Samme maa sikkert nok gjælde ethvert Jagtfolk', Carl Ryberg, 'Om Erhvervs- og Befolknings-Forholde', *Geografisk Tidsskrift* 12 (1893-1894): 87-109. Carl Ryberg (1854-1929) was the director of the Royal Greenland Trade Department since 1903. He strongly defended the seal hunt as Greenlandic tradition that needed to be protected. However, the heated debate Ryberg was involved in resulted in a separation of the colony's trade and civil administration in 1908. Yet, they joined once again in a different system under only one director of the so-called Greenland Administration from 1912 on.

Teaching seal hunters to fish

In 1910, shortly after his return from his first expedition in 1909, Jensen presented the results of his research in a talk he gave at the *Danish Atlantic Ocean Islands Association (Foreningen De Danske Atlanterhavsøer)*. The association was a liberal-minded lobby group in Copenhagen that had been founded in 1902. Just when the debate on selling the Danish West Indies flared up once again, the Atlantic Ocean Islands' foundation was a reaction to the fears of a diminishing Danish empire.⁵³ Its declared goal was to protect economic interests in the dependencies and acted as a forum to discuss more effective policies of resource exploitation.⁵⁴ In the talk he gave at the association's meeting on March 18 in 1910, Jensen identified another hindrance to a thriving fishing industry in Greenland, besides poor colonial directives when it came to pricing. He stated that in 'most places one cannot but become angry over the indifference and unreason. In the summer time, which is most suitable for fishing, piles of cod are lying in the dirt, not rinsed, and enough only for the day's meal'.⁵⁵ Jensen attested the indigenous population irrational, unreasonable behaviour when it came to fishing. His statement hints at the perceived lack of planning abilities that Danish authorities attested the Greenlandic people.

Regarding Arctic char fisheries in coastal rivers, Jensen's concern over the traditional fishing methods used by the Greenlanders further illustrated this view. He assumed that the building of small dams and the catching of young fish, as was regularly practiced by the Greenlanders, had depleted the stocks. Jensen emphasised that the 'Greenlanders should be taught that this fishing method goes against their own interests in the long run'.⁵⁶ Jensen called for Danish expertise: For fishing of other species in open water, Danish fishermen should be stationed in Greenland in order to 'fish from boats with long lines and teach the Greenlanders this method as well as how to process the fish as a trading product'.⁵⁷ These fishermen, Jensen assumed, 'could have a beneficial impact on the Greenlanders as they teach them to

⁵³ See Axel K. Sørensen, *Danmark-Grønland i Det 20. Århundrede: En Historisk Oversigt* (Copenhagen: Nyt Nordisk Forlag Arnold Busck, 1983), p. 29.

⁵⁴ The association consisted of influential figures of Denmark's agricultural sector, private economy, and intellectuals who pushed for colonial free trade as Denmark's responsibility as empire overseas. See Frederik Møller, 'Foreningens Stiftelse Og Første Virksomhed. Uddrag Af Foreningens Forhandlingsprotokol', *Atlanten. Medlemsblad for Foreningen De Danske Atlanterhavsøer* 1 (1904-1906): 23-8.

⁵⁵ 'De fleste Steder kan man ikke andet end harmes over den LigeGYldighed og Uforsynlighed, som udvises. I den till Fiskeri gunstige Sommertid ligger ved Husene henslængt i Snavset smaa Bunker Torsk urensede, beregnede paa Dagens Maaltider', Jensen, 'Fiskeriundersøgelser i Grønland 1908 & 1909', 624.

⁵⁶ 'Grønlænderne burde belæres om, at denne Fangstmaade i Længden skader deres egne Interesser', Jensen, 'Fiskeriundersøgelser i Grønland 1908 & 1909', 620.

⁵⁷ '[...] Fiskeriet fra Baad og med Langliner samt oplære Grønlænderne i denne Maade at fiske paa og i Fiskens Beredning til Handelsvare', Jensen, 'Fiskeriundersøgelser i Grønland 1908 & 1909', 613.

make and use modern fishing equipment as well as to exploit fisheries resources much more effective than is done today'.⁵⁸

Jensen interpreted the observations he made during the trials as educational mandate: 'As a result of our trials can be concluded that the Greenlanders have a lot to learn, concerning both fishing equipment and exploitation of the stocks [...]. A considerable effort to raise awareness is needed'.⁵⁹ The Danish word in the original quote for awareness rising was *Oplysningsarbejde*, which means 'informational effort' roughly translated and even contains the notion of *Oplysning*, 'Enlightenment'. The Enlightenment has been understood as the 'bedrock of colonial ideas'⁶⁰ since it distinguished between rational and irrational behaviour clearly defined by Western scientific standards. The perception that Greenland's resources were underdeveloped and underexploited in view of the Danish power was the basic assumption that justified efforts to teach the indigenous population rational methods that opposed their careless waste. This reasoning was deeply anchored in the colonial hierarchy and did not first emerge with the arguments for industrialised fisheries at the turn to the twentieth century.

Throughout colonial times, the lack of individual responsibility had been widely ascribed to the Greenlandic people who was subsumed under the ideal of the seal hunter. In an account on economic and social conditions during the last decade of the nineteenth century, the former director of the Royal Greenland Trade Department, Carl J. P. Ryberg (1854-1929) revealed the notion that was firmly rooted in the colonial power's attitude: 'One should not expect any considerable intellectual interests; in his own profession he does not lack intelligence, but he is born and dies in his own little world where everything is only about this profession'.⁶¹ When it came to fishing and the planning it needed, Jensen's comment about the necessity to raise awareness echoed the attitude that dominated the colonial view on Greenlanders. They were not considered being able to plan for their own future – and much less for the future of an economic sector. In the view of the advocates of industrial fishing, like Jensen, the colonial administration's task was to correct the Greenlanders' unsustainable resource use. It was also a call for updating unsustainable policies of the administration itself. Jensen's arguments illuminate the dichotomy of colonial policy in the early twentieth century. On the one hand, the seal hunter embodied the inferior indigenous culture. On the other hand, seal hunting had been declared an aboriginal Greenlandic culture that needed to be protected by the colonial power and made the administration itself appear to be unprogressive. The

⁵⁸ '[...] kunde øve en gavnlig Indflydelse paa Grønlænderne, lære dem at fremstille og bruge moderne Fiskeredskaber og at udnytte Fiskeriprodukter i langt højere Grad end hidtil', Jensen, 'Fiskeriundersøgelser i Grønland 1908 & 1909', 624.

⁵⁹ 'Som et Resultat af vore Undersøgelser kan slaas fast, at Grønlænderne har meget at lære, baade hvad Fangstredskaber og Fiskens Udnyttelse angaar [...]. Et stort Oplysningsarbejde tiltrænges', Jensen, 'Fiskeriundersøgelser i Grønland 1908 & 1909', 623-24.

⁶⁰ Adams, 'Nature and the Colonial Mind', p. 22.

⁶¹ 'Heller ikke maa man af Grønlænderen forlange større aandelige Interesser; paa sit eget lille Omraade har han ikke ringe Intelligens, men han fødes og dør i en lille Verden for sig, hvor alle Begivenheder dreje sig om Erhvervet', Ryberg, 'Om Erhvervs- Og Befolknings-Forholdene i Grønland', 87.

ideal image of the hunter persisted well into the twentieth century in Danish historiography and continued to act as the painful reminder of the cultural loss in the course of Greenland's 'modernisation'.⁶²

Even though the quantities caught at his first trials in 1908 and 1909 did not satisfy a large-scale Danish initiative at that point, Jensen nevertheless suggested introducing methods of industrial fish processing in order to employ and educate local inhabitants. Some species, like halibut, were already traded privately by civil servants on a small scale.⁶³ However, Jensen now called for an organised production and export. '[O]ur great Arctic colony',⁶⁴ as he put it, would eventually generate profits with the help of large-scale commercialised fishing. At the Danish Atlantic Ocean Islands Association, his rhetoric fit into the group's agenda of promoting effective methods of resource exploitation – even though Jensen did not advocate a privatisation of the sector as most of the association's members did.⁶⁵ The label of Greenland as Denmark's 'great Arctic colony' also pointed to the island's exceptional status as Danish claim to Arctic territory – a claim that was increasingly challenged at the time. Denmark's empire was already considerably 'deglobalized'⁶⁶ when selling the West Indies as its last southern colonial bastion was debated around 1900. However, the balance of power in the North was changing, too.

Norwegian claims to East Greenland became a prominent example of how Denmark's allegedly careless and negligent waste of the dependency's resources was interpreted as sign of the territory's ineffective occupation.⁶⁷ Norway had articulated harsh nationalistic aims after it became independent from the union with Sweden in 1905. Since 1919, it eventually pressed Denmark openly to recognise its claims in East Greenland. Denmark's effective control of Greenland was perceived as being threatened – an impression that had aggravated over almost half a century.⁶⁸ The debate on Greenland's fishing industry was placed in a discourse on efficient exploitation of its resources but also on sovereignty over the land.

Fisheries as political object

⁶² See Jens Heinrich, *Eske Brun og det moderne Grønlandske tilblivelse* (Nuuk: Forlaget Atuagkat, 2012).

⁶³ See Jensen, 'Fiskeriundersøgelser i Grønland 1908 & 1909', 609.

⁶⁴ '[...] vor store arktiske Koloni', Jensen, 'Fiskeriundersøgelser i Grønland 1908 & 1909', 625.

⁶⁵ See AUTHOR (2015).

⁶⁶ Olwig, 'Narrating Deglobalization', 207.

⁶⁷ See Janice Cavell, 'Historical Evidence and the Eastern Greenland Case', *Arctic* 61, no. 4 (2008): 433-41.

⁶⁸ The fear that the 'absence of effective occupation exposed the territory to risk from a foreign state' ('The Legal Status of Eastern Greenland', 151) was expressed at least since the 1870s. The dispute over Norwegian hunting rights in the region was only solved after the international court in The Hague had decided in favour of Denmark in 1933; see Lawrence Preuss, 'The Dispute between Denmark and Norway over the Sovereignty of East Greenland', *The American Journal of International Law* 26, no. 3 (1932): 469-87.

The paternalistic idea to ‘help the Greenlanders’ was the common ground for both protectionist, conservative policies and the liberals’ argument to open colonial markets.⁶⁹ Plans for a Greenlandic fishing industry became politicised from various perspectives. In its early phase, the commercialisation of fisheries had been contentiously debated even within the Danish administration – not least because of the conflicting views on the colonial power’s responsibility in the dependency.⁷⁰

At the turn to the twentieth century, Greenland’s strict economic isolation was met with increasing incomprehension from Danish private entrepreneurs, the Danish realm’s other North Atlantic dependencies, as well as foreign states. That fishing could become the main source of Greenland’s future prosperity was a recent idea. It was a small influential elite which advocated large-scale and industrialised fisheries as only alternative to traditional protectionism, the administration’s approach since the arrival of Danish-Norwegian missionaries in the early eighteenth century. Eventually, strengthened liberal voices on the governmental level stated that this policy had allegedly generated Greenland’s deficit through the one-sided and untenable promotion of seal hunt.⁷¹

In the course of intensifying critique and when prices for Greenland’s main export product, seal train oil, had plunged on the world market, fishing was placed at the core of a new economic vision. When Jensen planned his first fishing trials and sought approval from the government, another highly respected scientist backed the opinion that fisheries were the dependency’s carelessly neglected riches, and even strongly supported the idea to bring the fisheries under a private initiative’s responsibility. The recently appointed Danish representative on the board of ICES, Christian Fredrik Drechsel (1854-1927), supported the application of a private stakeholder group to industrialise and modernise the dependency’s fisheries in 1905.⁷² In a letter sent to the Home Office, Drechsel stated that it was ‘without doubt that there can be considerably more income [from fishing] and by far much more than is generated right now’.⁷³ The scientist remarked the odd consequences of Denmark’s conservative policy in Greenland. He continued to stress the absurdity of the situation that resulted from Denmark ignoring the riches that a Greenlandic fishing industry held: ‘[N]owadays Arctic char is transported from the western parts of America to Europe, including to Denmark, to be smoked and processed’.⁷⁴

⁶⁹ See Robert Petersen, ‘Colonialism as Seen From a Former Colonized Area’, *Arctic Anthropology* 32, no. 2 (1995): 118-26, 121.

⁷⁰ See, for instance, *Betænkning angaaende den kgl. grønlandske Handels Drift og Virkemaade. I Oktober - November 1906*, Indenrigsministeriet Udv. Grønlandske Handels Drift 1906-1908 Forhandlingsprotokol, Danish National Archives.

⁷¹ See Sørensen, *Denmark-Greenland in the Twentieth Century*, p. 26.

⁷² See AUTHOR (2015).

⁷³ ‘[...] maa det dog anses for utvivlsomt, at der kan indvindes meget betydeligt af det [grønlandske Fiskeri] og navnlig langt mere, end der gjøres nu.’, Letter by Christian Fredrik Drechsel [Oct. 1905], Regjeringens Konsulent i Fiskerisager, København i Oktober 1905, Den Danske Landmandsbank 1871–1920, Korrespondence mv., benævnt direktions-sager, Østasiatisk Kompagnie, udvidelse 1910 m.m, Danish Business Archives.

⁷⁴ ‘[...] man nutildags fører Lax fra den vest-lige Del af Amerika til Evropa og bl a ogsaa til Danmark for der at røges og forhandles’, Drechsel [Oct. 1905].

In contrast to the monopoly's promotion of seal hunting, fishing was constructed as economically rational and sound strategy. Even though Drechsel advocated a private initiative while Jensen worked towards a state-led fishing industry, the latter likewise favoured the fundamental change of policy: '[F]isheries bring increased revenues to the Greenlandic society which benefits first of all the poorest. These are those men who cannot hunt seals for some reason, and have therefore been a burden for the communities and constituted the *weaklings*' [*Pjalte*'s] class; furthermore, the fishery employs women and even children can participate'.⁷⁵ Jensen saw the negative perception of fishermen as major hindrance to the establishment of a fishing industry. This view was, however, itself a product of colonial policy. The condescending term *Pjalte* ('weakling') for fishermen was used throughout the nineteenth and early twentieth century. Danish incentives for seal hunting and the preference of seal hunters as representatives in the colonial administrative system had likely encouraged this attitude.⁷⁶

Although their argumentation aimed towards different implementations, Jensen as well as Drechsel argued for the fishing sector's large-scale commercialisation from an economic point of view. Both scientists acted as confident economic advisors. Fishing was a field where the expertise of scientists opened possibilities to increase the state's revenues. As in all spheres of society at that time, scientific rationality promised wealth through effective management and exploitation methods.⁷⁷

The colonial administration's conservative policy came under severe pressure even from within Denmark's own realm. The concession in the Icelandic constitution that granted the Danish dependency home rule since the late nineteenth century was expanded in 1904. It assigned more rights in the course of the growing Icelandic independence movement. At the same time, the Faroe Islands pushed more vehemently to get fishing concessions within the Danish realm it belonged to. Eventually, the Faroese were granted limited fishing rights within Icelandic waters – but only after Iceland was allowed access to the Greenlandic territorial sea. Faroese claims to be allowed to fish in Greenland's waters, too, became eventually more urgent during the islands' economic crisis in the 1920s.⁷⁸ Denmark was

⁷⁵ 'Fiskeriet tilfører det grønlandske Samfund forøgede Indtægter, som navnlig kommer de fattigste tillgode, nemlig saadanne Mænd, som af en eller anden Grund ikke kunde drive Sælfangst, derfor laa Samfundet til Byrde og udgjorde Pjaltene's foragtede Klasse; endvidere sysselsættes mange Kvinder ved Fiskens Behandling, ja sine Steder kan baade Kvinder og Børn deltage i selve Fiskeriet', Jensen, 'Udviklingen af Grønlandernes Fiskeri 1910-1925', 36. *Pjaltene* was a condescending term used for fishermen, for instance, in Greenlandic media; see Karen Langgård, "'Fishermen are Weaklings": Perceptions of Fishermen in Atuagallitit before the First World War', in P. Holm and D. J. Starkey (eds), *From Sealing to Fishing: Social Economic Change in Greenland, 1850-1940*, pp. 40-61 (Esbjerg: Fiskeri- og Søfartsmuseets Forlag, 1999).

⁷⁶ See, for instance, Manniche, 'Den store og den lille kolonialisme', p. 123, and Langgård, 'Fishermen are Weaklings'.

⁷⁷ See, for instance, Morgen Witzel, 'A Short History of Efficiency', *Business Strategy Review* 13, no. 4 (2002): 38-47.

⁷⁸ See Vagn Wählin and Henning Mosegaard Kristensen, 'The Faroese Greenland Fishery. Faroese Fishery Policy towards Denmark and Greenland in the Inter-War Period', in P. Holm, D.J. Starkey, and J.T. Thór (eds), *The North Atlantic Fisheries, 1100-1976. National Perspectives on a Common Resource*, pp. 63-88 (Esbjerg: Fiskeri- og Søfartsmuseets Forlag, 1996), p. 64.

pushed to balance the economies of its dependencies – and fishing rights in Greenlandic waters were a key issue.

Re-evaluating fisheries in the 1920s

In 1921, the report of an expert committee was released and prepared for administrative and economic reforms in Greenland in order to facilitate the Greenlanders' 'self-reliance' under Danish rule.⁷⁹ For instance, the Act on Hunting and Fishing of April 1st, 1925, provided a legal basis for shielding the Greenlandic fishing grounds from foreign vessels and to protect the dependency's young industry. However, processing stations along the west coast and extended lists with export species did not hide the fact that the main equipment of the industry was still rowing boats and the Greenlandic kayak. It stood for the contrariness of the authorities' ambitions and practical hindrances to a large-scale industry. Against the backdrop of administrative reforms, the 1920s were a phase of re-evaluation and contentious debate regarding why the industry had not taken off in some places as had been expected. Jensen, too, drew conclusions in his role as an expert.

In 1926, Jensen compiled a detailed report 'on the rational fisheries', an account of the state of Greenland's fisheries in the districts of Holsteinsborg (Sisimiut), Sukkertoppen (Maniitsoq), Godthaab (Nuuk), Frederikshaab (Paamiut), Julianehaab (Qaaqortoq).⁸⁰ The report opened with a summary of the positive development since the previous year. Except for the Holsteinsborg district, catches had increased considerably in all regions. For instance, at Sukkertoppen the total catch of cod was 367 994 kg in 1925 and had reached 779 340 kg in 1926. However, the result of the year's fisheries in Atangmik (Atammik) on the west coast, half way between Sukkertoppen and Godthaab, had not met any expectations despite the good weather conditions. In Jensen's view, the locals' working attitude was the reason why the results in Atangmik deviated from the otherwise promising results: 'The people at this place have, as usual, presented themselves as being very reluctant and lacking energy, which is alone the reason why this fishery did not give a better result'.⁸¹ This explanation is a break in the language of the report that gives an otherwise detailed and matter-of-fact account of catches in tons. The Danish word *sædvanlig* ('usual') in Jensen's original quote suggests that the critique of the Greenlanders' working attitude was a recurrent problem in the eyes of the Danish administration.

In the same year of the above cited report, in 1926, Jensen also published an account that summed up the Greenlanders' fishing activities between 1910

⁷⁹ See Sørensen, *Denmark-Greenland in the Twentieth Century*, p. 50.

⁸⁰ See *Beretning om de rationelle Fiskerier*, Adolf S. Jensen, professor, 1900-1951, Fiskerioplysninger vedr. Grønland, Danish National Archives.

⁸¹ 'Befolkningen ved Stedet har som sædvanlig vist sig meget uvillig og Mangel paa Energi, hvilket alene er Aarsagen til, at Fiskeriet ikke gav større Udbytte', *Beretning om de rationelle Fiskerier*, p. 6.

and 1925 in the yearly member's journal of the *Greenland Society* (*Grønlandske Selskab*). In November 1905, this association had been founded as consultancy organ, consisting of former Royal Greenland Trade Department's civil servants in order to provide first-hand knowledge on Greenland to the government.⁸² Jensen's account in the association's journal listed reviews of the different fisheries that had been established during the last 15 years.⁸³ As concluding remark, he pointed out that the lack of infrastructure and processing facilities for storage onshore still held back larger revenues. Jensen strongly favoured the option of buying large motorised schooners to promote more effective fisheries further away from the coast. He also gave practical advice for how to exploit the stocks more efficiently with the means at hand. While some districts had organised the temporary re-settlement of people to places where the fish stocks showed up, it was not practised in the southern parts of the coast which prompted Jensen to suggest a similar approach in these regions: 'This practice – to move the people to those places where the fish shows up – can also be done in the southern districts, when there is the occasion for it; for example could the people from Frederikshaab be moved to Godthaabsfjord, together with the colonial administration's stock of salt [for preservation of the catch, A.N], if the cod showed up there'.⁸⁴ This advice is an example for how closely the fisheries scientist was involved in policy suggestions that exceeded the realm of scientific research and generation of knowledge. For the sake of economic development, the indigenous population was perceived as moveable object. Jensen's suggestion was iconic for the early-twentieth-century notion of Greenland's modernisation. It exploited the segregated and household-based lifestyle of the Greenlandic people.⁸⁵

Science and Politics

Jensen had confidence and his expertise was appreciated in the field of science as well as politics. Greenlandic issues were *per se* a subject of experts like Jensen. Civil administrators and scientists with admission to the dependency took up the role of governmental consultants and mediators of knowledge. Their accounts constituted the only sources of experience since access to Greenland was restricted and the distribution of knowledge was limited to expert circles.⁸⁶ Jensen acted as a link between the governmental

⁸² See Mads Lidegaard, 'Glimt Af Det Grønlandske Selskabs Historie', *Tidskriftet Grønland* 10 (1990): 286-94.

⁸³ See Jensen, 'Udviklingen af Grønlandernes Fiskeri 1910-1925'.

⁸⁴ 'Dette Princip – at flytte Befolkningen til de Steder, hvor Fisken staar, – vil ogsaa, naar der er Anledning dertil, kunne praktiseres i de sydligere Distrikter, saa at man t. Eks. kunde flytte Folk fra Frederikshaab med samt Koloniens Beholdning af Salt op til Godthaabsfjorden, hvis Kabliauen skulde komme i Mængde dertil', Jensen, 'Udviklingen af Grønlandernes Fiskeri 1910-1925', 37-38.

⁸⁵ See Petersen, 'Colonialism as Seen From a Former Colonized Area', 120.

⁸⁶ See Carl Ryberg, 'Om Erhvervs- og Befolknings-Forholdene i Grønland samt Bemærkninger til Oplysning om Grønlandernes nuværende Tilstand', *Geografisk Tidsskrift* 17 (1903-1904): 70-92, 71.

body and the dependency, a remote physical space. His role as fisheries scientist was dual in its character. He was both a confident economic and political advisor. The advice Jensen gave was based on observations during his scientific expeditions, yet, penetrated political decisions. An episode in late 1920s and early 1930s illustrates how science and politics were fields with equal footing when it came to the future of fisheries.

During this time, Jensen engaged in an open dispute with Ole Bendixen (1869-1938), the governor of Southern Greenland from 1903 to 1914. Bendixen was trained as a civil servant since his early career and released his own accounts of Greenland's fisheries in his capacity as governor. However, he resigned in 1914 after he was increasingly disappointed in the colonial administration. Eventually, Bendixen became active in groups that opposed the state monopoly. His political-historical accounts of Greenland became an inherent part of the liberal canon that argued for free trade and privatisation in Greenland.⁸⁷

In 1910, Bendixen provided the colonial administration with an account on halibut fisheries in South Prøven (Sydprøven, Alluitsup Paa) on the southern tip of Greenland. He wrote the report himself in September 1910 but summed up the results of the halibut fisheries led by a Danish fisherman named Meyer.⁸⁸ It gives an insight into the daily problems that Greenland's early fishing industry encountered. Bendixen reported that the fish caught in June 1910 were 'so small that they did not even have a sufficient size for smoking'.⁸⁹ Only later in July did the catch rates and quality increase. Yet, as Bendixen noted, the halibut fisheries in that year did not turn into a success because the Greenlanders lacked the necessary material for maintaining their boats. A short-sighted policy, as he put it, had subsidized long-lines for fishing. However, the Greenlanders would not go out to fish before the equipment for their boats was in place. Furthermore, Bendixen complained about the quality of the salt that had been sent for preserving the catch. It had partly contributed to wasting the catch: 'It is obvious that the stations could produce so much that the equipment that is available today is far from sufficient'.⁹⁰ The practical problems Bendixen pointed out illustrated how the radical policy change had created an inconsistent approach in the early phase of the commercialisation of fisheries. Fishing was promoted in order to change the Greenlanders' habit of occasional fishing to an export-oriented industry. Yet, practical problems still impeded the development.

Bendixen's report was sent to the colonial administration which made it available to Jensen in the same year. Even though both advocated the industrial expansion of fisheries, Bendixen and Jensen had a dispute in

⁸⁷ See Oldendow, *Træk Af Grønlands Politiske Historie*, p. 140.

⁸⁸ See Ole Bendixen, *Inspektoratet for Sydgrønland, no. 37/1910*, copy sent to Jensen via the colonial administration on Sept. 16, 1910, Adolf S. Jensen, professor, 1900-1951, Fiskerioplysninger vedr. Grønland, Danish National Archives.

⁸⁹ '[...] de tagne Fisk var saa magre, at de næppe egner sig til Rygning', Bendixen, *Inspektoratet for Sydgrønland, no. 37/1910*.

⁹⁰ '[...] øjensynligt, at Stationen vil kunne producere saa meget, at det Material, som nu forefindes, langt fra er tilstrækkelig', Bendixen, *Inspektoratet for Sydgrønland, no. 37/1910*.

various forums because of their different views on Greenlandic society and the state monopoly. Jensen saw the latter in a favourable light, while Bendixen held the protectionist monopoly responsible for Greenland's sagging development. Their dispute sheds light on the role Jensen took on as a scientist in the debate that revolved around Denmark's identity as colonial power at least as much as about its economic policy.

According to Bendixen, the assessment of species suitable for export was not the only aim of the fishing trials Jensen conducted in 1908 and 1909. In a later account of 1930, Bendixen claimed that the profound reorganisation of the Greenlanders' daily subsistence had been on Jensen's agenda from the beginning. Bendixen was an opponent of the radical and sudden reorganisation of economy and society – not because he opposed the idea of a fishing industry as such but because in his view the short-sighted and rigid policy changes had worsened the current economic situation. He held the opinion that seal hunting was a dogma promoted by the Royal Greenland Trade Department, rather than being an essential part of Greenlandic identity. It was simply, as he put it, the activity that was most lucrative for the Greenlanders in view of the Trade Department's purchase prices.⁹¹ In contrast to Jensen, Bendixen assumed that the inhabitants would naturally prefer fishing if the incentives for seal hunting had not driven them away from fishing since it was a less risky venture and a more reliable basis for their daily livelihood.

Foremost, Bendixen held the radical turnaround of colonial policy from seal hunting to fishing to be too sudden to be a credible choice of reason: 'For 200 years have different administrations of the Greenlandic monopoly asserted the dogma that the seal hunt's unique eligibility was a blessing; and now should we all of a sudden believe that all this was a misunderstanding'.⁹² For him, seal hunting had traditionally been merely the Greenlanders' necessary occupation in order to acquire the material needed for clothing and building kayaks to go fishing. The dogma of the colonial administration, however, had artificially repressed the development of fisheries in his eyes. Jensen did not agree with Bendixen in this point. He replied to Bendixen that fishing had always had an unfavourable reputation in Greenlandic society because it was only a supplement in bad hunting seasons traditionally carried out by the elderly members of the community who were too weak for the seal hunt. Jensen answered sharply: 'Mister Bendixen makes the common mistake of confusing *post* and *propter hoc*'.⁹³ Their replies took on a personal note. Jensen accused Bendixen of mixing up cause and effect. Rather than the administration's new credo, Jensen saw fisheries as an opportunity that had to be seized.

⁹¹ See Ole Bendixen, 'Grønlændernes Fiskeri. Bemærkninger til Prof. Ad. S. Jensens Artikel om samme Æmne i Gr. Selsk.s Aarsskrift 1925-1926', *Det Grønlandske Selskabs Aarsskrift 1926-1927* (1927): 71-75.

⁹² 'I 200 Aar har det skiftende Styrelser af det grønlandske Monopol hævdet Dogmet om Sælfangstens Eneberettigelse som det eneste saliggørende, og nu skal vi pludselig tro paa, at det hele har været noget af en Misforstaaelse', Bendixen, 'Grønlændernes Fiskeri. Bemærkninger Til Prof. Ad. S. Jensens Artikel', 74.

⁹³ 'Hr. Bendixen begaar den ikke ualmindelige Fejltagelse at forveksle *post* og *propter hoc*', Jensen, 'Grønlændernes Fiskeri. Svar til fhv. Inspektør O. Bendixen', *Det Grønlandske Selskabs Aarsskrift 1926-1927* (1927): 78-9, 78 (original italics).

At the time of Bendixen's and Jensen's dispute in the late 1920s, the other states' development of North Atlantic fisheries had already taken off. The cod fisheries reached a first peak early in the 1930s with catches of over 100 000 tons in western Greenlandic waters, led by foreign vessels which put increasing pressure on the stocks.⁹⁴ Greenland's own fisheries were still mainly conducted with simple equipment and suffered from lack of storage infrastructure. Motorised boats had only been sold to the Greenlanders since the mid-1920s and even in 1930 there were more kayaks out fishing than were rowing or motorboats.⁹⁵ For Jensen, large-scale fishing under the auspices of a strict monopoly was, despite practical hindrances, a promise for future prosperity. How strongly he believed in the inexhaustible wealth of a fishing industry showed, for instance, when he explained the recent decline of the Greenlanders' catches in the 1930s with the unexpected lack of work force in the industry: 'The decrease in recent years need not be taken to indicate, that the cod period is beginning to ebb, it may be due to other causes than decreasing numbers of cod, e.g. sickness among the native population during the fishing season'.⁹⁶

In 1930, shortly after his verbal exchange with Jensen, Bendixen released his own detailed account of Greenland's fisheries.⁹⁷ It described the development of fisheries in recent decades, yet, also read as political statement. Bendixen was an opponent of the monopoly system which he identified as only source of recent social and economic problems: '[Thanks to] our great northern possessions at the centre of the world's richest fisheries regions we had much better chances for establishing a large aquaculture [marine exploitation, A.N] than all other nations; yet, we have neither followed the lead nor do we explore the manifold options for the industry. The only responsibility for this has the autocracy and the state's century-old monopoly on fishing and trading'.⁹⁸ At that point, Bendixen argued with the 'passion of a convert'⁹⁹ against the colonial administration's protectionist policy that had once been his career.

The argument between Jensen and Bendixen exemplifies how conflicting external interpretations of Greenland's cultural identity accompanied – and even shaped – the introduction of commercialised fishing in the dependency. The opposing views of the scientist and the former colonial governor show how closely the debate over commercialised fisheries

⁹⁴ See 'Arctic Climate Impact Assessment (Sept. 5 2013), section 13.3', in J. Emmett Duffy (ed.), *Fisheries and Aquaculture in the Central North Atlantic (Iceland and Greenland) (International Arctic Committee)*, figure 13.9 (total catch off West Greenland, 1900-2002), and Vinnie Andersen, 'The Development of Commercial Fisheries in Greenland in the Twentieth Century', in P. Holm and D. Starkey (eds), *North Atlantic Fisheries. Market and Modernisation*, pp. 147-152 (Esbjerg: Fiskeri- og Søfartsmuseets Forlag, 1998).

⁹⁵ See Andersen, 'Commercial Fisheries', p. 147.

⁹⁶ Jensen, 'Concerning a Change of Climate During Recent Decades', 6, n. 1.

⁹⁷ See Bendixen, *Grønlandsfiskeriet*.

⁹⁸ '[...] vore store nordlige Besiddelser i Centrum af Verdens fiskerigeste Egne har haft langt bedre Chancer for at skabe et stort Havbrug end alle andre Nationer, har vi dog hverken fulgt deres Eksempel eller forstaaet at udnytte de rige Erhvervsmuligheder, der er knyttet til Udviklingen af et Havfiskeri. Det er Enevældens og Statens aarhundredgamle Monopol paa at fiske og handle [...], der alene har Ansvar herfor', Bendixen, *Grønlandsfiskeriet*, p. 112.

⁹⁹ '[...] med Konvertitens Glød', Oldendow, *Træk Af Grønlands Politiske Historie*, p. 140.

connected the choice of economic systems to the dominion over Greenland's cultural identity.¹⁰⁰

Conclusion

As a scientist, Jensen had a key role in the debate on economic policies in Greenland. The dependency was subjected to experts. The experience of both civil servants of the colonial administration and scientists was the only source of information available to the authorities. Jensen acted as a link between Greenland and the governmental institutions in Copenhagen. His recommendations were a main source of knowledge for the administration that based the establishment of fishing and processing stations on this information. Even decades later, Jensen was honoured for his contributions to the Greenlandic fisheries industry, especially in view of his first fishing trials in 1908 and 1909. How did dynamics of power and markets shape the scientist's questions and the way he communicated his results? And, vice versa, can one draw the conclusion that scientific rationalisation impacted on how the colonial power perceived its responsibilities in the dependency?

The aspects of science, markets, and colonial power are interwoven in the picture that emerges of Jensen's role as a fisheries consultant during the early phase of the fishing industry's commercialisation. Jensen promoted the sector as practical way to improve the dependency's economy and the Greenlanders' living conditions – and not least as a source of revenue for the Danish state. At the beginning, the 'valuation' of the fish stocks in Greenlandic waters was his primary aim of research. Jensen's results consisted of catch statistics as well as explanations, suggestions, and opinions that exceeded pure scientific measurements. Even though Jensen presented an economic valuation, his findings and the development of large-scale commercialised fisheries even had profound cultural implications.

As a scientist, Jensen was involved in a colonial venture and his research was carried out under an imperial agenda, seeking to maintain and strengthen sovereignty claims. Denmark's status quo in Greenland was perceived as being increasingly threatened, both due to shifting interests inside and outside the kingdom. I suggest that the felt need to demonstrate sovereignty over the dependency abetted a new approach to its resources as a more effective manifestation of power. Traditionally, the efficient exploitation of resources after scientific methods had legitimated and strengthened the Danish claim to and possession of Greenland.¹⁰¹

¹⁰⁰ For colonial discourses on Greenlandic identity see also Kirsten Thisted, 'Pioneering Nation: New Narratives about Greenland and Greenlanders Launched Through Arts and Branding', in B. Evengård, J. Nymand Larsen, and Ø. Paasche (eds), *The New Arctic*, pp. 23-38 (Cham: Springer International Publishing, 2015), p. 24.

¹⁰¹ For accounts focusing on science and colonial power in other geographical contexts see, for instance, Hellen Tilley, *Africa as Living Laboratory. Empire, Development, and the Problem of Scientific Knowledge, 1870-1950* (Chicago / London: University of Chicago Press, 2011). Tilley emphasises that science and scientists contributed both to subjugation and independence movements in the colonial context. See also Lewis Pyenson, *Civilizing Mission: Exact Sciences and French Overseas Expansion, 1830-1940* (Baltimore / London:

Throughout the nineteenth and twentieth century, the assertion of power over both Greenlandic identity and territory was immanent in Danish scientific initiatives in ‘the absence of more traditional symbols of sovereignty’.¹⁰²

At the time of Jensen’s first fishing trials, scientific rationalisation had emerged as a value in itself in Western societies, not only in economy but also in social and political spheres. Rationalisation had introduced a new dimension of (fiscal) valuation of economy and people. In this context, making fisheries a more efficient economic sector thus acted as a Danish claim of dominance over the inferior indigenous culture. Remarkably, these facets are almost entirely obscured in the historiographical narrative that tells of the successful economic transition from seal hunting to fishing in Greenland in the early 1900s. Yet, as a close reading of Jensen’s accounts suggests, the presentation of scientific findings in conjunction with economic advice merged into the colonial discourse on Danish dominion over Greenlandic culture.

The rhetoric in Jensen’s reports suggests that the agenda of his research was linked to knowledge production, economic goals, and political power at the same time. Yet, it was a subtle interplay. Jensen’s accounts are an example of how the discipline of fisheries sciences as a whole was geared towards generating policy implications. In Jensen’s argumentation, the market acted as a superior instance of logic which was in line with the goals of the applied discipline. However, he remained strangely silent on political statements even though his results were so firmly rooted in politics. As the historian of science Jennifer Hubbard suggests, this hovering position is not an exception but rather the norm for scientists of fisheries biology: ‘[F]isheries biologists instead were motivated by its [the discipline’s] ancillary goal – modernizing the industry – unaware of their unstated political and economic preconceptions’.¹⁰³ In that sense, the epistemic drift was inherent to the field to an extent that the scientists themselves were heedless of their ideological inclinations. In the debate that revolved around the early phase of Greenland’s fisheries, Jensen can be seen as a typical representative of the discipline. His research agenda and rhetoric were coined by the goal of fisheries science to connect knowledge production to markets. However, Jensen’s research also merged with Denmark’s aim to secure its colonial authority in Greenland and to exert effective power over both resources and people.¹⁰⁴

John Hopkins University Press, 1993) and Laurelyn Whitt, *Science, Colonialism, and Indigenous Peoples. The Cultural Politics of Law and Knowledge* (Cambridge: Cambridge University Press, 2009).

¹⁰² Martin-Nielsen, *Eismitte*, p. 116.

¹⁰³ Hubbard, ‘In the Wake of Politics’, 367.

¹⁰⁴ On the mutual influence of scientific and colonial discourses see, for instance, Cynthia Radding, ‘Imperial Networks of Science’, *Environmental History* 10, no. 4 (2005): 734-35, 735.