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Fishy windows to an Arctic city: Urban (in) visibilities of global fisheries in Tromsø

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Research Article

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Abstract

Although "urban" and "fisheries" are not commonly paired in the analyses of either urbanism or fisheries governance, today's large-scale fisheries are often closely organised in connection with cities. In this paper, I build on a feminist perspective and urban studies to examine the makings of a city through contemporary fisheries. Drawing upon observations and interviews conducted in Tromsø, Norway, which is a key site for Arctic fisheries, I review how fish and fisheries are simultaneously made visible and invisible in urban spheres. By analysing the gendered structures and valuations that organise the city–fisheries relations, I introduce three "fishy" windows to demonstrate the kinds of development and future pathways for fisheries that are considered relevant and rational in and for the city. In particular, I discuss how the historical, techno-masculine narratives of mastering Arctic nature frame and legitimise fisheries practices as they expand throughout Tromsø. The study builds on the emerging research on Arctic urbanism to highlight the need to better integrate gendered analyses of the "urban" into social science research on natural resource extraction.

Introduction

The terms urban and fisheries are not commonly paired in the analyses of either urbanism or fisheries governance. However, the current globalised fisheries practice inherently operates in connection with cities through complex flows of capital, material, imaginaries, knowledge and labour (Kajka, 2005; Kadfak & Oskarsson, 2020). For example, in Norway, the largest fishery ports are located in cities and are often owned by municipalities. This study aims to examine the entanglements of a city and fisheries in Tromsø, Norway, from a feminist perspective. Overall, the focus on cities as well as on gender has been at the margins of Arctic social science research (Sinevaara-Niskanen, 2020; Hemmersam, 2021). Feminist scholars have pointed out that Arctic narratives have been persistently used to legitimise the utilisation of social, cultural and natural resources of the North—that is, the land, nature and local (indigenous) people (Sinevaara-Niskanen, 2020). Colonial and masculine tendencies have also framed urbanisation and city-building processes in the North (Nilsson, 2010; Hudson, Nyseth, & Pedersen, 2019; Hemmersam, 2021).

Arctic cities tend to be seen specifically as geographically defined fixed sub-units of their nation-states (Nyseth, 2017). Alternatively, considering a city not as a static local entity but as an open, dynamic network of processes and relations (Magnusson, 2011; Roy, 2016) creates avenues for critically reviewing the co-constitutive makings of cities and nature. This study builds on emerging research on Arctic urbanism to highlight the need to integrate analyses of the urban into social science research on natural resource extraction (Hemmersam, 2021; Streule, 2023).

By critically scrutinising the subjugative practices and mentalities of contemporary globalised fisheries in the urban Arctic context, this study also connects with the recent scholarly contributions on extractivism (Gudynas, 2021; Chagnon et al., 2022; Hanaček, Kröger, Acheidel, Rojas, & Martinez-Alier, 2022; Sörlin, 2023; Willow, 2018), with a specific aim to build on the emerging empirical and conceptual openings on urban extractivism (Arboleda, 2016; Streule, 2023). Indeed, the ways in which a city—and the economic activities and life modes that are organised through it—interacts with nature and ecological systems is intrinsically a contextual and political issue. This interaction should not be undermined in efforts to address the ever-accelerating climate and ecological concerns in an increasingly urbanised world, including the Arctic.

By adopting and adjusting the term "fishy" as it has been recently used in feminist contributions to fisheries studies (Knott & Gustavsson, 2022), I offer in this paper three fishy windows for examining how the city of Tromsø is material-discursively produced in relation to globalised fisheries practices. As introduced by Knott and Gustavsson (2022), the double meaning of fishy feminism can be related to the focus on the study—fish and fishery places—and to the informal use of the term "fishy" to mean doubtful or suspicious, with which a feminist approach is sometimes associated in academia. Alternatively, the term "fishy" can be interpreted

here as the potential of the feminist perspective to set a critical eye on the (gendered) tensions and contestations emerging in the city with regard to fisheries (Scott, 2008; Sinevaara-Niskanen, 2015a).

In the next chapter, I develop the theoretical and methodological underpinnings to approach the city–fisheries relations. I then contextualise the global fisheries in the urban spheres in Tromsø and describe the research material and methods. Afterward, I discuss the empirical findings of the study by presenting three urban "fishy windows" to review the current makings of the city. Before the concluding remarks, I review the findings from a feminist perspective to emphasise the value of feminist analyses in understanding contemporary city-making processes in the Arctic as they unfold throughout the fisheries.

Applying a gendered lens to city–fisheries relations

Feminist scholars have pointed out that gender analyses have remained scarce in the broader field of maritime and fisheries studies in Norway and elsewhere (Gerrard & Kleiber, 2019). This scarcity also echoes Sinevaara-Niskanen's (2015b, 2020) notion about marginal attention to gender overall regarding studies on resource politics and sustainabilities in the Arctic. However, feminist scholars have been engaged in fisheries studies for decades. Gender analyses in the context of northern fisheries have particularly centred on women's role, access and decision-making power in fisheries and on the effect of societal gender norms on fisheries work and workers (Gerrard, 2008; Kafarowski, 2009; Gerrard & Kleiber, 2019; Knott & Gustavsson, 2022).

Recently, emerging feminist research has increasingly applied feminist theorisations to broader societal contexts and systems of oppression in the context of fisheries. In particular, feminist accounts have contributed to unfolding the human–fish relations (Probyn, 2014, 2016; Lien, 2015; Knott, Power, Neis, & Frangoudes, 2022) within contemporary globalised fisheries and have developed feminist analyses for understanding the makings of different "fishery places" (Knott & Gustavsson, 2022). Analyses of gender have expanded to consider gender and the asymmetrical valuations of feminine and masculine, as a broader societal category, in organising and (re)producing cultures, economy, politics and narratives in relation to fisheries.

The city–fisheries relations can also be viewed through gendered systems of valuations. A city is often associated with the masculine valuations of progress, development, modernity, culture, reason and human as opposed to their feminine counterparts: traditional, rural, peripheral, undeveloped, nature and non-human (Merchant, 1983; Plumwood, 1993). According to ecofeminist scholar Val Plumwood (1993, p. 86), the feminine emerges "through the constitution of the 'polis' in opposition to forces construed as female and as natural". Fisheries are usually imagined as taking place in "nature" or "rural" areas—that is, in the feminine "other place" in contrast to cities.

In this study, I engage with the feminist critique to review the production of a city through globalised fisheries. What, then, constitutes a city other than its masculine foundations? What is a city as a "fishery place"? Urban scholars have widely discussed how the urban way of life increasingly structures and organises both urban and rural spaces, especially in more urbanised societies worldwide (Brenner & Schmid, 2015; Roy 2016). In many parts of Norway, "rural" small-scale coastal fisheries can, in many ways, be considered urbanised when considering the modern safety and fishing technologies on boats and the work tied to global or domestic fluctuating prices of fish species. The urbanised way of life is increasingly infiltrating rural areas through advanced communication, transportation and technologies. Consequently, certain distinctions between urban areas and rural areas have begun to fade (Magnusson, 2011, p. 21).

Magnusson (2011) reconceptualises a city beyond a distinct place or a sub-unit of a sovereign state as follows:

> *To see like a city is to accept a certain disorderliness, unpredictability and multiplicity as inevitable and to pose the problem of politics in relation to that complexity, rather than in relation to the simplicity that sovereignty seeks.* (p. 8)

Perceiving cities as self-organising provides an understanding of them as inhabiting a multiplicity of political (human–non-human) actors involved in producing the rationalities and mentalities of and in the urban. Therefore, a city is not only a geographical territory (i.e. the opposite of a rural area), a ruling authority or a local government executing state policies, but rather a specific context in which power circulates within complex social–ecological networks and social relations formed by a multiplicity of actors. Through these complex processes and relations, particular urban (dis)orders, unpredictabilities and multiplicities are produced (Dean, 2010; Magnusson, 2011; Amin & Thrift, 2016).

In this study, I approach a city as a complex network of (gendered) relations and processes. However, the "place" does matter. The development of a particular urban place is always temporary, localised and dynamic; it takes place in a certain space and time, and through its performativity, it also embeds a transformative potential (Magnusson, 2011). Therefore, in the Arctic urban context, the historical masculine and colonial dynamics in fisheries practices and urban development in Tromsø need to be recognised in shaping contemporary city-making (Weisman, 1994; Robinson, 2006; Nyseth, 2009; Hemmersam, 2021).

Placing the global fisheries in Tromsø

Tromsø, a coastal city in northern Norway, has more than a thousand-year history in fishing and trade. At the beginning of the polar exploration era in the late 1800s, Tromsø was positioned nationally as a centre for whale and seal hunting, fishing and trade, and many national and international exploration voyages used the city as a home base for expeditions to the Arctic seas. This masculinist cultural history is still visibly present in the city, manifested through different symbols, landmarks, statues and names of organisations and streets in the city space. In particular, two characters, Fridtjof Nansen and Roald Amundsen, seem to claim their position as the male heroes of local polar history: many public squares and parks have statues of these men, and local museums have permanent exhibitions for them. Whale and seal hunting has since decreased in Tromsø, but the fishing sector remains significant. The municipal-owned Port of Tromsø is one of the largest fishing ports in the country, with fishing vessel calls exceeding 3,600 annually (Port of Tromsø, 2023).

In a relatively short period, the fisheries in Norway, as in many other countries, have experienced a major shift from a small-scale livelihood to a highly regulated and profit-driven economic activity with various complex (inter)national monitoring and management mechanisms that regulate the sector. As discussed widely in the social sciences literature on marine sciences and fisheries, one of the most transformative reforms worldwide has been the establishment of fishing quota regimes (Munk-Madsen, 1998; Probyn, 2016; Standing, 2022). Introduced as a response to concerns about stock collapse and overfishing, this "enclosure" of

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ocean resources under a regulated, monetised and privatised system has had other major effects on the organisation of fisheries, particularly for smaller-scale coastal fishers (Jentoft, 1993; Maurstad, 2000; Johnsen, 2020).

Following a similar global trend (Probyn, 2016; Standing, 2022), the quota system in Norway has paved the way for fewer and larger boats in the fishing domain, benefitting larger (offshore) vessels and decreasing the number of smaller-scale coastal fisheries (Johnsen, 2020; Weines, 2022). Compared with the situation in 1990, the total number of registered fishers in Norway decreased from 27,500 fishers to 11,300 fishers in 2017, but part of this decline is explained by the updates of the official register by the Directorate of Fisheries (Gerrard & Kleiber, 2019). Notably, small-scale fisheries in Norway generally refer to all fishing vessels less than 11 m in length. Many of these vessels are equipped with modern safety and fishing technologies; thus, the term "small-scale" can be misleading if it is associated with artisanal fishers. Despite the decline in the number of fishers has been remarkable, the northern counties, including Troms, still host the highest numbers of fishers in Norway (Directorate of Fisheries, 2020, p. 13). In 2019, 316 fishers (main occupation) and 198 vessels were registered in the municipality of Tromsø (Directorate of Fisheries, 2023a, 2023b).

Since its establishment in Norway in 1990, the individual quota system has been criticised by feminist scholars for further limiting women's formal access to and ownership of fisheries resources and has been ultimately characterised as a patriarchal system (Munk-Madsen, 1998; Gerrard & Kleiber, 2019). Gerrard and Kleiber (2019) demonstrated the gender imbalance reflected in official fisheries statistics: In 2017, only 3% of the registered primary fishers in Norway were women, and approximately 2% out of all fishing boats had a female owner. In addition to the gendered discursive power over fisheries manifested through "the symbols, public images, assumptions and stereotypes that serve to uphold fisheries as a 'male' domain" in the Arctic region (Sloan et al., 2004, p.12), the acknowledged power, access and ownership of the sector are still largely in the hands of men. Nevertheless, women have always participated in fishing and hold a significant role, especially in land-based fishing activities. This formal invisibility has largely resulted in ignorance of women's voices in fisheries policies and decision-making (Gerrard, 2008; Gerrard & Kleiber, 2019).

Today, Tromsø inhabits both industrialised, large-scale fisheries and small-scale, coastal fishers. The main harbour for large ocean-going fleets is located on the main island of the city: just a few kilometres from the heart of the city centre lies one of the largest fishing ports in Norway—Breivika, which is one of the three ports operated by the Port of Tromsø. The major active coastal fishing communities spread out to the outskirts of the city in the coastal districts of the municipality. Brensholmen, Kvaløyvågen, Oldervik, Sommarøy, Tromvik and Vengsøy, located approximately 40–60 km from the city centre, have smaller harbours for coastal fleet, many of which are equipped with fish processing services (Figure 1).

In general, over the past decades, fish processing has been diminishing in Tromsø, particularly in areas with close proximity to the city centre. Alternatively, Tromsø has become a major administrative centre for various local, regional and national-level authorities and organisations in the fishing sector. For example, the Norwegian Seafood Council—a state-owned company responsible for facilitating Norwegian seafood export and trade—has its headquarters in Tromsø (Norwegian Seafood Council, 2023a).

The fisheries in northern Norway are largely organised around one key species of fish: the Northeast Arctic cod. Economically, cod is also the most important seafood export species in Norway after farmed salmon, with an 8% share in 2022 (Norwegian Seafood Council, 2023b). Specifically, in northern Norway, cod contributed to over half of the total wild catches in 2022, followed by pollock, haddock, king crab and shrimp (Norges Råfisklag, 2023). The Northeast Arctic cod fishery is highly seasonal due to migration patterns: most of the catches are landed in Tromsø from January to April when cod migrates to the Barents Sea to spawn along the northern Norwegian coastline (Eide, Heen, Armstrong, Flaaten, & Vasiliev, 2012). Despite the seasonal peak, fish are caught and landed year-round but not with the same intensity (Norges Råfisklag, 2023). In 2021, the overall landings of fish in the Tromsø municipal area alone equalled 284 210 tons with a value of NOK 5,2 billion (excluding mackerel and herring) (Norges Råfisklag, personal communication, October 27, 2022).

Despite the city's central role in the northernmost fisheries, Tromsø's public image and urban identity have somewhat drifted away from this role. Today, Tromsø presents itself as a modern, sustainable, high-tech and service- and knowledge-based city and as an attractive multicultural place, especially for international experts and visitors (Hudson et al., 2019; Tromsø Kommune, 2020; U.P. Tromsø, 2019). Having its historical foundation in Sami lands, the city's (indigenous) identity has also been increasingly discussed—and contested—in recent years as the Sami population in the city has increased (Hudson et al., 2019).

The analytical focus of this paper is the production of a city through the globalised fisheries in Tromsø. The analysis is based on empirical data that I collected in Tromsø in fall 2022. As a Finland-based and Finnish-speaking researcher, it was necessary to allocate time to familiarise myself with the Norwegian fishing sector at the local level. This 1-month fieldwork included mixed methods for collecting data: observing the city, visiting several coastal fishing districts, and meetings, multiple informal conversations and eight semi-structured interviews with locally based key actors in the field of fisheries. The research participants consisted of citizens, fishers, researchers and representatives in relevant public, private and non-governmental fisheries organisations. All interviewees were Norwegians living in Tromsø, and the interviews were conducted in English. The data collection served to provide an understanding of how the multiplicity of fisheries actors operates in Tromsø and perceives the city with regard to fisheries, and how the fish and fisheries currently disperse, appear in, and are constructed in city spaces.

Furthermore, the analysis benefits from relevant English- and Norwegian-written policy documents, public reports and statistics concerning Tromsø, fisheries, sustainability and the Arctic. Materials available in Norwegian I utilised with the help of online translating tools and my Swedish language competence. The research data were examined using qualitative content analysis (Elo et al., 2014).

Fishy windows to an Arctic city

In the following, I outline three fishy windows to review the city of Tromsø in-the-making as it unfolds throughout the contemporary fisheries and within the complex, entangled networks of interests in urban spheres. First, I illustrate how the city unfolds as an urban "gateway" to facilitate industrial-scale fisheries in the northern seas. Second, I discuss the emerging techno-scientific narratives that construct a narrative of sustainable Arctic fisheries. Lastly,

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Figure 1. Tromsø is a key site for globalised Arctic fisheries. Major active fishing harbours in the city include the municipal-owned Port of Tromsø and six smaller coastal harbours. Illustration: Vitikka (2023); border data: Runfola et al. (2020).

I reveal the invisibility surrounding the contemporary fisheries in Tromsø.

Gateway to the northern seas

The opening lines of a brochure published by the Port of Tromsø (2021), which introduces the fisheries and tourism services offered by the port, encapsulate the continuity of the historical narrative in which the city is a departure station for the exploration of the Arctic seas:

> *Tromsø – Gateway to the Arctic has throughout history been the starting point for expeditions and adventures in the high north. Tromsø has a strategic location to fishing and offshore fields in the Norwegian Sea and Barents Sea and is a popular destination for tourism.* (p. 3)

The previous image of Tromsø as a starting point for polar explorations and whale and seal hunting is connected with the

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persistent historical and colonial legacies in which the "Arctic" is imagined as an extraordinary space to be explored (Körber, MacKenzie, & Stenport, 2017; Ween, 2020; Hanaček et al., 2022). This image seems to partly frame and justify the organisation of modern-day fisheries in Tromsø. The city continues to be narrated as a gateway to the Arctic, but the "gate" is now more urbanised than before.

Since the major national fishing policy reforms in the turn of the 1980s–1990s, the general development trajectory has been towards fewer but larger fishing vessels and an export-driven market (Jentoft, 1993; Weines, 2022). In practice, this development has resulted in many changes in the social and technical organising of the sector in Tromsø. Smaller fishing vessels operate close to the coast and land fresh fish catches to the district harbours on a daily basis, whereas offshore trawlers—increasingly equipped with modern freezing technologies, processing facilities and large storage capacity—spend longer periods offshore. Today, larger fishing vessels can visit the city's port in Breivika for a specific period once or twice a month. Upon arrival, the fish—usually already frozen and packed—are unloaded to large storage halls to be later exported to southern Norway, Europe and worldwide.

Indeed, the industrialised fisheries in Tromsø currently operate in the core of the city spaces and far out in the sea. Wild fish are caught offshore, landed in the city and then widely exported. As part of this industrial organisation, the city seems to be positioned as a platform, a service provider and an enabler for the profit-making of large-scale fisheries. This is elaborated by an interviewee as follows:

> *Big fishing vessels need lots of services. You can get everything you need in Tromsø, and if you don't have it here, you can get it delivered in 24 h. Tromsø and the port are a kind of a one-stop shop. You can get everything from here, and that's why they come here.* (Interviewee, Port of Tromsø)

Tromsø is hence framed as a precondition for large-scale fisheries, required for the wild Arctic to be processed and merged with the urban. The city serves as a gateway, particularly for the industrial-scale demands of fisheries.

Furthermore, the "efficiency" provided by the city is considered key to the profit-driven mentality of large-scale fisheries. One interviewee emphasised that one of the most significant land-based services offered for large trawlers is the optimisation of time. All activities that take place on the land, such as the unloading of cargo, maintenance of fishing vessels, necessary purchases from food to fishing gear and changing of boat crews, should flow as smoothly as possible for trawlers to take off to the sea for further profit-making. Here, the city serves as an enabler of efficiency, in which all demands and needs can be quickly met. According to one interviewee, "Time is most important for customers. If they need to spend an extra day on the pier, it will cost a lot of money". This refers to the potential loss of profit from uncaught fish. Wide-reaching visions for economic prosperity in the Arctic are widely present in contemporary fisheries (Dahl, 2012).

The city as a gateway is further exemplified by the modern fisheries infrastructures and knowledge residing in the urban areas. In particular, massive cold warehouses are a major enabler of the export-driven fisheries market in the Arctic. For example, in 2022, half of the caught fish in Tromsø landed frozen (Norges Råfisklag, personal communication, October 27, 2022). Several interviewees proudly mentioned that Tromsø is the largest frozen fish harbour in Norway. The newest and largest warehouse is introduced on its website as a "top-modern logistics centre" with a capacity exceeding 20,000 tonnes (Tromsøterminalen, 2023). Interestingly, as explained by many locals, these cold storages have been locally renamed "ice hotels for fish" or "freezing hotels". It seems that, similar to the increasing number of tourists pouring into the city brought by cruise ships, dead Arctic fish are also considered and narrated as bypassing urban visitors in the city. I interpret this narrative as a rationalisation process by which large-scale fish extraction, enabled by the advanced social and infrastructural arrangements in urban areas, is normalised and justified in the city (Dean, 2010).

The current positioning of the city as a gateway for export-driven industrial fisheries is somewhat contested in the coastal fishery communities of Tromsø. According to a local fisher, "There are lots of fighting about to whom the coastal resources belong", referring to the commodification of the coastal sea areas due to expanding salmon farming and the larger fishing trawlers operating closer to the coast. Tromsø directly influences the use of coastal space through coastal zone planning and, for example, by specifying areas suitable for the establishment of fish farms. Therefore, the city as a platform for marine businesses increasingly extends from the offshore fisheries to the coastal areas in Tromsø, where fish farms are located and coastal fishers compete for space.

The critical voices raised by coastal fishers can be linked to questions regarding the future trajectories of fisheries negotiated in the city. Therefore, the notion of "creating an Arctic future", which is the current strategic mission of Port of Tromsø (2020), raises the question of which ideological visions appear to be dominant in guiding the vision of the city. As it currently unfolds in Tromsø, the urban space tends to be determined by the larger players in the field of fisheries.

The idea of the city as a gateway to the Arctic seas prompts further questions regarding contemporary fisheries and their relationship with the urban: To what does the city serve as a gateway and all the way to where? Partly justified by the historical narrative in which the city serves as a key locality for the adventurous expedition to the Arctic seas, the current gateway—taking on a more urban form—seems to be specifically open for profit-driven, fast-phased industrial fisheries. The dominant focus is not on the local coastal fishing communities but on the monetising of the sea and on the distant southern market destinations for the fish.

The city opens up as a gateway through which modern knowledge, services, efficiency and infrastructures can be utilised and provides facilities for the extracted fish to "visit" the city. Therefore, the idea of a gateway *to* and *from* the outer world, as it unfolds in Tromsø, contains a spatial span and a temporal span. First, the city appears as a space for departure or arrival, not for staying in. This assumption of "no staying" is also a constitutive part of the historical Arctic explorer myth (Körber et al., 2017). However, it appears illusional: since its beginning until today, the exploration in the Arctic continues to have a major social and environmental impact at a local level. Second, there emerges a future-looking ethos that reflects the idea of a gateway to somewhere (in time). This temporal gateway points to the "inevitable" trend towards larger-scale fisheries to which the city will need to adapt.

Techno-scientific sustainabilities

The second window to the city demonstrates how a sustainability narrative, which draws on technological advancements, scientific rationalities and expertise on the Arctic, frames the contemporary modes of fisheries in Tromsø (see also Tennberg, 2020). The city

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possesses a vast amount of scientific knowledge of fisheries. The Norwegian College of Fishery Science, located in a monumental building designed with references to sea and fish, has produced knowledge and educated experts in the broad field of marine research since the 1970s. From the same university campus area, one can also find the head office of Nofima—the Norwegian Institute of Food, Fisheries and Aquaculture Research. The institute, majority owned by the state, conducts applied and industry-oriented research with nearly 400 employees (Nofima, 2023). As previously discussed, rationalised and scientific knowledge plays an instrumental role in building the idea of Tromsø as an Arctic gateway.

In general, fish stocks in the Barents Sea have been referred to as some of the best-managed stocks in the world. The Northeast Arctic cod stock is often compared with the fatal stock collapse of the Northwest Atlantic cod in the early 1990s, which was considered a failure of sufficient regulation and management (Harris, 1998; Durant, Aarvold, & Langangen, 2021). In northern Norway, a particular characteristic of the framing of sustainable fisheries is the decades-long bilateral cooperation with Russia (and the former Soviet Union). This cooperation includes joint scientific-led management of the Northeast Arctic cod stock, with annual negotiations of the total allowable catches for key fish species (Eide et al., 2012). The cooperation has been considered a success story for the sustainable governance of fisheries in the Barents Arctic and an efficient buffer of geopolitical tensions in the Barents Sea (Eide et al., 2012; Østhagen, 2021).

The reasoning of sustainability is also instrumental in the introduction of fishing quota policies, which have led to increased regulation of fisheries as a commercial activity and livelihood and enabled the centralisation of fisheries in Norway (Gerrard, 2008). Here, a masculine, modern environmental governance logic emerges, in which economic growth and efficiency are considered crucial for more environmentally sound practices (Hultman, 2013). In an interview, this finding was echoed by a representative from the city of Tromsø:

> *The same pattern is seen here as elsewhere in Norway: fewer boats, bigger boats, and fewer local operators, which is, environmentally wise, perhaps a good thing because big boats tend to follow rules and regulations professionally. The old generation and older guys are on their way out of business.* (Interviewee, City of Tromsø)

In addition to the professionalism associated with credibility and efficiency, the "local", which comprises the "older generation" in this context, is considered less progressive. Indeed, in a techno-masculine construction of sustainable Arctic fisheries, professionalism associated with non-localism and techno-scientific monitoring mechanisms comprises the core elements of sustainability. In turn, this construction can be seen to produce a seemingly "natural" hierarchy in the urban, in which profit-driven and large-scale fisheries are considered almost a necessity for the envisioned sustainable future of the fisheries in Tromsø.

Furthermore, this development ideology extends beyond wild fisheries to aquaculture; the value-laden distinction between international and local operators is also constructed in connection with fish farming. Due to their international and less local character, many aquaculture operators in Tromsø were associated with professionalism and credibility, whereas some of the smaller locally owned businesses were considered challenging and "sometimes problematic" by an interviewee from the city. The asymmetrical characterisations of these actors demonstrate the underlying valuations of who is seen as trustworthy and a holder of the appropriate capabilities and knowledge of modern maritime practices in the city.

Not necessarily reflected in the narratives of professionalism and industrial-scale organising is the notion that smaller-scale fishers are positioned differently with regard to capabilities in complying with the current monitoring requirements. This frustration was expressed by an interviewee, a coastal fisher, who elaborated on how he was forced to "break rules all the time" due to the "crazy rules and regulations that are impossible to follow" (coastal fisher). Based on the fisher's experience, for example, the mandatory requirements for real-time online reporting of catches have been designed for actors with a larger onboard workforce and longer fishing trips between landings.

This may explain why the city authorities associate professionalism with industrial-level actors and apply a more reserved stance towards coastal fishers. The asymmetrical positions between large-scale and small-scale fishers seem to be recognised in the core of urban areas. A city employee acknowledged the unfavourable position of the coastal fishing communities in relation to the city: "Many people in the smaller fishing communities probably view Tromsø as a pain in the ass". This refers to all the regulations and the lack of proper funding and support for the district harbours. Despite coastal fishers were considered somewhat difficult to cooperate with, the coastal fishing harbours were also considered remarkable for the identity of Tromsø. However, a paternal undertone frames the city's relationship with the district communities: they are not considered capable of managing on their own but rather require the city's collective efforts.

The way the city authorities characterise and relate to the surrounding sea reveals some differing underlying ideologies on which the dominant sustainability narratives are built. According to many discussions with fishery authorities, the sea is considered a passive provider of "raw materials". A representative from the public sector shared this sentiment while describing the aim of the city in prioritising the land-based development around fisheries in Tromsø: "We think that it is important because that is where business happens, and the sea is basically just for resource harvesting when it comes to fisheries" (Interviewee, City of Tromsø). However, on the coastal outskirts of the city, alternative realities have emerged:

> *When you live close to resources, you know there are plenty of other fish to catch. Big companies often catch mainly cod. It is very simple to catch just one type of fish and make a lot of money with it. But it is not good for the sea and fish stocks.* (Local fisher)

Drawing on his lived experiences by the sea, the fisher viewed the sea as a complex ecosystem of its own, rather than a reservoir for obtaining materials. Notably, in the discussions with different fishery actors during data collection, the small-scale fishers were among the few who raised concerns about climate change and the effects of contemporary fisheries practices on fish stocks and the sea. When climate change and environmental aspects were discussed with the city authorities, which I often initiated, the discussion quickly turned to technical solutions such as plans for port electrification. The dominant framing of robust management of fish resources through scientific calculations and monitoring seems to build a protective shield around fisheries, thus circumventing critical discussion about the issue. However, climate change was acknowledged as a potential future concern. According to an interviewee from the city Tromsø, "Part of the problem is maybe that locally, we haven't really seen the impacts of climate change yet".

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The dominant narrative of sustainable Arctic fisheries is encompassed by techno-masculine connotations in which "raw material" is "harvested" from the sea in a sustainable manner through the professional and efficient technologies and knowledge provided by the different fishery authorities in the city. Fish are discursively produced and transformed into rationalised, calculated resources. In this context, the city is established as the centre of scientific knowledge, rationality and professionality, through which modern technologies and monitoring practices within fisheries are scaled up to ensure the sustainability of Arctic oceanic ecosystems.

However, knowledge, professionalism and credibility are associated only with certain fisheries actors and their interests in the city. Ultimately, this raises the issue of who can access and benefit from the rationally and scientifically produced fisheries management practices and to whom the city offers opportunities to use the "raw material" extracted from the sea. From this perspective, the city's role cannot be considered a neutral provider of scientific information. Instead, it calls for a close scrutiny of the issue of what knowledge of fisheries is increasingly considered and valued in the city.

Invisible fish

The third fishy window is the veil of invisibility that seems to surround the urban organising of fisheries; the fish and fisheries are simultaneously highly present yet absent in Tromsø. As previously discussed, the industrial-scale extractive practices over Arctic fish resources, in which Tromsø is fundamentally involved through the circulations of fish, knowledge, labour, capital and Arctic imaginaries, significantly shape the city. However, mainly the historical legacy of fishing seems to be recognised as part of the city's current identity.

All interviewees working in relation to fisheries, including coastal fishers, laughed when I asked about their views on how the fisheries are perceived and understood by local residents today. The general view of the interviewees was that the significance and volume of contemporary fisheries in Tromsø were not understood or cared about by ordinary citizens, not necessarily even by the local politicians. This viewpoint was confirmed in discussions with many locals who no longer considered wild fisheries an important sector of the city or that they would live in a fishery city. An interviewee from the municipality reflected on the invisibility of fisheries as follows:

> *I think many people don't even know that we are the biggest fisheries port in Norway at all. There are different reasons for this. I think one reason is that the activities related to fisheries, what is happening in the districts, are not visible to people. When there were more fishing-related industries, we would be exposed to them every day. You would smell the herring oil production from Breivika every day but not anymore. But I do think that people have some kind of sense that the ocean is important to Tromsø, but I think it's more in a historical sense.* (Interviewee, City of Tromsø)

In contemporary fisheries practice, everyday material encounters with fish have diminished or changed to different forms in the city. According to one interviewee, many residents have confirmed the perceived absence of fish. A few decades ago, the presence of fish was more prominent in the city centre. Locals remembered buying their fish directly from fishers' boats in a small harbour near the market square of the city. Moreover, not only the sight of fish but also their smell is lacking. The smell has evaporated alongside the departure of many processing facilities to the surrounding fishery islands, such as Lofoten or Senja, and to export markets in Europe, with lower labour costs (Interviewee, City of Tromsø).

Due to the modern technologies facilitating massive fish exports, half of the fish that land in Tromsø are already frozen and thus transformed into commercial products upon arrival from offshore (Norges Råfisklag, personal communication, October 27, 2022). For most citizens, today's encounters with fish happen in a more detached manner in supermarkets and restaurants. Nevertheless, there are a few specialised fish stores, as pointed out by many locals with pride. In particular, a local grocery store called Eide Handel, to which many coastal fishers deliver their fresh catches, is considered one of the best fish stores in the region, if not in the whole country.

Although fish as material beings are less visible in Tromsø today, they are increasingly administratively handled and culturally commodified in city spaces. Next to the city's market square stands a massive, modern and black cube-shaped building Kystens Hus, or a "coastal house". Opened in 2015, the building is an undertaking of the Norwegian Fishermen's Sales Organisation (Norges Råfisklag) to gather multiple fisheries organisations and maritime start-up showrooms, stores, exhibitions and seafood restaurants under the same roof in the city. In the entrance hall of the building, one can find a design shop selling maritime-inspired printed t-shirts, mugs and posters. As described on its website, Kystens Hus positions itself as an urban house of coastal culture:

> *Located in the middle of the city, the house offers great visibility in relation to a comprehensive, future-oriented coastal focus as well as high quality food and coastal culture experiences.* (Kystens Hus, 2023)

The coastal culture and its future seem to be largely translated into consumable, urban presentations that are accessible to city inhabitants in the form of seafood restaurants, shops and showrooms. In connection with this, the local renaming of industrial cold storage facilities to "ice hotels for fish" can be considered part of a similar process of normalisation and "urbanising" through which the extractive modes of contemporary fisheries are adjusted to urban spaces and legitimised in the city.

The contemporary organising of northern fisheries constantly moves the human workforce in, out and around the city through visible and less visible routes. In addition to the local entrepreneurs and businesses in Tromsø that provide services, for example, for the repair, maintenance and cleaning of boats, boat crews enter the city once or twice a month, the majority of whom are men (Interviewee, Port of Tromsø). As explained by an employee at the Port of Tromsø, both international and Norwegian trawlers use the port as their main harbour in the north. International fishing fleets comprise approximately one-third of the total number of boats, annually accounting for more than 1,000 international fishing vessel calls, such as from Spain, the United Kingdom and Russia.

The international fishing fleets are not locally based, but the crews use the city airport to change boat crews; the airport is a crucial infrastructure for the internationalised labour dynamics of northern fisheries. The crew members also use some of the city services. An employee at the Port of Tromsø explained the benefits of hosting international trawlers as follows:

> *They also use the city services (.) much more than Norwegians. Norwegians are mainly not doing that; they are just going home. We see international boats using more money, almost like tourists.* (Interviewee, Port of Tromsø)

The idea of Tromsø as the Arctic gateway city—as a one-stop shop—also applies to the workforce in industrial-scale fisheries.

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Although the workers are largely neither present nor integrated into the city and the local culture and thus seem "invisible", they are recognised as a lucrative source of income for urban businesses, from pubs to dentists.

Let us shift the gaze from the city centre to the fishing districts of Tromsø. In these districts, fish remain more tangible. However, the marketisation dynamics have altered the "seeing" of fish in coastal communities, as elucidated by an interviewed fisher:

> *Mackerel now occupies these fjords. But we don't have quotas for mackerel because they have been sold to southern Norway, so we just have to observe the fish in the sea.* (Local fisher)

Based on his experience, the interviewee described the effects of globalised fisheries practices that have become a common experience for many coastal fishers. Enabled by quota reforms, quotas have become a commodity and a medium of exchange for gaining the greatest profit (Gerrard & Kleiber, 2019). Due to the trading of fishing quotas, the fish in the home fjord are still "seen" by local fishers, but they have become unreachable, and catching them is prohibited because they belong to the fishers from the far southern region.

Furthermore, fish farming, which is increasingly occupying the same fjords where many coastal fishers in Tromsø operate, has altered the ways in which fishers relate to the fish in the fjords. A fisher described that he no longer wants to catch the wild fish living in his home fjord because they have eaten the spillover food from fish farms: "The fish just don't taste the same", he explained. The wild fish are intentionally rendered invisible by the fisher himself. I also read this behaviour of the fisher as an act of resistance to the enclosures of local coastal sea resources. In general, fish farming has become more visible in the city. Many interviewees expressed that in recent years, Tromsø has been active in reserving coastal areas for fish farming, which is an ongoing concern among coastal fishers.

Today, fish are present at the core of the city in "urban forms"—that is, as administrative entities, expertise and an object of consumption. However, the eye-stinging invisibility around large-scale fisheries among the general public raises questions about the subtle ways by which the contemporary extractive modes of fisheries are being justified and legitimised in the city. The fisheries are neither seen as a core part of the city's identity nor are they implied as a significant economic sector in and for the city. However, by examining the city through the fishy window, the fisheries can be considered present in urban areas in many ways. The city is present all the way offshore and at distant market destinations to which the Arctic fish travel through the urban while transforming into "raw material" and further into a consumable product.

Feminist reflections on the city through fisheries

I have opened three windows to demonstrate how Tromsø is in-the-making through contemporary globalised fisheries. What more, then, can a feminist inquiry bring to the discussion? The Arctic, including Arctic cities, has long been an arena for imagining prosperous economic futures enabled by the resourceful nature of the North (Dahl, 2012; Körber et al., 2017; Hemmersam, 2021). As the case of Tromsø and fisheries reveals, dominant visions of the future are often driven by largely unquestioned faith in technological and scientific advancements (Dahl, 2012). Feminist scholarship in the field of science and technology has critically scrutinised the persistent positivist claims of scientific objectivity, especially as it creates disembodied scientific practice and knowledge in which the subject is distanced from the object (Haraway, 1988, 1991). Donna Haraway famously described the implication of objectivity as translating into a "god trick"—that is, a false illusion of knowing and seeing everything from the "neutral" position of "nowhere" (Haraway, 1988, p. 581). In response to universalistic claims, such as those produced by scientific practice, feminist theorisations have alternatively called for seeing knowledge production as always situated and embodied, and hence always partial.

Thus, the situated knowledges, stemming from the multiplicity of lived realities in the city, should be recognised. For example, the imagined future pathways for fisheries in Tromsø are more nuanced in the city districts among coastal fishers, which illustrates the contested and power-laden environment where the fisheries practices are considered, negotiated and materialised in the city. As expressed by an interviewed fisher, "*We see small-scale fisheries as the most sustainable fishing (. . .) In this way, the future belongs to us*". The recognition of multiple actors in the city, with their situated and embodied perspectives, can help reveal the contested nature of the negotiations through which the city–fisheries relationships are currently being produced. Furthermore, it becomes crucial to ask to whom and by whom the contemporary and future modes of fisheries in the city are being envisioned and with what kind of knowledge claims and justifications.

Indeed, the coastal fishing communities in Tromsø seem to be produced in hierarchical relations. The city is viewed as the knowledge holder of the fisheries, and urban coastal peripheries are the spaces yet untamed, slightly difficult to cooperate with and in need of development and guidance. The trend towards ever-industrialising fisheries is narrated as inevitable. The dynamics of universalism and particularism seem to emerge, in which the city is detached from the "local". The history of circumpolar urbanism has generally been characterised by masculine and colonial relationships in which the inspiration and consultation for city planning and development are outsourced (Hemmersam, 2021).

As I have discussed in this paper, a veil of invisibility covers the massive extractive industry organising the city. In the urbanising process, wild Arctic fish are made—to some extent—Arctic urban visitors in Tromsø. Therefore, the massive extraction of Arctic resources becomes distant from the city despite being materially present and tightly interwoven in the complex flows and organising of capital, knowledge, imaginaries and materials circulating in and through the city. The extraction is considered part of a natural historical continuum in which the city offers a pit stop for the fish a stay in the urban "ice hotels". Through these practices, I argue that large-scale fisheries extraction is made apolitical, taken for granted and not easily exposed to critical inquiries in the city.

The notion of ecomodern masculinities (see Hultman, 2013) can further reveal the justification processes taking place in Tromsø. For example, Kangasluoma (2020) has connected the concept with the Norwegian petroleum sector to demonstrate the subtle ways in which the justifications of oil drilling are articulated by the notion of "caring" for nature through economic growth. Similarly, northern wild fisheries are framed as sustainable resource utilisation, in which the maximum sustainable yields are in control based on modern calculations and monitoring. The industry, which is still largely portrayed as embodied in the figure of a fisher*man* (Sloan et al., 2004), is kept moving by the hard work of men for the sake of the regional and national economy, sustainability and the world's nutrition (see e.g. Norwegian Seafood Council, 2023c). As Hultman (2013) argued, masculine

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ecomodern accounts could be considered an effort to maintain the status quo and evade critique through the notion of caring. Consequently, with the maintenance of the hegemony of sustainable northern fisheries, imagining otherwise is more difficult.

Through careful observation, both visible and less visible signs of contestation and "imagining otherwise" can be found in Tromsø, particularly among the coastal fishery places. Recently, an alternative account for the dominative extractive narratives about the Arctic has also emerged in the core urban spheres in Tromsø. A temporal exhibition, "Queering Polar History", opened in the Polar Museum in fall 2022 as part of the National Queer Culture Year (Norges arktiste universitetsmuseum, 2022). Popular and familiar to locals and visitors, the Polar Museum is a significant institution for (re)producing the city's Arctic memories and narratives. By opening up a more nuanced storyline of the polar exploration era, the queering exhibition signals an opportunity for the re-interpretation of the dominant hetero-masculine historical account through which new "developments" in the Arctic are often justified. Therefore, alternative narratives can be found not only in the outskirts but also in the "Arctic core" of the city. These narratives participate in reconstructing the past, current and future imaginaries of the "Arctic".

Overall, feminist and critical urban scholarly traditions encourage methodological experiments with the senses (Sæter, 2011; Tsing, 2015). Sensing and "seeing" complex city–fish relations are also one of the methodological means in this study. The fishy windows into the city of Tromsø developed in this study demonstrate that they are not solely the eye-catching visibilities through which the fisheries are experienced in the city; the complex city–fish relations are further revealed, for example, by smelling. Feminist scholar Anna Lowenhaupt Tsing (2015, p. 37) has argued for the "arts of noticing", which refers to the multisensorial method of making sense of complex global–local entanglements with humans and nature. Enacting the multisensorial observation of urban fishery places may help dismantle the city–nature dualism by unfolding the practices, processes and techniques through which the city is produced through fisheries.

In conducting this research, it was crucial to be physically present and observant in Tromsø. This enabled sensing the tensions and seeing the contradictions, complexities and contestations around the organising of fisheries, despite these being at times neither hardly visible nor outspoken. Nyseth (2017, p. 59) refers to Arctic cities as an "urban paradox, challenging what we know and think about what urbanity means". In Tromsø, the paradox is produced material-discursively as a modern, urban and international city, in which its multifaceted relationships with fisheries extraction are largely not recognised. Here, the feminist lens helps to identify the gendered rationalities and contestations surrounding the fisheries in the city and to determine the counter-narratives (Death, 2010). Consequently, it becomes possible to discuss the contemporary urban dynamics of power and pay attention to who has, or is given, agency to negotiate the future of Arctic fisheries.

Conclusions

In this study, I have drawn upon a feminist perspective to examine the contemporary material-discursive makings of Tromsø as it unfolds through globalised fisheries. I have approached the city as a specific fishery place, comprising complex, asymmetrical global–local networks of relations and interests. The study shows that Tromsø appears as a key space in/through which massive quantities of Arctic fish species are transformed into a resource and exported around the globe with the support of multiple urbanised actors, networks and facilities. By offering three fishy windows to view the current makings of Tromsø, I have demonstrated how the city unfolds as a complex site for circulations of fishery imaginaries, knowledge, narratives, technologies and materials. Through particular processes of rationalisation and normalisation, Tromsø appears to facilitate space for moving (not staying) fish, sustainable fish and invisible fish, which tend to support especially the expansion of large-scale industrial fisheries in the northern seas.

Amid global warming and the pressing ecological concerns in the Arctic and elsewhere, I argue that it is crucial to further enhance our understanding of the "politics" in cities with regard to natural resource extraction. As Magnusson (2011) asserted, seeing like a city guides to approach a city as a space and process for multiple self-governing authorities, disorders and variety of realities. Applying a multisensorial feminist lens to view a city as a distinct fishery place can offer new analytical and methodological streams to critically review the makings of the urban and to reveal the persistent city–nature binaries foundational to the formulations of social-ecological relations in the Arctic. As shown by this study, cities can be the key sites through which modern extractive practices in the Arctic are enacted and new (gendered) socio-economic hierarchies are (re) produced—yet not without contestation.

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