

thresholds 27

exploration

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Spatial Formats

Oil and Gas Fields of the North Sea

The parallelism between globalization and digitalization provokes discussions on the status of virtual and actual borders within the urbanism of late capitalism. In addition to the arguments around the “fuzzy” borders of the digital world, the emphasis of current theorists has shifted to the actual spaces and borders of urbanism. Sociologist Saskia Sassen claims not only that the world may be becoming more global and digital, but also the digital world illustrates new spatial modes. She argues that the embeddedness and interconnection of the digital with actual physical spaces, as well as the inevitable re-scalings of urbanism are the current issues in need of discussion.¹

In Sassen’s argument, the virtual connotes the digital and the actual demarcates physical structures (airports, buildings, lands, infrastructure). Rather than the digital connotation of virtuality, this essay will discuss a new category of unconventional spatial formats as a new form of virtuality. Invented by the organizational and political imagination of various global agents, these spatial formats are the corollary to the necessary exploration of un-exposable or un-exploited space of the earth. They survive by virtual qualities, but compose actual architectures and form *virtual actualities*. Their virtuality is not digital but political. They are modes of inscription or coding where space has become a volatile vacancy.

The resource activities (explorations for fossil fuels on the North Sea) are an eccentric exploration event over the sea’s surface whose process oscillates between the acts of inscription, appropriation, de-appropriation and re-appropriation. The resource conflict, the general disputes over fossil fuels, of the sixties concluded with the re-conquering of the sea as a resource terrain. One of those conquered terrains was the North Sea, which affected and was in turn affected by several urban and political conditions.

Inscription_1: Survey

After the initial discoveries of fossil fuels in the sixties, the North Sea became an unexplored seismic survey area. Seismic survey is a technique that searches the underground layers of the earth by sending sound waves through them. Seismic sur-

vey lines were the first modes of inscription over the sea surface, deployed along the regular routes of the seismic survey ships that scanned the sea. The survey lines, as modes of inscription, coded and recoded the sea according to technological advances and politically charged resource activities in the world. While the distance between the survey lines changed one-and-a-half to six-and-a-half miles depending on the acquisition of the data, the stratum between the lines were all unknown territories whose geological structure had to be *spatialized*. Over time, to make the geological data more accurate, these lines began to converge by defining and redefining different spatial lapses. (Figure 1) Inscriptions and spatial codings territorialized the sea, which would then be de-territorialized and re-territorialized by other global resource activities.

Inscription_2: Maritime Boundaries

Striations and inscriptions on the North Sea virtually correct and materialize various theoretical contemplations.² Different levels of inscriptions not only striated the North Sea but also prompted, and were prompted by, various political activities and constitutions. That is, as well as the physical terrain of the sea, wider landscapes were also the sites of activity. The determination of the Continental Shelf among the North Sea countries was the second level of inscription in the process of exploration.

In Roman Law, only occupation of the seabed would yield ownership of the land. The sea and the subsoil were then considered as *res nullius*, a legal term used to describe physical things “which have not or have never had an owner,” or a category of “things that have not been reduced to property.”³ Although the subsoil could also be privately owned by effective occupation, some high authorities accepted the subsoil as *res nullius* but were considering the seabed as *res omnium communis*, “the property status of such a thing that cannot be appropriated, and is common to all.”⁴

The law of the Continental Shelf was a phenomenon explored in the twentieth century by conquering the sea as a resource area. Since the seventeenth century, “territorial waters” had

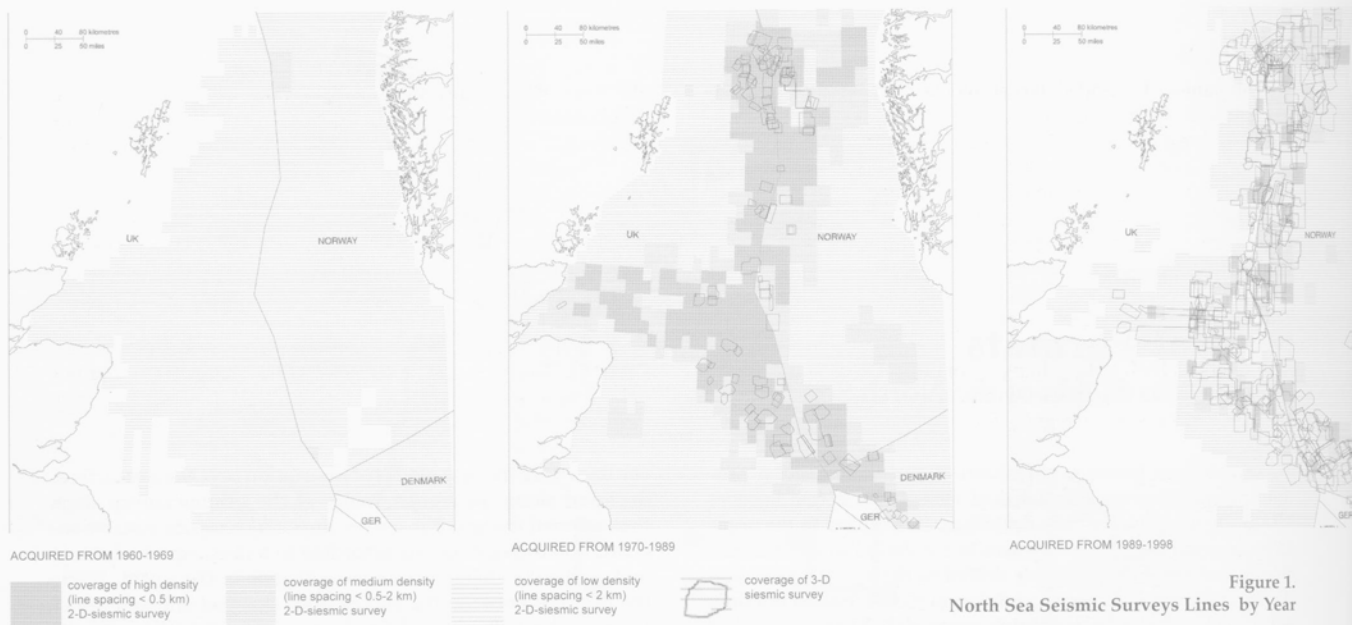


Figure 1.
North Sea Seismic Surveys Lines by Year

limited by many western countries to a distance of between three and twelve miles from their coasts. After World War II, a more global view of the world began to replace the perspective of individual states; and a number of coastal countries claimed exclusive jurisdiction over the natural resources of their coast. In 1958, the International Law Commission of the United Nations held the first Conference on the Law of the Sea.⁵ The conference adopted the Convention on the Continental Shelf during the Geneva Convention, which gave each coastal state exclusive right over its own continental shelf "for the purpose of exploring it and exploiting its natural resources."⁶ This Convention provided the first internationally accepted definition of the term "Continental Shelf," as "All the seabed and the subsoil of the submarine areas adjacent to the coast but outside the territorial waters to a depth of two hundred meters, or beyond that limit to where the depth of the superjacent waters still permits exploitation of natural resources in such areas."⁷

The Geneva Convention also proposed that a median line formula would be applied to international waters that were less than two hundred meters deep. Since the seabed of the North Sea constitutes a continental shelf with a depth of less than two hundred meters, the boundaries between Norway, United Kingdom and the Netherlands were established in 1964. The delimitations between Germany and Denmark were announced in 1971, after years of negotiations.

Inscription_3: Appropriation

After the states claimed the sea, the next step was the licensing of each country's continental shelf: the *appropriation* of the sea. Here I use the word appropriation by referring to both connotations: "property" and "propriety" –where the latter en-

compasses the need for an *appropriate* organization of the sea. Through legislation, the seabed and soil constituted a new form of state property, operated by both state and transnational corporations.

As large parcels of American land had been appropriated by the grid system, the North Sea also applied the grid for licensing oil and gas fields. The system of legislation was, as in properties on the land, a means of control and subdivision. The subdivided territories were named in the smallest unit of property on the sea, the "block." Exploitation occurred only on the parcels that contained resources, that is, the system of appropriation was that of regulating vermiform oil and gas fields.

In 1962, two years before the Continental Shelf legislations of the North Sea, many oil companies had already conducted surveys in its international waters, where governments had no legal means of regulating their activities. The nations surrounding the North Sea were completely unprepared to give quick answers to the complex legal and political questions raised. The landscape required a new set of organizations. After resolving questions such as, "What are the boundaries of the nation's continental shelf?" and "Whose property was the strata that lay on or under the nation's continental shelf?" "Under what conditions would exploration and production rights be established?" was the next question faced.

A common feature of the licensing systems in all of the countries of the North Sea was the approval of numbered one-degree quadrants (one degree north-south and one degree east-west), though the number of blocks per quadrant differed.⁹ For instance, in Norwegian waters each quadrant was subdivided to twelve blocks and in the UK, it was thirty. While offshore

oil companies demanded larger blocks that would allow the maximum freedom to explore, state committees were more inclined to keep the size of the blocks relatively small. Although the striation of the sea through blocks was the same process for all countries, the size of the blocks each illustrated each country's own legislation system. The North Sea became one intact organizational space with these discrete proto-organizational systems and identities.

The elastic forms of the oil and gas field boundaries necessitated elastic striations on the North Sea. The term elasticity here refers to both to the changing organizational status of the properties on the North Sea and the adaptation of the striation or block system to the irregular forms of the resource fields.



Figure 2. Adaptation of The Grid Block System to Vermiform Resource Fields

Therefore, the juxtaposition of the boundaries of the oilfields with the Cartesian grid block system, created the sea as a three dimensional entity of virtual boundaries, consisting of the grid system, the Continental Shelf boundaries, and the complex resource field margins concluded with unconventional systems (Figure 2). Because of the complex nature of the geological stratification, the rectangular block margins did not indicate a direct three-dimensional prism extending down to the oilfields, "keeping the in line or proper" was difficult. Thus, the so-called platform injectors extended down through the reservoirs within the limits of the inscribed grid strata.¹⁰ The organizational status of the properties displayed elastic inscriptions on the sea reflecting new oil and gas discoveries. Appropriations and inscriptions coded and re-coded the same area with changes. The dynamic distribution of blocks over time can be read as a history of *virtual actuality*. (Figure 3)

Inscription_4: New City

After each area on the sea was appropriated to blocks, the oil platforms or what I would call "delirious" *resource cities* started to invade the North Sea waters. With accommodation for

about two thousand workers, sport centers and other facilities, oil platforms were the new cities of the North Sea. The abundance of physical evidence inherent in the site embodies a latent manifesto of political and social inscriptions.¹¹

These infrastructural network systems were also expanding through land to different continents. Although the sea was subdivided through several systems such as Continental Boundaries and blocks as discussed above, the organizational systems of the oil platforms and pipeline infrastructures exposed a latent urbanism that extended the boundaries of the North Sea. This *New North Sea City* had unconventional rules, being not only an international platform for the offshore countries surrounding the sea but also a hub within an international pipeline network. The story of this new city was far different than that of a city settlement on the land. The platforms were *settled on* the fields within their allocated properties, the platforms were linked to each other and the landscape of resource activity inserted itself into a worldwide organizational system. (Figure 4)

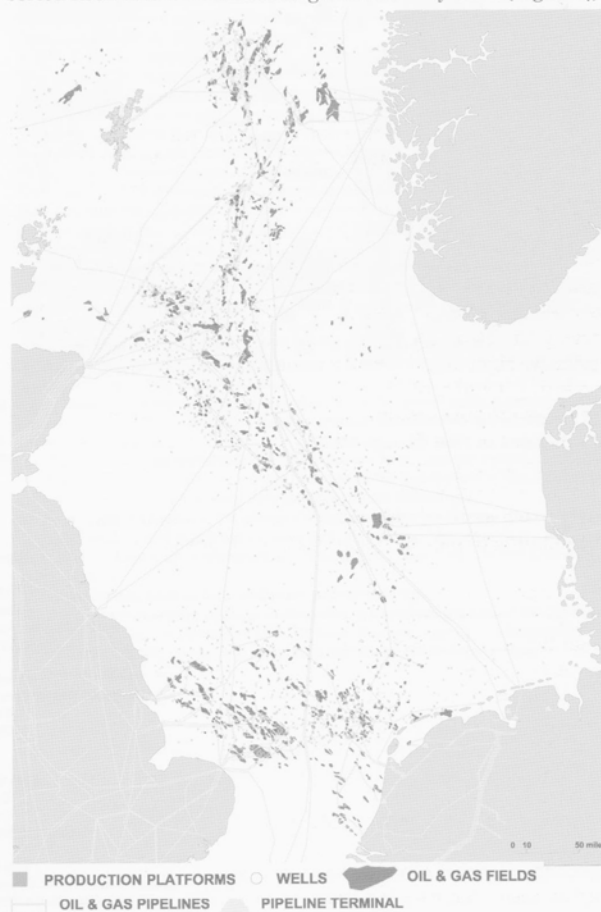


Figure 4. Network Cities on the North Sea



Figure 3. North Sea production licenses allocated in 1965 through 2003

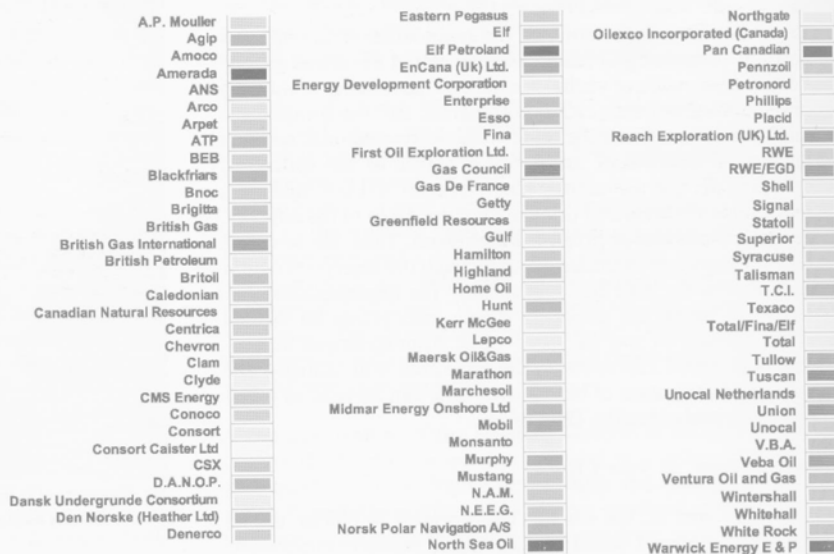




Figure 5. Prohibited Zones

Inscription_5: Other Virtual Zones

The New North Sea City not only inserted itself into a wider network of political organizations but also affected the ways in which activities occurred on the sea surface. For instance, the buildings of the cities (platforms and other oil and gas installations)¹² not only defined an unconventional layout but also demarcated other virtual zones that would affect the shipment routes conducted across the North Sea. Under international law, coastal states established prohibited zones around these installations for safety purposes. A five hundred meter safety zone surrounded the installations. Buoys were moored as much as one mile from production platforms to indicate a warning zone around the platforms.¹³ Each installation had its territorial boundary, which also created another latent zone of organization and inscription on the sea. (Figure 5) As a hub within a huge political network, this new city defined the concepts of actuality and virtuality. The resources it harvested amplified the appropriation activities on the North Sea while the subdivision systems called for special organizational structures far different than those on land, requiring a system of appropriation that regulated vermiform oil and gas fields.

Notes

1. Saskia Sassen, *Losing Control? Sovereignty in an Age of Globalization*, (New York: Columbia University Press, 1996).
2. For German political philosopher, Carl Schmitt, the sea is the fundamental element in world political theory [and human history is nothing more than an endless fight between nation-states whose power was based on the land and those whose power was based on the sea], Carl Schmitt, *Land and Sea* (Washington, D.C.: Plutarch Press, 1997), trans. Simona Draghici. For Deleuze and Guattari, "The sea is perhaps principal among smooth spaces, the hydraulic model par excellence...[T]he sea is also, of all smooth spaces, the first one attempts were made to striate, to transform into a dependency of the land, with its fixed routes, constant directions, relative movements, a whole counterhydraulic of channels and conduits. Gilles Deleuze and Felix Guattari, "Treatise on Nomadology: The War Machine," *A Thousand Plateaus: Capitalism and Schizophrenia* (Minneapolis: University of Minnesota Press, 1987), 387.
3. Eric Engle, "Economic Theory of Law and the Public Domain: When is Piracy Economically Desirable," <http://lexnet.bravepages.com/media1.html>.
4. Ibid.
5. Donat Pharand, "The Law of the Sea: An Overview", Donat Pharand and Umberto Leanza, eds. *The Continental Shelf and the Exclusive Economic Zone: Delimitation and Legal Regime = Le Plateau Continental et la Zone Economique Exclusive*, (Dordrecht, Boston, London: Martinus Nijhoff Publishers, 1993), pp.5-6.
6. Re-quoted from Brent F. Nelsen, *The State Offshore: Petroleum, Politics, and State Intervention on the British and Norwegian Continental Shelves*, (New York, Connecticut, London: Praeger, 1991), pp.15-16.
7. E. N. Tiratsoo, *Oilfields of the World*, (Beaconsfield, England: Scientific Press Ltd., 1984), p.74. There are also some exceptions where the outer limit of the Continental Shelf extends the two-hundred-mile rule. For more information on Continental Shelf and legislation histories, see, Ron Macnab and P. K. Mukherjee, "The 1982 UN Convention on the Law of the Sea and the Outer Limit of the Continental Shelf: Some Practical Considerations for Wide-Margin States," Donat Pharand and Umberto Leanza, eds. *The Continental Shelf and the Exclusive Economic Zone: Delimitation and Legal Regime = Le Plateau Continental et la Zone Economique Exclusive*. In the Geneva Conventions of 1958, four maritime zones were identified: (1) the territorial sea, (2) the continental shelf, (3) the contiguous zone, and (4) the high sea. As the numbers of coastal states increased and the sea resources became important, there was a need for an increase in legislations for complex maritime situations. Accordingly, the 1982 Convention has also added to the abovementioned four zones the exclusive economic zone (EEZ), the international seabed area, and archipelagic waters.
8. Except the Norwegian ditch at south and southwest of Norway
9. There were two types of offshore licenses: (1) Production licenses (for searching, drilling and extracting petroleum, and (2) exploration or reconnaissance licenses which would allow exploration work other than deep (350m) drilling production. Licenses are awarded in licensing rounds and each license could be obtained anytime for three years.
10. While most of the oilfields at the North Sea are from Jurassic Period, the North Sea has been a unique offshore oilfield in terms of the distribution of the oilfields in various geological strata formed with millions of year differences.
11. Rem Koolhaas begins to his retroactive manifesto for Manhattan by saying that the "fatal weakness of manifestos is their lack of evidence." Rem Koolhaas, *Delirious New York: A Retroactive Manifesto for Manhattan*, (New York: Oxford University Press, 1978), 6.
12. These installations include wellheads and drilling rigs.
13. *The Defense Mapping Agency, Sailing Directions* (Planning Guide) for the North Sea and Baltic Sea, (Washington, D.C.: Defense Mapping Agency, Hydrographic/Topographic Center, 1990), Yale University Governments Document Center, pp.267-269, 273.