

MARITIME SPACES AND THEIR GEOGRAPHY¹

GISELA AQUINO PIRES DO RIO²

Introduction

Which would be the issues that compose a strategy of research on maritime spaces? I ask myself this question interruptedly for a long time because of two reasons. The first one arose from reading classic authors and from recognizing the relevance that the theme “seas and oceans” had in these papers, mainly in the beginning of the 1950s. The second reason is based on the finding that this relevance is frequent in certain periods of the scientific history in its relation with: the expansion and fall of hegemonic States; the exploration of marine resources; the control over navigation routes, despite of repeated manifestations of the right of free movement that governs international relations for a long time (SCHIMITT, [1950] 2001); and the understanding of the role of individuals and social groups in the transformation of the Earth’s surface (THOMAS, 1950). I asked myself such question again when, in the beginning of 2018, I was invited for the dossier of *Ambiente e Sociedade* journal, reminding me that in its evolution, the knowledge, ideas, and concerns about the several issues escalate from the systematic and continuous review of several themes and objects and from the technology advance. The urgent and vulnerable status that characterized some of the Earth’s regions at that moment, and the methods of adaptation to the recognized frontiers and those frontiers that would eventually emerge (THOMAS, 1950) are not exactly the same, but, nowadays, they confront each other with the frontiers of the ecumene, disputes for maritime borders and frontiers, movement of landfills towards the sea, opening of new borders, changes in the sea level, etc.

Prepared from an accurate field of knowledge – geography – and with no great ambitions of covering a wide and definitive range of issues, it is understood, from classic works of this field, four points that, in our understanding, would give rise to a strategy of research about seas and oceans, considering the interdisciplinary dialogue. The four points are the following: a) circulation, b) borders and frontiers, c) marine resources, and d) the environment. Each of these points allow several developments, associations, and articulations in many knowledge fields so as to deepen questions related to different types of flows, the regulation of economic activities, uses of different spaces and their territorial expressions, and to the vulnerability of maritime spaces. The choice of these points is

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2. Full Professor in Geography at Federal University of Rio de Janeiro. Researcher Fellow at CNPq. Email: gpiresdorio@gmail.com. ORCID.ORG/0000-0002-8719-1967

based on the understanding of a maritime space pressured by two processes intrinsically related to the evolution of globalization: maritimization and littoralisation (DANTAS, 2009; PERON and RIEUCAU, 1996), and cultivated by the urgent and necessary demands of conservation and preservation.

Finally, I would like to clarify the title of this paper, which refers to Jean Gottmann's book, published in 1950, which dedicates a significant section to the role of the territory in politics and the issues of territorial waters and borders in international relations. Several miles apart from the density of this paper, what was established as a result of reading such work and from the follow-up of the evolution of treatment of seas and oceans in contemporary authors was the variety of issues that can be explored. In this regard, there is a wide range of questions and issues that can allow interpretations besides the ones that some authors (MAZE, et al, 2015) consider the specific inputs of the geographic knowledge about geographic tradition in coastal studies and the social approach of coasts already addressed by Lins de Barros and Muehe (2009).

What classic authors say

Seas and oceans comprise a geographic environment par excellence, i.e., a system of relations that is inserted in the differentiated and organized space, available to individuals of different societies (GOTTMANN, ([1950] 2007). This concept is specially preferred in geography and predominant in works dedicated to the understanding of transformations driven by societies in the land space and to issues about the rupture of connections with the environment in modern societies (THOMAS, 1956) in the beginning of the second half of the 1950s. Long before of thorough studies about the bottom of the oceans and their cartography, several authors wrote significant works regarding seas and oceans as a scientific object. Scientific, economic, and political interests, prevalent since the end of the XIX century, addressed mainly inland seas, such as the China Sea and the Mediterranean Sea. Regarding the Mediterranean Sea, the point was, at the moment, to understand the movement on time, the set of routes that transformed it in a circulation space, as Braudel described and analyzed very well. This was a persistent idea, as it was already been reported by Elisee Reclus in the *Encyclopedie Universelle* when he characterized the Mediterranean Sea as "a sea of combination of three continental masses... a mediator agent that shape the climate of the occupations in its margins, promotes the access to different places, allows the relation between nations and, without it, the Western civilization would have remained in savagery"..

Resorting to authors such as Reclus, Gottmann, Thomas, Schmitt, et al, refers to contributions, descriptions, and analyses that we can consider classic in the distinct meanings used by Ítalo Calvino in the paper "Porque ler os Clássicos" [Why read the classics?]: they are abundant, have specific influence, establish a certain period of confrontation in the different fields of science and literature, have a detailed analysis, rise a permanent and continuous debate about itself, which is somewhat timeless, impose itself to the present time, and remains even if submerged by it.

Therefore, consulting classic works would be one of the possible means to think about a strategy of research about seas and oceans from a geographic background that

includes understanding the progress of the scientific knowledge and its disciplinary ramifications (MUEHE, 2016), and the potential dialogue with other disciplines. Such strategy equally assumes an immersion in different situations that make seas and oceans desirable spaces, of great circulation, communication, source of mineral, energy and food resources. The routes to and from the sea were, a long time ago, outlined by the water-land relation: the first maritime empires, Phoenicians and Greeks, Vikings, Genoveses and Venetians, Egyptians and Somalis, as well as explorers and navigators opened routes, changed the world's perspective and understanding, changed the natural data and imposed to it the human magnitude and scaling (LACOSTE, 1988), continuously transforming it in a survey and exploration space, crossed by multiple routes and object of international regulation.

Actually, since the 1950s and specifically after the 1960s, seas and oceans have been subject to strong regulation by the corresponding States, international agencies and bodies, whether by the control of transoceanic routes or by the movement of living resources, or even by the potential exploration of mineral and energy resources, so that Treaties and Conventions design lines and meshes over maritime spaces, delimiting large surfaces in the water mirror, in water columns, and in the bottom of the oceans (PIRES DO RIO, 2018), characterizing a continuous process of new institutions such as areas of special interest, conservation units, territorial sea, exclusive economic zone, continental shelf, international zones, etc (PIRES DO RIO, 2017). The regulation of such spaces demand increasingly attention, as many of these spaces are vulnerable to the range of use of elements that, nowadays, are deemed as resources and raw materials and demand infrastructure to exploration and transportation.

Circulation

There are many possibilities to provide visibility to the circulation. Likewise the maritime extension, the Mediterranean Sea, as well as the Baltic Sea (MEYER, 2013), or the oceans were defined as interaction, approach, and exchange spaces. Supported by a global maritime network, such space has been restructuring itself in the last 15 years, with the centralization of maritime flows converging to large-scale ports and by the urgency of multifunctional ports and logistic complexes (WOESSER, 2014).

Similarly to what happens inland, the maritime circulation requires accurate routes that depend on the flows of international and regional trade. These routes go beyond the routes outlined in high sea, and specific crossing points such as straits and canals. Canals shorten distances. The Panama Canal and the Suez Canal are examples of this shortening of distances and support the circulation standard in global scale around the global triad. Straits such as Gibraltar, Calais, Ormuz, Malaca have grown in relevance in this standard concentrated in the circulation of goods, individuals, and information, as they provide the connection between Asia and Europe.

However, a change arise from the current period of globalization in history, related to the increase of maritime transportations, or as mentioned by Giblan (2016), with the maritimization of transportations, seas and oceans have become spaces of a certain type of terrorism or piracy. We must remind, however, that over the last three centuries, there

was a relevant change in the scale of circulation by maritime routes, which reclassified places such as straits, estuaries, and islands, granting strategic and geopolitical relevance to these places.

The relevance and magnitude of the circulation implies in the transformation of landscapes, mainly in the areas of land-sea relation (WOESSNER, 2014), in port facilities, in the organization of logistic platforms, and in the articulation of other modes that supply inland markets. Many examples can be mentioned, considering the main hubs, places that reflect the economics of the scale of transoceanic transportation of goods. In this regard, port cities play a significant role in the circulation (MONIÉ et al, 2006), as nodal spaces of transoceanic and transcontinental connection.

Nevertheless, there is another infrastructure that challenges the regulations devices and provides a strategic position to certain places, specifically islands, archipelagoes and coastal cities (PIRES DO RIO, 2018).

Submarine cables have grown in importance with the new technologies of information, communication, and electrical power transmission. Approximately 90% of the intercontinental communication depends on fiber optic cables installed in the sea floor. There are 9000 km of submarine cables that connects 366 cable systems and 1006 landing stations operating and under construction until 2020, according to the Submarine Cable Map.

Dimensions and the spatial standard of the system of communication by submarine cables reinforce the need to create regulations methods in order to govern the agents operating in global scale (PIRES DO RIO, 2018). These agents are mainly joint ventures between companies. This is a fixed mesh that unfolds in distribution networks with different extensions. Besides older companies and joint ventures such as Alcatel Lucent Submarine Networks (ASN), NEC and TE Connectivity, companies like Google and Microsoft invest in the development of new connections and own networks. An example that gained major visibility due to the transmission of 60 terabytes and in the extension of cables of 9000 km was the Faster cable, installed by the joint venture lead by the Japanese company NEC, Google, and a group of Asian telephone companies (China Mobile International, China Telecom Global, KDD, Global Transist and Sintel), which connects the East Coast of the United States to Japan and Taiwan. The relevance of this connection is based in the data transmission technology and in the possibility of ramifications to extend the connectivity of several places in the American West Coast. Regarding Brazil (RNP, s/d), part of the cyberinfrastructure was manufactured and installed by the association of the companies Seaborn Networks and Alcatel-Lucent Submarine Networks, with the cofounding of Google, connecting Praia Grande (SP) to Miami, and of Microsoft in the extension of cables to New York.

What is essential to highlight is how this infrastructure, existing, well-known, and implemented since the XIX century assumes a leadership in communications, geopolitics and geoeconomics in the XXI century, becoming popular and object of intense dispute for its control (BOULLIER, 2014). It coordinates fixed systems and devices and information flows, imposes specific access conditions, while it expands the vulnerability to cyber-attacks and allow companies such as Google and Facebook to establish access

priority in the investments in landing stations. These information highways comprise a regulation surface in which is possible to capture tensions and disputes caused by different conditions of connectivity and urban concentration. New York, Los Angeles, Singapore, Tokyo, Shanghai, and Bombay, for example, are the main nodes of this system. The conflict between the national regulation and international authority jurisdictions reinforces the hypothesis about the power borders have in the organization of the economic space, in comparison with the weakening of the State-Nation territory. In this regard, competition and negotiation amplify the tension between extraterritorial agents and regulation bodies. Therefore, this cyberinfrastructure is object of security policy and a requirement of information circulation.

In another record, migrations flows use maritime routes more or less known, which converge to two main destinations: Europe and United States. The Mediterranean and the Gulf of Mexico are the privileged spaces of this clandestine flow, which reveals extreme cases of social inequality and vulnerability, in the sense of total and partial lack of access to objective conditions of life such as food safety, means of living, basic sanitation, education, and institutional constraints. Besides goods and passengers flows, there is, therefore, illegal flows associated to drugs and human trafficking.

Borders and Frontiers

The relevance of borders and frontiers, whether in land or sea, is directly related with the design of transportation and communication networks, i.e., trade routes, cables, and submarine pipelines. In other words, these are infrastructure networks that allow and enhance the exploration of certain marine resources, or ensure the instantaneity and simultaneity of communication in global scale.

If territorial disputes are increasingly frequent in seas, this was not always the emphasis in the preparation of Treaties and Conventions. The free sea was a significant heritage and condition for the navigation and relation between different countries, remaining as a free circulation space. Unlike the “spatial order” (SCHIMITT [1950] 2001) inherent to States in international relations, the sea could not be considered neither a territory of a State nor a colonial space subject of occupation. It must be reminded that in the first half of the XXI century, nearly 80% of the States worldwide are connected by maritime borders, i.e., have the international frontiers of their sovereignty established in maritime spaces. However, this definition did not prevent disputes over frontiers, demarcations, access and appropriation of maritime spaces in different regions. Since the second half of the XX century, the development of an International Maritime Law has become the reference to regulate disputes, attempts of domination, control or exploration of mineral, energy and marine resources. The regulation of such conflicts and disputes was consolidated in the Montenegro Convention, executed in 1982, in which criteria were established to demarcate borders and create specific zones of sovereignty, exploration, and access to resources.

The biggest changes of geopolitics nature in the post-war period occurred in the sea (LACOSTE, 1988): disputes for great extensions of maritime space, transferring the

attention of the land to seas and oceans; growth in the number of small-island States; growth in the number of nuclear-powered submarines, the control of routes and crossing points between the Atlantic and the Pacific and crossing points between seas and between seas and oceans, such as straits, which reacquire strategic relevance for the circulation in the modern world: establishment of bases in the continental borders, protection of merchant ships, points of support for technical scales, places of eventual refuge (DELAUVAUD, 1988) or ocean interconnection canals such as Suez and Panama Canals.

Therefore, the continuous process of demarcation in zones subject to control and appropriation arises from the expansion of the maritime circulation scale. From the territorial sea, whose legal bases were established in the XIX century, considering the proximity of the coast for navigation and territorial defense of a certain country, to the United Nations Convention on the Law of the Sea (1982), there was a significant change in the way maritime spaces were regulated, defining categories such as inland waters, territorial sea, contiguous zone, exclusive economic zone, continental shelf, high sea and seabed, on one hand, and agencies for arbitration of disputes, such as the International Seabed Authority (ISA), an International Tribunal for the Law of the Sea and a committee to define the limits of the continental shelf.

The territorial sea comprises a zone of 12 nautical miles (22.2 kilometers) as from the coast. As the name suggests, it is a part of the territory in which all devices and instruments inherent to the exercise of sovereignty are used by the States. A second zone of equal extension is added to this zone. The contiguous zone exercises security and control functions against threats and violations to the legal body of the coastal State. Finally, the exclusive economic zone comprises a zone of 200 miles (370.4 kilometers), in which the State assures the right to explore the resources found therein.

The right to explore natural resources, which is secured to the coastal country by the Convention, is enforced up to a distance of 200 nautical miles. However, the legal continental shelf goes beyond the continental shelf. This discrepancy depends of geomorphological characteristics such as the sedimentary layer thickness or the position of the foot of the continental slope. Therefore, there are different criteria to demarcate the legal continental shelf from the outer edge of the continental margin, which can change the limit of 200 miles (SOUZA, 1999). This means that, depending on this geomorphological characteristics, the limits may extend up to 350 nautical miles. Finally, there are the abyssal zones and the high sea, considered international waters and of international management of mineral resources found therein. Submarines circulate in this zone.

From this set of changes, it can be noted that the maritime space is the focus of control disputes in several places: at the China Sea (GIBLAN, 2016), the Baltic Sea, the Black Sea, the Caspian Sea, the Atlantic Ocean, the Arctic Ocean (LASSERRE and PELLETIER, 2010; LASERRE, 2013; HOHMANN, 2016; FOUCHER, 2010), the Indian Ocean, the Pacific Ocean, or the Sea of Korea. In conclusion, it is possible to observe confrontations, tensions, conflicts, territorial, geoeconomic, and strategic disputes in all seas and oceans. In addition to academic publications such as *Hérodote*, *Études Marines*, journals of scientific publication and journals of wide circulation prepare dossiers or articles about different conflicts in these maritime spaces.

In the Caspian Sea, the dissolution of the former Soviet Union resulted in disputes between the countries located in its surroundings (Azerbaijan, Iraq, Kazakhstan, Russia and Turkmenistan) related to the demarcation of the territorial sea that grants access to oil and natural gas fields. In the “China Sea”, a maritime space between Philippines and Vietnam on one side, Malaysia and Indonesia on the other side, one of the more tense spaces in terms of territorial disputes such as access to oil and gas fields, surveillance on the routes of super bulk carrier ships, oil tankers, and cargo ships – container ships, and control over islands and archipelagoes, are the main elements of disputes (COLIN, 2016).

Without the same level of tension regarding the demarcation of maritime borders, the Baltic Sea comprises other maritime space in which regional disputes and energy networks play a structural role in the Intra-European scale. The hierarchical transit of ships, boats, and ferries due to the low average depth from Denmark and the presence of islands, interposed by the oil exploration in shallow waters of Norway and Russia, electrical cables and gas pipelines, complementing the setting for regional disputes and confrontations between Russia and the European Union on one side, and Norway and Russia on the other side. This sea constitutes a node of a regional energy network that supplies Germany, but equally for a transcontinental network, since it also offers train connections, from the Port of Riga with the Black Sea. These connections facilitate trade routes to supply the Chinese market. The Black Sea, surrounded by Ukraine, Russia, Georgia, Turkey, Bulgaria and Romania, constitutes another node of the energy network due to the relevance of oil and gas pipelines, as well as a route of flow of primary energy of Russia.

Conflicts, disputes, and objection of borders can be equally observed in the eastern portion of the Mediterranean, where the frontiers between Cyprus and Israel are contested by Turkey, and the demarcation of territorial waters of Israel is contested by Lebanon. Thus, in the surface, the territorial sea, and in the marine subsurface, oil and gas fields fuel conflicts between Israel and Lebanon and between Cyprus and Turkey. It must be reminded that the maritime borders are defined from the coast, i.e., from land frontiers for States the face seas and oceans.

Distant from the tougher disputes in the control of maritime spaces by the control of routes, of resources from the bottom of the oceans, or for the access to communication networks of submarine cables, the South Atlantic Zone of Peace and Cooperation was approved in 1986. Distant but not missing. Nowadays, its waters are object of the growing exploration of oil and gas fields, and of fishery resources both from the African coasts and the South American side.

At the Pacific coasts in South America, conflicts and disputes over demarcation of maritime borders between countries recently obtained the approval of the International Court of Justice to settle disputes from the XIX century. The International Court established a new maritime border between Peru and Chile. The motivations of the dispute included the delimitation of the fishery area, therefore, access to a specific type of marine resource. In such cases, the figure of the conventional fishery Law, as set forth by the United Nations as rights of fishery for certain group of fishermen of a State who have been usually fishing in certain areas for a long period, and whose continuous practice in time

constitute a territory inherent to that group, even if subject to the authority of certain State. This is a right inherited by generations and maintained by the current generation, incorporated to the Customary International Law.

Up North, at the Atlantic coast, tensions between Venezuela and Guyana regarding the western part of the basin of Essequibo River increased after the discovery of oil by Exxon Mobil in the continental shelf under control of Guyana, more precisely the exploration of the Straboek Block. The confirmation of the frontiers between both countries is from the beginning of the XX century, a demarcation entitled Schomburgk Line (SILVA, 2017), which did not prevent disputes in different periods by Venezuela. In 1966, after objections raised by Venezuela, the Geneva Agreement established that the Essequibo area was officially controlled by Guyana, but its sovereignty was claimed by Venezuela. This increase involves, therefore, the relation over the ownership of lands that allows to plan control and sovereignty over the maritime space and ensure the control over significant oil reserves.

Marine Natural Resources

New areas became accessible with the development of mapping technologies in ultra-deep waters. Abyssal zones comprise one of the maritime spaces recently considered as border in the sense of free space, subject to exploration, which also involves the advance of technological borders and several uncertainties regarding the impacts of the activities of exploration and exploitation of biodiversity that these zones provide. In other words, the set of experimental techniques, instruments and devices used in extreme environments has been allowing, since the mid 1970s, to map seabeds and water columns, without the arrangement of compatible elements over the effects of these activities in the maritime environment and the consequences of global changes.

In addition to the prospection and exploration of oil and gas in deep and ultra-deep waters, there is also the exploration of polymetallic nodules, which distribute themselves very unequally. The higher concentrations are located at the Pacific Ocean, at the Clarion-Clipperton fracture zone, and there is extensive literature covering different subjects: geopolitics, biodiversity, mining, geochemistry, technologies, etc. This area is located between the Clarion-Clipperton fractures, between latitudes 5 N and 15 N and longitudes 115 O and 155 O, a rectangle of approximately 6 million km². This area is located beyond the limits of the corresponding national jurisdictions, and, therefore, is under control of the International Seabed Authority. Known since the end of the 1970s, it is already object of leasing and concessions distributed for companies and joint ventures of countries such as France, Germany, England, Belgium, Slovakia, Russia, South Korea, China, Japan, Singapore, and United States. Tensions between China, Russia, and United States and the new players claiming to participate in the exploration of these nodules, such as India, can be understood more clearly.

The fragmentation for the mineral exploration of this area is confronted by the discovery of the huge biodiversity, characterized by the presence of organisms that live under extreme pressure, temperature, and darkness conditions. The dispute between

mining and areas of interest of biodiversity is fought in the bottom of the oceans. Once again, the borders of mineral and biological resources face each other. Initially considered as a big “submarine desert”, the possibility of mapping and exploring this zone has showed, in contrast, the potential of the genetic diversity of the organisms that inhabit it. The significance of abyssal zones for the land system balance appears to indicate increased vulnerability to changes of state in time intervals associated to the social and technological evolution and with decreased resilience.

The Environment

The complementary relationship between land and sea has significant effects in terms of the environment. Territorial waters comprise the connection with the high sea and also with the coast and the coastal zone. Many of the activities located in the territorial sea, in the continental shelf, or in the exclusive economic zone demand connection with the coast. Similarly, the transoceanic circulation, as previously indicated, demand port terminals specialized in large scale and expansion of the port hinterland.

In addition to these aspects, increased population densities in the coastal zones associated to the deficiencies in sanitation and to the significant volume of sediments deriving from areas located inland that are transported by rivers represent relevant sources of pollution of seas. In contrast, erosion processes related to the increase of the sea level raise the risks of urbanized areas located in the coastal zones in several regions. In Brazil, the coast of Rio de Janeiro is particularly vulnerable to erosion, as already analyzed by Muehe et al (2011), among others. This interdependence intensifies the vulnerability of the coastal spaces to degradation processes, expands the technological, economic, social, and contamination risks, and urges for the demarcation of protected spaces.

As potential energy generators, maritime surfaces provide possibilities to the generation of wind energy. In this regard, they represent spaces to be engaged for different trajectories of energy transition. It is a current issue that involves technological innovation and the need of regulation in surface (PIRES DO RIO, 2017 and 2018) as it may compete with the fishery activity near the coast.

The Arctic Ocean is one of the spaces whose vulnerability has been increasing. The monitoring of climate changes has been indicating the retreat of glaciers, which may imply in the opening of trade routes and access to exploration of mineral resources by the expansion of the exclusive economic zone beyond the 200 miles. In the geoeconomic and geopolitical spheres, there are two different issues, whether by alliances or by the tensions it raises (LASERRE, 2013).

Oceans play an essential role in the regulation of the climate, as it is widely known. Large-scale defrosting in the Arctic may change the climate conditions, as well as the rate and intensity of ocean currents. Faster changes that intervene in the capacity of reproduction of certain species with relevant results in the food chain have been occurring to this mechanism that suffers adjustments in long time scales.

In the immediate and the ordinary scale, an international study published in 2014 (ERIKSEN et al. 2014) has demonstrated the concentration of a large volume of residues

in the Pacific vortices, mainly plastics, composing what the authors entitled as the Great Pacific Garbage Path, i.e., a huge garbage dump in the sea, with 3.4 million km² not detectable by satellites, and an estimated volume of 269,000 tons with more than 5 trillions of particles of all sizes, 80% of which are derived from the carriage of solid material of poor sewage systems located at the coastal zone. Five centers of vortices that concentrate residues were identified: North and South Pacific, North and South Atlantic, and Indian Ocean. The biggest one is the Great Pacific Garbage Patch, between Hawaii and California.

To this type of pollution, it is added the chemical contamination deriving from the use of pesticides inland, accidents and leakages, many times associated to chemical pollution, whereas the techniques available to reduce oil spills, for example, use chemical products with high degree of toxicity.

Associated with these movements and the wide circulation of pollutants, the demarcation of protected spaces in the sea is object of conventions and of interest by international organizations that act in this regard. A protected maritime space is defined by the International Union for Conservation of Nature as an area located in high sea or near the coast, comprising surface and deep waters, flora and fauna, reinforcing in this definition a concern with the environment.

The categories of protected marine spaces, such as nature reserve, national park, natural monument, habitat/species management area, extractive reserves, protected landscape, protected area with sustainable use of natural resources indicate the similarity with the categories of protected areas inland. Such spaces constitute answers to the vulnerability of certain areas, given the effects of overfishing and decrease of fish stocks, mainly in the territorial sea of Asian and European countries, that push the fishing industry to international waters, or answers to bilateral or multilateral agreements, which force the stocks of other regions, such as, for example, the fisheries agreements entered into between the European Union and African countries that face the Atlantic Seaboard.

Therefore, the different maritime spaces are exposed to uncertainties of the effects of the waters temperature increase and sea level rise, vulnerable, thus, to climate changes, slow and extended degradation processes, as well as accidents and disputes situations. If we take into consideration the original meaning of the term vulnerable – from the Latin *vulnerare* -, to harm, the vulnerability is the capacity of being harmed, of being in the permanent condition of suffering attacks without the chance of the recovery capacity inherent to the environment may be activated, that is, the susceptibility of a system to suffer a relevant transformation or a relatively permanent and deep change (GALOPPIN, 2006). Tense situations, the expansion of the worldwide circulation, the pressure over resources, the precariousness in the sewage treatment and in the chronic pollution act as a vortex of this permanent condition of degradation of maritime spaces.

Conclusion

At the end of this paper, we highlight three points that we consider relevant in the development of studies and research lines that have as object the investigation of seas and oceans from an interdisciplinary perspective.

The first point is the expansion of these spaces. To consider seas and oceans as limited spaces means, as possibility for interdisciplinary studies and integrative approaches, the possible starting point to enhance the knowledge and the rationale of concepts in the development of a dialogue that establish oneself. It is not possible to expand its limits to understand its structure, composition, and transformation in the long term. This is a tangible reality, a continued space with well-established limits for the substantial use of resources.

The second point refers to the land-sea complementarities. Urban-industrial intensification, port facilities, fishing, collection of seafood, and large-scale tourism equipment put strong pressure over mangroves, estuaries, sandbanks and lakes located in the coast, spaces of great vulnerability, where the protected maritime areas are significant and necessary.

The third point is related to the inequalities of access to resources, the exposure to risks and disasters, the differences of priorities, the capacity of investments and technological domain that rearrange the forms of cooperation, but also fuel new conflicts that will demand the intervention of international bodies and the definition and convergence of forms of regulation. Would we be questioning the material limits of the ecumene once again?

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Feature Topics

MARITIME SPACES AND THEIR GEOGRAPHY

Abstract: The purpose of this paper is to introduce a set of themes deemed as significant in the preparation of an agenda of research about maritime spaces. It starts from a specific knowledge field – geography – in order to raise a connection with other knowledge fields. Maritime space is defined as a surface of inaccurate extension where activities are carried out, specific uses are assigned, and territories are delimited; therefore, it involves communication and circulation routes such as navigation routes, transoceanic canals, waters sheltered and bordered by isthmuses, prolongation of the topography in the continental shelf and zones of fluvio-marine and land-sea relations. Four points were defined: a) circulation; b) frontiers and borders; c) resources; and d) the environment, associated with broader issues such as international flows and networks, spatial regulation, conflicts and tensions, vulnerability of zones of land-sea relation. Concepts as maritime space and regulation surfaces are reinforced in order to build a connection in the interdisciplinary field.

Keywords: maritime spaces; research; frontiers; spatial regulation; environment

Resumo: O presente artigo apresenta um conjunto de temas considerados relevantes na elaboração de uma agenda de pesquisa sobre espaços marítimos. Parte de um campo de conhecimento específico- geografia- a fim de suscitar diálogo com outros campos de conhecimento. O espaço marítimo é definido como superfície de extensão imprecisa onde são realizadas atividades, atribuídos usos específicos, e demarcados territórios; envolve, portanto, vias de comunicação e circulação como rotas de navegação, canais transoceânicos, águas abrigadas e margeadas por istmos, prolongamento do relevo terrestre na plataforma continental e zonas de interface flúvio-marinha e terra-mar. Foram definidos quatro temas: a) circulação; b) fronteiras e limites; c) recursos; e d) meio ambiente, vinculados a questões mais amplas como redes e fluxos internacionais, regulação espacial, conflitos e tensões, vulnerabilidade de zonas de interface terra-mar. Conceitos como espaço marítimo, e superfícies de regulação são enfatizados para a construção de um diálogo no campo interdisciplinar.

Palavras-chave: Espaços marítimos; pesquisa, fronteiras, regulação espacial, meio ambiente.

Resumen: El presente artículo presenta un conjunto de temas tomados como relevantes en la elaboración de una agenda de investigación sobre los espacios marítimos. El espacio marítimo se define como superficie de extensión imprecisa donde se realizan actividades, atribuidos usos específicos, y demarcados territorios; se refiere, por lo tanto, a vías de comunicación y circulación como rutas de navegación, canales transoceánicos, aguas abrigadas

y marginadas por istmos, prolongación del relieve terrestre en la plataforma continental y zonas de interfaz fluvio-marina y tierra-mar. Parte de un campo de conocimiento específico para suscitar diálogo con otros campos de conocimiento. Se definieron cuatro temas: circulación, fronteras y límites, recursos naturales y medio ambiente que son vinculados a cuestiones más amplias como redes y flujos internacionales, regulación espacial; conflictos y tensiones; vulnerabilidad en zonas de interfaz tierra-mar. Conceptos como espacio marítimo y superficies de regulación se enfatizan para la construcción de un diálogo en el campo interdisciplinario.

Palabras clave: espacio marítimo; investigación; fronteras y límites; regulación espacial; medio ambiente.
