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MARITIME ENVIRONMENTAL LAW: PRINCIPLES AND SYSTEM FOR THE CONSTRUCTION OF A LEGAL MICRO-DISCIPLINE IN CHILEAN SHIPPING LAW

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ABSTRACT

Maritime Environmental Law is a relatively new micro-discipline in Chilean law and does not enjoy express recognition as such. However, if it is studied and analysed from the Theory of Dogmatic Nuclei, the discipline is endowed with a speciality, as it presents well-defined characteristics and elements from a methodological and systemic perspective, which differentiate it from other branches of Law. This article consists of a proposal for the construction of Maritime Environmental Law as a micro-discipline endowed with this speciality. In order to achieve this task, it will examine the inter-subjective relations that underlie this branch of Law; the subject matter that it regulates; and the legal principles and institutions that give it its physiognomy. Finally, certain elements are proposed that could strengthen and consolidate the existence and effectiveness of this legal discipline.

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INTRODUCTION

The development of maritime trade, and especially of maritime transport, has throughout history been inextricably linked to the perils of the sea. These risks may originate from the will of nature and the sea, as in the case of storms, tsunamis or tidal waves; or they may find their source, as in cases of collision between ships, piracy, barratry or war, in human conduct, whether by action or omission. Irrespective of its cause, a maritime peril is characterised by the fact that it is an abnormal event and, by the same token, a possible occurrence. It is abnormal because a maritime risk or hazard does not occur in the normal course of maritime navigation, i.e. it is an event that occurs but exceptionally; and it is possible because the risk must have a high probability of occurrence, i.e. it is an event that may occur and may cause damage. With regard to these aspects, a risk is a prelude to damage, that is to say, it is a *conditio sine qua non* for the production of a loss or damage to the person or assets of the shipowner, either because the ship he owns is damaged, or even because it results in the loss of life of the crew on board. This is known in marine insurance jargon as a "marine casualty".

Throughout history, maritime legislations have been concerned with regulating and legally regulating the risk and damage occurring on the occasion of a maritime adventure, due to the damage caused mainly to the life and health of persons, and especially to the shipowner's assets or "sea fortune". This does not exclude, of course, the damage or harm that may be suffered by the goods on board the ship, regardless of the form in which they are transported, by means of containers, solid or liquid bulk, gas, or superstructures. In short, the legislation of yesteryear only focused its attention and regulatory efforts on regulating the damage from the point of view of protecting the life and health of the crew, and jointly, on safeguarding the ship's property, goods and other elements of patrimonial order. However, in the event of a maritime casualty, what happens to the marine environment? This article studies a relatively new matter in the Chilean Legal System, corresponding to Marine Pollution due to the exercise of the Shipping Activity or, if you will, due to the activity of ships. The aim of the present work is to propose the construction of a legal "micro-discipline", whose object corresponds to the treatment of the ecological aspects of shipping activity and the commercial exploitation of ships, focused on the need to contemplate, in the legislation of Maritime Law, aspects of sustainability in the conclusion and execution of maritime contracts and other maritime

institutions. The above as an even more specific segment of the Environmental Law of the Sea, and focused solely on the need to turn the Shipping Activity into an economic sector linked to the prerogatives of Sustainable Human Development.

MATERIALS AND METHODS

For the development of this article, this study is characterized by an integrative and, in some aspects, comparative review of maritime legislation in the Chilean legal system and in the system of international law, as well as a review of the most important legal literature on maritime law, all with the aim of proposing the creation or, at least, the recognition of a legal micro-discipline called Environmental Maritime Law. In order to outline the present proposal, this study takes into special consideration the current system of Chilean Maritime Law, a legal model that is characterized, by its nature, as a branch of Private Law, and as such, focuses its field of regulation exclusively on maritime contracts for the execution and development of the maritime transport of persons and goods. However and here lies the object of this proposal, the current maritime commercial legislation deserves a necessary adaptation of its contractual criteria to promote and protect the marine environment, on the occasion of the development of maritime navigation. For all this, an exploratory methodological orientation will be necessary, based on technical bibliographical procedures of authors of Maritime Law and Environmental Law. On the other hand, it will be necessary to delimit its pre-legal contours, fundamentally in the natural sciences, such as Marine Biology, Chemistry, among others.

RESULTS AND DISCUSSION

Law is an integrative science, and its disciplinary physiognomy is fundamentally based on the unity of certain principles, such as justice, equity, equality and freedom. Its main object of regulation is the behaviour of human beings living together in society; and it carries out this task through the dictation of legal norms, understood as a direct and formal source of law. Notwithstanding this basic premise, Law has undergone a phenomenon of atomisation in recent years, whereby the intended regulatory "unity" has been superseded by the fragmentation or independence in branches or systems, giving way to what is known today as "speciality". The speciality in law is explained by the subject matter being regulated. Thus, for example, there is Maritime Law, which regulates the relationships that emerge between private parties on the occasion of navigation at sea, or Environmental Law, which aims to regulate an adequate protection, care and guarantee of the ecology and the environment. Although there is an apparent autonomy and differentiation in terms of the subject matter, there are certainly certain aspects between one or other branch that converge and promote the aforementioned unity that has characterized Law throughout history. In short, the proposal of specialties of Law does not obey a natural, spontaneous or intrinsic phenomenon of Law, but corresponds solely and exclusively to a methodological and systemic construction of the academy, whose main purpose is to promote greater uniformity, integration, application and interpretation of the legal rules in the face of the increasingly specialized and sophisticated life of the human being. As VERGARA (2015) has already mentioned, the autonomy of legal disciplines is a culture formulated by learned jurists through treatises, manuals or courses, and they play a fundamental role in the application of Positive Law. In short, the specialty of a branch of law will depend, on the one hand, on the direct and formal sources that compose it, these being, fundamentally, the positive rules that regulate a matter as a whole; and on the other, an adequate identification and recognition by jurists of the institutes, theories and principles on which the speciality of that discipline is built. In this order of things, and after having navigated through the way in which a legal discipline is constructed, due to the work of the Doctrine of the authors or Jurists in identifying the foundations, theories, principles and legal institutions, and the speciality of the matter that regulates the legal norm, it is possible to conclude that there is a methodological unity and coherence and, therefore, the idea of a system. But establishing the existence of a specialised discipline or branch of law is not exhausted with the mere affirmation or superficial recognition of certain rules and certain legal institutions that bring together certain characteristics of coherence and unity; for this reason, the jurist must examine in greater detail, *ad intra*, the genomic structure of the subject matter that he intends to endow with speciality. To this end, it is useful to apply a technique or organising tool that facilitates the systematisation, determination, understanding and purpose of the legal rules. This has been recognised by the doctrine (VERGARA, 2015) as the Theory of Dogmatic Nuclei. The Dogmatic Nuclei correspond to the backbone on which a legal discipline is structured or even, in the case of this work, a microsystem. They are theoretical and methodological tools that tend towards the desired disciplinary autonomy, setting the current limits of each specialised branch of Positive Law in force. According to VERGARA (2015), the idea of Dogmatic Nuclei fulfils a triple function, consisting of determining the legal nature of the rules; to know whether or not there are legal gaps or legal vacuums; in order to ultimately, and as a result of the above issues, know when it is necessary to resort to the elementary legal principles of Law. To identify a Dogmatic Nucleus there are, according to VERGARA (2015) two phases: 1) firstly, each Jurist must observe a sector of reality, separate it and dissect it according to its specificity. From the intersubjective legal relationship that is the basis of each discipline, flows an area, a subject or sector of social life that configures it. Thus, for the case under analysis, the specific reality is based on the legal relationships that emerge on the occasion of maritime navigation, i.e. the contractual relationships inherent to maritime transport, mainly of goods. Regarding this point, for example, Chilean law regulates in the Code of Commerce, certain specific maritime contracts for the transport of goods by sea, namely, Chartering, contemplated in Article 930, and which recognises three contractual modalities, namely, time chartering; full or partial voyage chartering; and bareboat chartering. Articles 974 et seq. of the same Chilean Commercial Code provide for the Contract of Carriage of Goods by Sea. Because of this, the Jurist is able to obtain the Positive Law in force regarding the *factum* of that legal relationship, and that for the proposed case, corresponds to the rules of the Commercial Code that regulate maritime transport, as a commercial activity (*factum*) consisting of moving or carrying goods. 2) Secondly, the Jurist must formulate, design, delimit and describe the contours of each discipline, and recognise from this, a unique and proper dogmatic nucleus.

Therefore, and for the purpose of this work, the understanding of the system of Maritime Law tends and necessarily leads to conclude whether or not there is an ecological or sustainability phenotype in the rules that exclusively regulate inter-subjective relations between private parties, these being those already defined, that is, those relating to Maritime Transport. In short, the Dogmatic Nuclei are the axiological foundation of a legal discipline, and contribute to its construction, autonomy and specific speciality. With regard to the object of this work, it is necessary to affirm that the laws of Maritime Law are the *locis* in which the inter-subjective relations of a commercial nature, already described above, are situated, and which make up the subject matter that underpins the discipline of maritime navigation in the Law. Now, and with regard to this consolidated approach, it is relevant to determine the way in which Maritime Law, which is, as has been said, eminently commercial and of a private nature, takes charge of regulating and systematising principles and elements of Marine Environmental Law. For this purpose, and in accordance with the composition of the Dogmatic Nuclei, it is relevant to delimit the inter-subjective legal relationship, the subject matter and the principles.

The Intersubjective Legal Relationship and the locis in which it is situated: Carriage of Goods by Sea is the essence of Maritime Law, and finds a legislative substratum in both State and International Law. In addition, most of the rules of maritime law are essentially uniform in all legal systems (BOKAREVA, 2019), which is why this discipline has earned the title of "Universal Law". Notwithstanding

the above, most national and international rules establish a basic status and focus their object of regulation primarily on the liability of the carrier or shipowner. However, and being rules which by their nature fall under private law, as they regulate commercial and contractual relations between private parties (shippers, shipowners and consignees), they do not provide a strong environmental protectionist statute for the development of maritime activity. This may be due, in part, to the origin of maritime law in Chile. On the one hand, Book III of the Chilean Commercial Code was replaced by Article 1 of Law No. 18.860, published in the Chilean Official Gazette on 11 January 1988. In turn, and even older, is the Navigation Law contained in Decree Law No. 2222, whose origins date back to 1978. In this sense, only this last norm contemplates, within its articles, matters related to the protection of the environment, but it is rather situated in Administrative Law. Certainly up to that time, the evolution of Maritime Environmental Law was still incipient, and there were only a couple of rules of International Law that dealt with the matter.

Having defined the *locis* in which maritime navigation is deployed, that is, the internal rules of the Chilean legal system, there are also other rules that regulate this form of transport at an international level, namely, the Hague Rules, the Hague-Visby Rules, the Hamburg Rules and the Rotterdam Rules, and which are all concerned with delimiting the liability status of the maritime carrier or shipowner, but mainly on the occasion of the breach of contracts of carriage of goods by sea, damage, delay, or other damage or loss that may be suffered by the contracting parties or the cargo. Nevertheless, and beyond any national or international rule or law that deals with the uniform regulation of maritime transport contracts, and insufficiently the unrestricted respect for the environment, there are other legal institutions of a contractual nature (and therefore, inter-subjective relations) that should also guarantee in their operation, a broad and strengthened care for the marine environment. In this respect, the most relevant legal institutes (or those that deserve more attention) are the Ship Classification Societies, and the compulsory Marine Insurance Contracts under *Hull & Machinery* (H&M) policies. Strictly speaking, every ship must be classed for navigation, for which there are Institutions in charge of certifying that each ship or vessel meets the optimum requirements of buoyancy and seaworthiness, thus being a safe ship. The Classification Societies only certify the functionality and seaworthiness of the ship in the interests of the owner Shipping Company or Insurance Companies, but not in the interests of the protection of the marine environment. Following closely the statements of GOLDREIN (et al, 2012) the classification of ships corresponds to an inspection of the ship, by virtue of which the conditions of the ship with respect to its buoyancy and seaworthiness are established and certified in order to obtain marine insurance coverage.

These inspections become more comprehensive as the ship ages, and surveys of the ship focus on corrosion and structural fatigue, as these pose the main threats to the structural soundness of the ship. In general, the specific function of classification is to enable the shipowner to opt for and take out marine hull insurance in respect of the classified ship; however, as a side effect, it provides a guarantee that the ship is structurally seaworthy and safe, but does not establish stringent conditions of protection and respect for the marine environment. This has led to the fact that in the practice of navigation, it is still very easy to appreciate the existence and validity of the so-called *substandard vessels*, which correspond to old ships that, beyond complying with minimum seaworthiness standards, are far from adapting to basic or minimum parameters of respect for the marine environment. These vessels pose a latent risk to the ecosystem, since they can easily suffer breakdowns or accidents, damaging the marine ecology by spilling oil, noxious or hazardous substances, liquid and solid bulk cargoes, among others. Regarding *substandard vessels*, Chilean maritime law has not been concerned with establishing restrictions on access to this type of vessel in the maritime territory of the Republic of Chile.

On the other hand, and in the matter of Maritime Insurance, Chile has taken care to impose on shipowners, the contracting of compulsory maritime insurance for those vessels with more than 3,000 GRT or Gross Registered Tonnes, which according to Article 146 of the Navigation Law N° 2222, is intended to respond to possible spills of hydrocarbons or other harmful substances. However, insurance companies have shown a clear tendency to contract with shipowners or owners of *substandard vessels*, demanding as a basic requirement, the certificate issued by a Ship Classification Society. In short, although the marine legislation has presented a clear protectionist intention in favour of the marine environment, in reality and from the point of view of the individuals contracting in the maritime business, there has been a harsh contradiction with respect to the will of the Chilean legislator to protect marine biodiversity. This is not only true for the execution of maritime contracts, but also for all stages of a ship's life. For example, in shipbuilding contracts (CURTIS, 2012), ship repair or scrapping, there is no state interference. There is no "green stamp" that certifies that the performance of certain shipyard industries acts sustainably. While there are weak international treaties on shipbreaking, such as the 2009 Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, Chile is not a state party to this instrument. Worse is the normative panorama in international matters, as far as Shipbuilding is concerned, as there is not even an International Treaty on this matter. This situational context allows us to conclude very clearly that maritime laws protecting the marine environment have been created in a disorganised and reactive manner due to the disasters that have occurred. Notwithstanding this bleak picture, there is a consensus that the fundamental purpose of international treaties is the full reparation of the victim of pollution, but is it really the human being, par excellence, who is the real victim of marine pollution?

Shipping Activity and the Pollution of the Marine Environment. The ecocide of the sea as a matter

It has been stated above that the proposal of this work is the creation or, at least, the recognition of a legal micro-discipline, called Environmental Maritime Law. In the same way, it has been stated that the shipping activity or activity of ships involves a double variant, that is, from the commercial Maritime Law, a legal relationship between private parties, which is why this branch of Law corresponds, in principle, to Private Law; ergo, it has also been stated that the activity of ships not only produces effects of an economic or commercial nature, but it is also a source of pollution in the *locus* in which it takes place: the Sea. The causes of pollution that threaten the sea are diverse, and may originate on "land" or from a source located within the oceans themselves. With regard to land-based sources of pollution, wastewater runoff, with hazardous substances from mining, agricultural pesticides or even sewage, stands out. According to POTTERS (2015), runoff is the pollution that ends up in the seas and oceans, and accounts for 50% of pollution cases. As for the sources of pollution located within the sea, ships represent the main protagonist of pollution events. Based on the above, the ship is located in the inter-subjective legal relations as the main protagonist of shipping activity and, likewise, as the main source of pollution of the Sea. According to POTTERS (2015) regarding the amount of pollution that ends up in the water, it must be said that most of it is due to the occurrence of an accident. Undoubtedly, the quantitatively most important form of aquatic pollution is caused by oil spills. As oil consists of a wide range of hydrocarbon molecules with different molecular weights and properties, it is not easy to give a concise picture of the total damage caused by an accidental spill. It has been argued, then, that the ship is the main protagonist of shipping activity and, in turn, is the main source of marine pollution. But what is legally understood by ship? In this regard, article 826 of the Chilean Commercial Code states that "ship is any main construction, destined to navigate, whatever its class and size". Article 1(1) of the International Convention on Civil Liability for Oil Pollution Damage - CLC 69 states that "ship means any seagoing vessel or floating marine craft, of whatever type, actually carrying oil in bulk or cargo". Similarly, the International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, in its Article II, paragraph 2, defines "ship as: a) any seagoing vessel of any type, and b) any floating craft, except installations or other devices used for the

exploration of the seabed, the oceans and their subsoil or the exploitation of their resources". In the case of MARPOL 73/78, the concept of ship or vessel is diametrically different and even novel, as it considers as vessel, in its article II numeral 4º, all "(...) vessels of any type operating in the marine environment and also covers air craft that glide on a cushion of air, submersibles, floating vessels and fixed or floating platforms". From the above, certain common characteristic elements can be deduced, which are included in the various national and international regulatory statutes: firstly, it is a construction of human ingenuity, whose main characteristic is given by its capacity to float and navigate. Next, by virtue of its buoyancy and seagoing power, the ship must be capable of carrying cargo or, as part of itself (fuel), goods which, if spilled at sea, will cause pollution. In short, and in line with the structure of the Dogmatic Nuclei, the ship represents a common point of convergence, both for Maritime Law in its essentially commercial and contractual aspect of private law, and for Environmental Law, as it is conceived as a source from which marine pollution emanates. And it is in the latter aspect, in pollution, that the *factum*, i.e. the matter regulated by Maritime Environmental Law, arises.

According to the above, Marine Pollution is the *factum* or specific matter that makes Maritime Environmental Law specialised. In this sense, it is important to specify what is meant by marine pollution. The Chilean Law does not expressly state a concept of "marine pollution", however, Law N°19.300, which approves the Law on General Bases of the Environment, is the direct and formal source of Law that establishes an approximation to the concept of pollution, but on an essentially generic basis, by stating in its article 2 letter c) that "Pollution: presence in the environment of substances, elements, energy or combination of them, in concentrations or concentrations and permanence higher or lower, as appropriate, than those established in the legislation in force". Notwithstanding this generic definition established in Chilean domestic law, international law is the most fertile and prolific source for conceptualising the matter in question. Thus, the UNCLOS or United Nations Convention on the Law of the Sea, in its article 1 number 4, states that "pollution of the marine environment means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which produces or is likely to produce harmful effects, which causes or is likely to cause harmful effects such as damage to living resources and marine life, hazards to human health, impairment of maritime activities, including fishing and other legitimate uses of the sea, deterioration of the quality of sea water for use and impairment of recreational amenities". This definition is agreeable when it comes to breaking down its content and, of course, specifying the legal assets that it protects.

The Protection of the Marine Environment. Fundamental Principles and Institutions of Maritime Environmental Law

In the preceding sections, it has been stated that shipping activity has a double importance for the Law, that is, from a commercial aspect with respect to maritime transport contracts as a strictly commercial or economic matter; and on the other hand, the special consideration that this economic or commercial activity is potentially dangerous and produces significant and harmful effects on the marine environment. For this reason, it has been stated that the shipping activity in its commercial-environmental binomial is a matter of relevance for the Law, finding an express and uniform regulation in the Code of Commerce and in International Treaties, regarding the exercise of transport as a contract between private parties; and on the other hand, there is a dissemination of rules that regulate the environmental aspects derived from the activity of ships. It has also been argued that the ship is the main protagonist of commercial activity, and in turn is a source of marine pollution or contamination. It is essential to point out that maritime laws on the environment are born in a disorderly and always reactive manner. This was the case, for example, in the famous *Esso Petroleum Co. Ltd vs Southport Corp.* case of 1956, heard by the House of Lords in the United Kingdom, in which the British courts declared the non-contractual liability of a shipping company for the spillage of oil at sea, thus setting an important precedent in case law (BAATZ, 2014). Eleven years after that disaster, the *Torrey Canyon* catastrophe was the largest marine environmental incident ever seen, and it was only after its occurrence that the international community was able to become aware of the innumerable and substantial damage that can be caused by an oil spill from a single vessel (HILL, 2014). Other events of equal or greater importance were the sinking of the *Amoco Cadiz* off the French coast after hitting a rock; the fracture of the tanker *Eleni V* after a collision with another vessel off the east coast of England; and the spill of ten million gallons of crude oil in 1989 from the *Exxon Valdes*, in Alaskan waters. Regarding the latter case, HILL (2014) states that after the *Exxon Valdes* tragedy, the United States legislated with great force even over existing international treaties on the matter, in order to prevent the occurrence of an event of similar magnitude and characteristics. However, it should be understood that, as in other cases of maritime accidents involving marine pollution, the legislative motivation has always been reactive and not preventive, let alone precautionary. In view of the above, the two guiding principles in marine environmental matters flow, namely the Precautionary and Preventive nature of the discipline and, therefore, of the normative sources that regulate a given matter. In this sense, it is possible to affirm that, as science and technology have developed, humankind has much more accurate risk prediction systems than in past centuries, such as, in meteorological matters, advance knowledge of storms and tempests at sea. The same is suddenly true of the increasing development of the media, whereby a shipowner or shipowner can impose with great certainty on the political or social upheavals that may occur in a given port, where his ship should arrive, and through a deliberate decision such as a change of route or destination, could avoid exposing the ship to a possible aggression culminating in a likely environmental incident. Against this position, EPINEY and SCHEYLI (apud BERMÚDEZ, 2014) reason that the fact that the relationship between available scientific knowledge and the complexity of ecological systems means that there is no absolute certainty regarding the future evolution of environmental hazards and risks. In short, and regardless of the position adopted, the precautionary principle imposes on States and also on the International Community, and in general, on society as a whole, to act in advance, including situations in which there is no absolute certainty of the effects that a certain event may have on the environment (BERMÚDEZ, 2014). The Preventive Principle, on the other hand, assumes scientific knowledge of the environmental consequences of a given activity, i.e., it operates when environmental damage is foreseeable, according to the available evidence (BERMÚDEZ, 2014).

Another relevant principle in marine environmental matters is the *polluter pays* principle, by virtue of which environmental damage must be adequately and, as far as possible, fully repaired. Although Law is the appropriate disciplinary instance to provide certainty and social peace to society, the field of application and consideration of legal goods or "protected subjects" by legal systems through specialised disciplines, also includes other "non-human" entities, such as animals, plants and the environment in general, certainly endowing them with some degree of personality. Faced with this way of operating, the Law does not exhaust its expectations and prerogatives in the sole and exclusive protection of human beings, but also of the environment in which they develop. Maritime Environmental Law is a counterweight to the *laissez faire* of shipping activity and ships, imposing obligations of unrestricted respect for marine ecology. In this sense, it is important that States, the International Community and, above all, the shipping business groups that participate through the adoption of soft law rules, give greater seriousness and importance to phenomena such as climate change or the impact produced by the development of maritime activities. It is not auspicious for the development of the environment to have to live with denialism in the face of the visible phenomenon of pollution of the seas. Under no circumstances can the marine environment be conceived with a sole and exclusive commercial interest, but it is also necessary to stimulate its care through more effective legal rules as a form of gratitude for its instrumental facilitation in the development of maritime trade.

Proposals for a better consolidation of the new discipline

The development of environmental maritime law is not a recent development. However, as a legal discipline or speciality, it has gone unnoticed in its consolidation. Its lack of maturity or scarce recognition is mainly due to its confusion as an exclusive branch of Administrative Law on the one hand, or of Maritime Law on the other. It is important for its construction, improvement, strength and independence, the pursuit of its speciality. This will bring undoubted benefits to the object of its regulation, as it will allow to delimit the specific contours of Maritime Environmental Law, its institutions, principles, subjects and legal rules. The prevention and care of the marine environment cannot only correspond to the protectionist work of Administrative Law, nor can Maritime Law be exempted from containing essentially "cold" rules that are alien to the regulation of the effects produced by the exercise of shipping activities on the marine ecosystem. It would seem that the private law rules of Maritime Law are content with the existing statutes on environmental matters, without making the slightest effort to reformulate and rethink new and better maritime contractual legal institutions in favour and to the benefit of the environment, at least as a tribute to the precautionary and preventive principles of environmental protection.
In terms of direct and formal sources of international law, it is essential to create a global normative instrument that crystallises legislative uniformity on marine environmental institutions. Certainly, the difficulties in adopting a "universal" model lie in the free will of the States to submit to a system of imperative International Law, where each country could make use of the Right of Reservation on the adoption of a Treaty as indicated in Section Two of the Vienna Convention on the Law of Treaties (articles 19 to 23 inclusive) and modify or substantially vary the original meaning and scope of the aforementioned instrument. Worse still is the case whereby a State is free to decide whether or not to adopt a given Treaty.

In Chile, and perhaps in most countries, it is necessary to remove the knowledge of legal conflicts of a marine environmental nature from the ordinary justice of the state courts, both because of the lack of professionalism of the judges in the field, as well as the lack of technical knowledge in this type of events; and also because of the strong impact caused by the edicts of state justice in the shipping industry, which becomes more fearful or reluctant to seek refuge in the legal systems of some countries in the event of a maritime incident occurring. In short, maritime environmental law is experiencing a real "criminalization", causing severe problems in the development of maritime navigation. Consider that in Chile, Article 1203 of the Commercial Code establishes that "any dispute arising from facts, acts or contracts arising from maritime commerce or navigation, including maritime insurance of any kind, shall be submitted to arbitration". In this sense, the rule is that the settlement of maritime disputes shall be settled by a highly qualified judge-arbitrator specialized in maritime law. Regarding marine pollution, the procedural situation is diametrically different: the Navigation Law N°2222 provides in its paragraph 4º, "of the Court and Procedure", establishing in its article 153, that "[a] minister of the Court of Appeals having jurisdiction over the place where the facts of the case have occurred, shall hear in first instance (...)" all matters arising from marine environmental pollution, and in which the corresponding compensation is litigated. Clearly, the Courts of Appeal are Ordinary Courts dependent on the Judiciary of the Republic of Chile, and their judges lack, as a general rule, the technical knowledge of the speciality to settle a matter of such high transcendence.

For this reason, it is advisable to reformulate the procedural structure with respect to the jurisdictional body, giving greater competence to the Arbitration Judges. As a corollary of the above, the existence of a specialised maritime court may help to ensure uniformity in the interpretation, application and integration of the Treaties on Marine Environmental Pollution. The jurisprudence is therefore essentially dispersed. It could therefore be conceivable that this situation poses a real danger to the sea. On the other hand, it is worth noting that Maritime Environmental Law is facing a despicable and detrimental philosophy of "shared liability", typical of an activity where there are many interests placed on a maritime adventure. In this sense, it is difficult to obtain a compensation payment from the real party responsible for a maritime incident involving marine pollution. This is further compounded by the fact that the maritime industry is moving from *self navigation* to *low cost* maritime commerce, i.e. everything related to shipping should be at the lowest possible cost, spending as little as possible, even if it may cause severe damage to the marine environment. No importance is given to the protection of marine ecology. This is materialised in Maritime Environmental Law, since the participation of the shipping sector in the elaboration of laws and international norms is so influential that these laws or sources of law are drafted in the "image and likeness" of the interests of shipping companies. In addition, the *low cost* system of the shipping market is materialised in the aforementioned *substandard ships*, which lack the sufficiency and naval technical skills to navigate in a way that is friendly to the marine environment. Thus, the *low cost* economic model favours ships that have a cheaper and more environmentally friendly operational cost, in order to maximise profits and economic benefits.

In contractual matters, and as Maritime Law is a branch of private law, that is, it regulates contractual relations between private parties on the development of navigation and transport by sea, this discipline must establish some limits to the prevailing *laissez faire* system, fundamentally through the adoption of an environmental institutionality as a guiding principle of contracting. This is where the autonomy and alleged speciality of Maritime Environmental Law is born and consolidated. There are common and highly frequent contractual cases, such as chartering, in which elements of protection of the marine ecology can be included. For example, article 937 of the Chilean Code of Commerce, regarding Time Chartering, provides as obligations of the charterer: "(...) 1º To present and place the vessel at the disposal of the charterer on the agreed date and place, in good seaworthy condition (...)", i.e. the vessel must not only be in seaworthy condition for the proper and safe development of the maritime adventure and in protection of the interests of the parties involved in the maritime expedition, but must also be in an ethical and sustainable condition to provide greater protection for the environment (*locus*) in which the navigation activity takes place. In the field of Marine Insurance, something similar should happen: Marine Insurance Companies should be contributors to the marine environment, and should cease to contract insurance policies in favour of *substandard ships*, even in compulsory *Hull and Machinery* (H&M) policies. In short, there should be an overriding public interest in private maritime contracts, consisting of due care for the health of the Sea.

Finally, in view of the above, there are at least three structural aspects that affect the perspective of maritime risk and its impact on the pollution of the marine environment. Firstly, the tolerance of maritime insurance in contracting with ships that have more than sixteen years of useful life, with an evident lack of maintenance, where only the economic benefit of the payment of insurance premiums by shipping companies is relevant. Secondly, the Open Registers of Ships (COLES; WATT, 2009) are in need of a modern revision, regarding the technical characteristics of the registered ships, titling and conventions. Open registry states generally do not subscribe to the international marine environmental treaties in force, therefore the flag state of the vessel will not be able to judge for lack of treaty (absence of law) (OYA, 2015). Finally, and thirdly, naval technology is important from the construction to the scrapping of the ship. It is highly relevant to take a step towards "Green ships", in order to reduce the levels of ballast water pollution, Greenhouse Gases, among others. All these proposals and critical expressions with respect to the current state of the shipping market and maritime navigation, are correct and friendly formulas for the marine environment, since they are in line with the predicates of Sustainable Human Development and unrestricted respect for the ecology of the seas. Nevertheless, Chile should take advantage of the magnificent institutional opportunity it is experiencing today, including an express recognition in its New Political Constitution, guaranteeing, promoting

and respecting at the highest level of legislative recognition, the meaning and value represented by the Sea.

CONCLUSION

The construction of Maritime Environmental Law as a legal micro-discipline requires a methodological consolidation based on the idea of a system, that is, setting its limits and specific contours that substantially differentiate it from other branches of Law. The application of the theory of the Dogmatic Nuclei is of immense practical utility when defining the elements on which this legal discipline is based: an inter-subjective legal relationship, the subject matter and the principles on which it is founded. With regard to the intersubjective legal relationship, maritime navigation finds a double regulation, both in Maritime Law and in Private Law, which is the fundamental basis of contractual relations between individuals, oriented towards the contracting of maritime transport; and on the other hand, the harmful effects that can emerge from the execution of maritime navigation and its impact on the marine environment, understood as the locus in which navigation takes place, an aspect that corresponds to the regulation of Administrative Law and Environmental Law in general. In this sense, the locis of Maritime Environmental Law is contained in scattered rules of an environmental nature, both in International Law and Chilean Law, making its uniformity, application, integration and interpretation difficult.

On the other hand, Maritime Law presents uniformity, coherence and systematicity, which does not prevent the integration of environmental rules in the execution of maritime contracts. Ultimately, this would result in a "green" contract law. The subject matter is, quite clearly, marine pollution derived from the exercise of the maritime activity of navigation; pollution that finds an objective basis or cause in the main protagonist of maritime navigation and marine environmental disasters: the ship. Finally, the principles of Maritime Environmental Law are the axial foundations on which the object of regulation of this discipline will be strengthened. Precaution and pollution prevention should be the genetics of future international treaties on marine environmental protection, since at present these sources of law are essentially remedial and reactive, and deal mostly with the human being as a victim. Notwithstanding this premise, the principle of reparation and compensation for the damage caused must be consolidated with even more strength and certainty, which must in any case be integral.

The existence and recognition of a Maritime Environmental Law as a unity between the contractual aspects of Maritime Law and the sustainability of Administrative and Environmental Law, facilitates the adoption of concrete and tangible policies of Sustainable Human Development, where the marine environment becomes the main protected legal asset. The marine environment and the ocean are one. The outdated concept of borders must be destroyed. The champion of this discipline must be the protection and care of marine biota in a fundamentally integrated manner.

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