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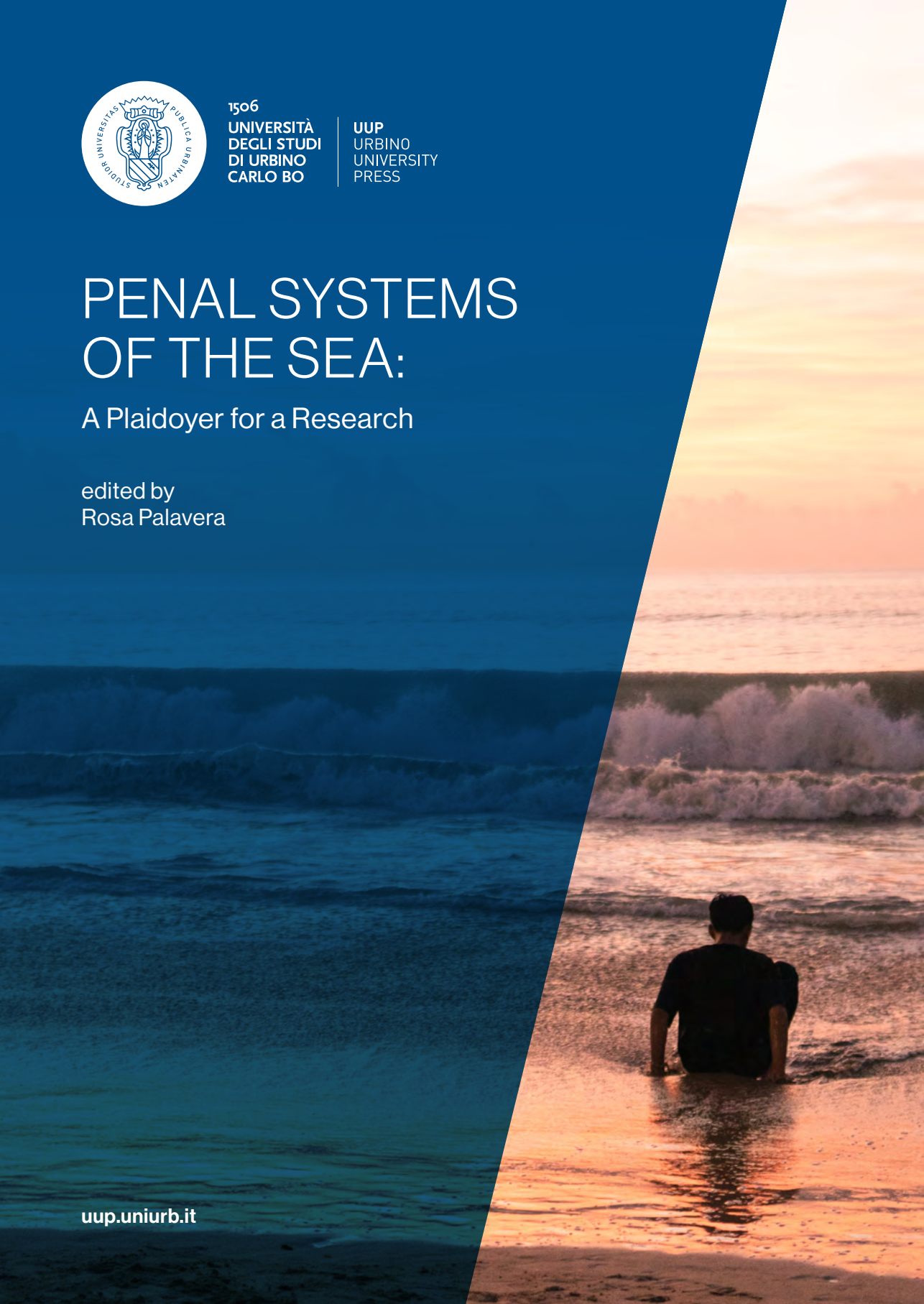
PENAL SYSTEMS OF THE SEA:

A Plaidoyer for a Research

edited by
Rosa Palavera



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01.
Le carte di Federico. Documenti pubblici e segreti per la vita del Duca d'Urbino (mostra documentaria, Urbino, Biblioteca di san Girolamo, 26 ottobre - 15 dicembre 2022), a cura di Tommaso di Carpegna Falconieri, Marcella Peruzzi, UUP 2022

02.
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SOMMARIO

AUTHORS & ABSTRACTS

ALESSANDRO AMATO

Alessandro Amato is a geologist, Research Director at the Istituto Nazionale di Geofisica e Vulcanologia and Chair of the UNESCO-IOC Intergovernmental Coordination Group for the North East Atlantic, Mediterranean and connected sea Tsunami Warning and Mitigation System (NEAMTWS). He has coordinated several national and international projects, including research in Antarctica and in tsunami science and risk mitigation. He is author and curator of scientific books, including two collective volumes on the relationship between Science and Law.

Black swans and grey rhynos. The art of reducing the tsunami risk

The paper investigates the relationship between science and law in relation to the phenomenon of tsunamis, whose complexity, unpredictability and relative rarity results in little attention from the public and policymakers; the "black swans", unexpected mega-events of incalculable damage, are flanked by relatively smaller "gray rhinos", whose frequency, danger and ability to sow death, at least locally, is nevertheless underestimated. In this context, on the one hand, cultural action for awareness and active involvement of the population, particularly the younger generation, becomes crucial and, on the other hand, the adoption of detection and alerting tools, with respect to which a single error can have enormous costs and undermine the reliability of the entire system for the public. Precisely in this respect, however, scientists faced with a choice between more backward but internationally validated procedures and innovative and more accurate but not yet validated methods wonder about the legal consequences and possible allocation of liability in case of error: these aspects, inevitably, develop globally, increasing the uncertainty in which the system must operate.

LORENZO CUGLIARI

Lorenzo Cugliari is a sociologist, research fellow at the Istituto Nazionale di Geofisica e Vulcanologia and member of the UNESCO Ocean Expert Group. He's first author of

studies on tsunami risk perception, communication through public warning systems, natural hazard communication and technology-mediated science communication.

Improving people's self-protection behavior to enhance community resilience to tsunami risk

The Latin expression "*Festina lente*" summarizes the contrast between institutional interventions, which are often hasty and sometimes rash, which follow the need for policy-level adoption of procedures to manage a risk, and the ability of individuals and communities to instead develop, over time, understanding, decoding and awareness of the phenomena, resulting in the undertaking of risk *mitigation* strategies. Specifically, the sociological analysis looks more closely into the relationship between the processes of risk assessment, management and communication by decision makers and the invisible dynamics by which the community processes them in terms of values, beliefs and social norms, emphasizing the factors for their success on the ground.

STEFANIA ROSSI

Stefania Rossi has been Adjunct Professor and Research Fellow in the Università degli Studi di Trento. She is a lawyer and a FISO Federal Prosecutor. She has been responsible of the research project *Prevenzione dei sinistri in area valanghiva*, funded by Università degli Studi di Trento and Fondazione Cassa di Risparmio di Trento e Rovereto. She published, among others, the monograph Rossi S., 2020. *Il sistema penale della navigazione. Contributo allo studio del diritto penale marittimo*, Trento: Università degli Studi di Trento, and co-edited the volume Melchionda A., Rossi s. (eds.), 2019. *Prevenzione dei sinistri in area valanghiva. Attività sportive, aspetti normativo-regolamentari e gestione del rischio*, Trento: Università degli Studi di Trento.

The criminal law of the sea: sources, rules, subjects, territoriality

The paper analyzes the criminal law of the sea from the more classical approach of the law of navigation, focusing on three main features. First, the fictional nature of territoriality, which finds its core in what is known as the floating territory. Secondly, the identification of the *ratio* for this fiction in the presumption of the state's interest in intervening in ships flying its flag, an interest which is, however, considered "retractable" in the face of inter-

nationally recognized aspects of importance. Finally, generating, following this approach, a system of attributions and responsibilities that finds its crux in the figure of the ship's captain, in which private engagement, public role and even marital status functions are inextricably intertwined.

CECILIA VALBONESI

Cecilia Valbonesi is Researcher in Criminal Law at UnitelmaSapienza University of Rome, Research Associate at the National Institute of Geophysics and Volcanology, consultant to the INGV Tsunami Warning Centre and Chair of Working Group 4 "Public Awareness, Preparedness and Mitigation" in The Intergovernmental Coordination Group for the Tsunami Early Warnig System of the IOC UNESCO. She has published, among others, the monograph Valbonesi C., 2022. *Rischio terremoto e rischio maremoto*, Napoli: Edizioni Scientifiche Italiane, and co-edited Amato A., Flora G., Valbonesi C. (eds.), 2019. *Scienza, processo e diritto penale nell'era del rischio*, Torino: Giappichelli.

Protecting sea ecosystem from tsunami risk and from risk of marine pollution in the international legal framework

The reflection stems from observing a variety of national and supranational criminal law provisions concerning the sea as an ecosystem and its interactions with human activities. After noting the inconsistencies and overall ineffectiveness of current criminal policies, the hendiadys of the sea as a risk factor for human life and as an ecosystem that is vital to its survival is read rather as a unified one, advocating the priority of long-term cultural actions for ecosystem awareness and the development of participatory strategies for integrated protection.

FILOMENA PISCONTI

Filomena Pisconti is Researcher in Criminal Law and Adjunct professor at the Dipartimento Jonico in "Sistemi Giuridici ed Economici del Mediterraneo: società, ambiente, culture" of the Università degli Studi di Bari Aldo Moro. Her research interest focuses on the treatment of strangers in criminal law, in particular the phenomena of criminalisation of immigration and labour exploitation. She published, among others, the monograph Pisconti F., 2022. *Profili penalistici del soccorso in mare dei migranti*, Bari: Cacucci Editore.

Multilevel normativity of migrant sea rescue between state duties and individual guarantee positions.

The set of sea rescue laws is analyzed in the framework of integrated, multilevel system of national and international rules that establish a network of complex and sometimes mutually overlapping obligations. From the international laws of the sea governing the rescue of shipwrecked people, often referred to as "laws of the sea", European asylum rules are distinct and, incorporated within this complex system, rules that are part of national laws. The paper then emphasizes the limits of resorting to international law as a "remedy" for system dysfunctions, which rather requires a careful analysis of regulatory obscurity and gaps and, even before that, an open and participatory resolution of the underlying tension between the legal context in which search and rescue operations originally found a secure legal framework and the current political reality.

ROSA PALAVERA

Rosa Palavera is Associate professor in the Università degli Studi di Urbino Carlo Bo. She published four monographs and several papers: her interest varies from traditional themes of principle of legality, *mens rea*, penal sanctions system and comparative law to intersections of criminal law and some contemporary topics, such as IA, commons, plurality and complex territories. She also co-edited two interdisciplinary collective volumes, respectively about Islamic and Hebrew juridical traditions.

Deep waters: prolegomena of a penal system of the sea

The paper moves from the study of the *nomos* of the sea to analyze the characteristics of criminal law in "complex territories", that is, where there are both jurisdictional gaps and overlapping jurisdictions. In the face of the potentiality and peculiarity of the sea, the question is raised about the existence of criminal systems that are "territorial in the strong sense", in whose normogenesis process the territory itself constitutes a significant, unifying and possibly prevailing factor with respect to the systems that competitively exercise their sovereignty over that territory. Noting the inadequacy of the taxonomic approach that criminal law currently reserves for marine spaces, finally, it is hoped that unified, shared and inclusive criminal policy strategies will be developed, even where these involve giv-

ing up traditional forms of *enforcement*, expressive of the dominance of law over places.

LUIGI LOMBARDI VALLAURI

Luigi Lombardi Vallauri is a philosopher. He has been full professor of Philosophy of Law in the Università degli Studi di Firenze and Università Cattolica del Sacro Cuore; then taught at the Università degli Studi dell'Insubria and the Università degli Studi di of Sassari, from which he was called by "clear fame". He has been director of the CNR Institute for Legal Documentation and president of the Italian Society for Legal and Political Philosophy, as well as author of several books and philosophical-legal essays.

My sea

The sea, above all, and then the relationship between man and the sea are sketched in a selection of poetic excerpts and personal notes. Not a juridical text, but many insights that cannot leave unmoved the jurist.

INTRODUCTION

Luciano Eusebi
Università Cattolica del Sacro Cuore

The sea: almost a metaphor for the human condition. We know its surface, but very little of its depths. And yet, even in those depths we delve: sometimes cautiously and groping around, until we encounter some manifestation of life that we would have supposed to be completely improbable; sometimes making those abysses a mere object of human intervention, without investigating anything more than things regarding that purpose: and this is the case of the drilling in a seabed that hides some useful resources or the laying of an underwater cable.

As happens with intersubjective action, the sea unites and divides. It has favored encounters, ever since we began, in prehistoric times, to ride its waves: which, by their very nature, are refractory to boundaries. After all, today most trade passes through the sea. However, the sea has also supported the ships of slave traders and of colonialism. And it continues to host, much more than yesterday, terrible floating war machines.

The sea, like man, gives life and gives death. Water has been the womb of life and marine waters offer nourishment (given that towards its inhabitants – excluding whales, dolphins and turtles – there seems to be less care than for land animals in general). Those waters, then, rise up among the clouds, and from there make fecund the aridity typical of the earth. At the same time, however, the sea can lash the coasts, fuel hurricanes, take on the terrifying force of a tsunami. And also transform itself into a liquid cemetery without gravestones for those who, precisely through the sea, try to open a less painful page in their life: although it would be truly hypocritical, for such a tragedy, to blame the sea.

It is also feared – but the causes are all human – that the water levels could rise further, so that the sea could even swallow up some flat island state; that salinity would give less and less space to fresh water; that the marine environment, used as a planetary dump, ends up being deprived of that biodiversity that is truly fundamental for the planet to remain hospitable to man; that the overheating of the sea upsets the climate, making

atmospheric rhythms and the biosphere itself increasingly less allied to human life, and also spreads marine species that infest areas outside to their original habitat.

And yet, with respect to the sea – that is, with respect to the work of man in the sea, to the risks of altering its stable multi-millennial conformation, to the very need to counter its force when it becomes dangerous for man – a systemic legal approach appears to be completely lacking. Legal systems have considered the sea in a fragmented way (with the exception, in part, of the right to navigation), depending on the contingent needs of individual States and without an overall vision, to the point of having to note overlaps between the claims of dominion or control over certain portions of the sea, or over the ships that sail it, between different countries. Remaining somewhat undetermined are the obligations and any controls regarding, for example, action in the *high seas*, with connected problems relating, above all, to polluting conducts or some sabotages of cables or pipelines.

It is a fragmentation of the juridical presence, that which has been observed so far on the topic, which, however, may not even be entirely negative, as it is susceptible to allowing new regulatory methods compared to the classic ones pertaining to individual States or deriving from conventions or agreements of mere balancing between the most immediate interests at stake.

It cannot be overlooked, in fact, that the interest of legal systems for the sea has often appeared to be aimed, even before that at the regulation of specific activities, at appropriate certain spheres of exclusive competence (of control, fishing, exploitation of underwater resources and so on).

Nor should it be forgotten that portions, at least, of the sea or its depths, as can be said, approximately, of the Antarctic polar zone and the high seas, have not yet been absorbed by the law of individual States and could constitute an embryonic area for what - when the bloody absurdity of the destructive disputes that inflame this small, fragile fragment, in which we live, in the immensity of the universe is understood (that fragment, wrapped in the blue of the sea, whose spherical objective unity has struck all astronauts, that is, its only observers from outside) - could perhaps, one day, constitute the law of the earth.

Not that the premises are exciting: when we talk, in some ways in parallel, about space law, including the celestial bodies – the moon and Mars – of the closest, probable “conquest”, the divisive dynamics in line with the interests of the most powerful seem to be reproduced, dynamics

which risk being reflected in the legal structures that, in this regard, will be further composed.

And yet, indicating new paths, open to forms of shared management on the international level of what – the sea – is undoubtedly a *common* (not immobile, fluid, pervasive of the entire planet), is the task of legal scholars: who must be able to be proactive, or even prophetic, and not just exegetes.

It is precisely in this perspective, therefore, that I would see the meaning of this collection of studies. Humble, if you like, but aimed at making a contribution so that the theme of the sea becomes a non-secondary question – and paradigmatic for future general evolutions – in the legal horizon. According to a multidisciplinary sensitivity, such as the one proposed here, which starts from the knowledge of phenomena, both on the physical-naturalistic level, and on that of the human activities involved.

It is not a matter of introducing mere prohibitions, or identifying, as per tradition, in the use of prohibitions having criminal relevance the solution, often only symbolic, to the problems.

Rather, it is a matter of identifying the assets to be safeguarded and promoted, of sorting the technical tools available for this purpose and of organizing, in the most engaging ways (in countertrend compared with the contemporary crisis of organizations of global relevance), the necessary means and behavioral criteria for the sea to not be yet another terrain of conflict, but a resource, *erga omnes*, of well-being and peace.

Only on this basis will it be possible to also think about the consequences of any conduct that is disharmonious with respect to such a kind of intentions: privileging active instruments of restoration, in conformity with a model of justice that is not interested in creating new antagonisms through retaliatory acts, but rather in constantly striving to make just, among all the subjects involved, relational modalities that have not been so.

LESSONS FROM TSUNAMI

BLACK SWANS AND GREY RHYNOS

The art of reducing the tsunami risk

Alessandro Amato
Istituto Nazionale di Geofisica e Vulcanologia

Rara avis in terris nigroque simillima cygno
Decimo Giulio Giovenale

No amount of observation of white swans can allow the inference that all swans are white, but the observation of a single black swan is sufficient to refute that conclusion
David Hume

1. INTRODUCTION

Tsunami risk is among the most difficult risks to cope with. This is due to several reasons, both inherent to the phenomenon, such as its complexity and unpredictability, and its relative rarity, which means that little attention is paid to it by decision-makers and ordinary people.

Moreover, tsunamis are often seen as black swans, i.e. unexpected mega-events such as the 2004 tsunamis in the Indian Ocean or the 2011 tsunami in Japan, which claimed tens to hundreds thousands of lives and caused incalculable damage. Therefore, the risk posed by "grey rhynos", more frequent, relatively small tsunamis with wave heights of 1-2 meters, is underrated, despite these can be dangerous and potentially deadly, at least locally. While the mega-tsunamis occur rarely in specific locations, typically many centuries, the small tsunamis may happen every few years or tens of years, hitting adjacent locations or even the same ones along some countries' coastal areas. Managing the risk posed by both "grey" and "black" tsunamis is therefore extremely challenging. The affair is complicated by the fact that the two faces of the risk may be present at the same time, as for instance, in case of a large tsunami hitting suddenly a coastal region close

to its origin (typically, a large earthquake), and other, more distant regions some hours later and with less violence. Or, the same location might be hit by either large or small inundations in two different events.

For giant tsunamis like the two mentioned above, the consequences are not limited to the devastating effects of the floods occurring in the hours following the extraordinary inundations, but also to numerous cascading events whose effects last for months and years.

Just think of the consequences on the economies of the affected countries, the disaster at the Fukushima nuclear power plant, the long-term psychological and medical effects on affected people even years after the events. In the past, similar giant events are known to have hit the coastal regions of many countries bordering all the world oceans but the increased amount of people living in the coastal regions and cities, as well as the presence of important infrastructures (such as nuclear power plants, chemical plants, commercial and touristic harbors, etc.) have strongly amplified the coastal risks. These include the coastal erosion, the storm surges, the sea level rise, and the tsunami risk which is probably the most difficult to face. Since the largest tsunamis are triggered by major earthquakes (as in the two cases mentioned above), in the vicinity of the causative fault the impact of these events adds up to that generated by the shaking of the earthquakes. For such big events, the affected areas can be huge, i.e., extending several hundreds kilometers along the coasts and with inundation reaching some kilometers inland.

For the reasons mentioned above, the tsunami risk management is particularly complex, and not free from possible judicial consequences. Trials following the Maule, Chile tsunami of 2010 (Valbonesi 2023) and the Japan tsunami of 2011 are relevant examples of this possibility. In the past decade, prosecutions have been narrowly avoided for some Mediterranean events following “false alarms”, as occurred after an earthquake in Greece that triggered an evacuation in Corsica in 2015, or after the recent case of the devastating earthquake that occurred in Turkey on February 6, 2023 (magnitude 7.8), that luckily did not generate a big tsunami.

2. WHAT IS A TSUNAMI?

Tsunamis are series of waves propagating in a water body (generally oceans, seas, more rarely lakes), generated by the displacement of a large volume of

water, typically earthquakes that deform the sea bottom. Other phenomena like volcanic eruptions or landslides occurring at sea or on the coast can also generate tsunamis. More rarely, meteorite impacts are also potential tsunami sources. About 80% of documented tsunamis worldwide were generated by earthquakes (NOAA). In this contribution, we mostly refer to seismically induced tsunamis, not only for their larger incidence but also because all the tsunami warning centers (TWS) operating worldwide are focused on these events, the only ones that are to some extent "predictable". Nonetheless, we will see that there is an ongoing effort by the scientific community to improve the forecasting capability for other specific cases like active volcanic islands, motivated by recent events in different oceanic basins.

Differently from wind waves, which move only the shallowest part of the water column, tsunami waves affect the whole water column, bringing a huge amount of energy. In open ocean, tsunamis have small wave heights and very long wave lengths, being hardly distinguished by mariners and people on ships. They travel at very high speed where the water is 4-5 km deep as in open ocean, around 700-800 km/h, almost the speed of an airliner. Therefore, it takes some hours to cross large basins like for instance the Mediterranean and even the Indian Ocean, whereas it takes more than 20 hours to cross the whole Pacific Ocean, as for instance from Japan to Chile or viceversa. The long wave length in open ocean gets shorter and slower as the tsunami gets closer to the coast, and at the same times the waves increase their height. This is why they are so dangerous when they reach the coast, being able to penetrate for kilometers inland when the coast is flat, like on broad coastal plains or in presence of riverbeds.

The term *tsunami* comes from a Japanese word, made of two parts: *tsu* (harbor) and *nami* (wave), meaning therefore "harbor wave", to indicate that these waves become relevant (and destructive) when they reach the harbors, without being noticed in open sea. The appearance of a tsunami wave, even a big one, is more similar to a rapid tidal wave than to the "water wall" which are more typical of big wind waves in case of coastal storm surges.

Different from the moon tides, which have a period of approximately 12 hours, tsunami waves have typically periods of several minutes to tens of minutes. The rapid floods filmed during the 2004 tsunami in Indonesia and even more those occurred during the 2011 one in Japan, with the sea level quickly rising over the retaining walls of the harbor, and carrying boats, cars, trees, and a whole suite of debris, are still in the collective imagination of many of us.

2. TSUNAMIS IN THE MEDITERRANEAN?

The Mediterranean Basin has a rich history of earthquakes and volcanic eruptions, which is familiar to everyone: I do not think there is anyone in Italy, Greece or Turkey who is not aware of the high seismicity of the region where they live. The same probably applies to volcanic eruptions. Who in Italy has not heard of the eruption of Pompeii in 79 AD, or the recent ones in Stromboli and Etna? The discourse is quite different for tsunamis (or "maremoti" in Italian). Most Italians do not know the historical precedents in Italy and in other Mediterranean countries, and for this reason they do not consider the phenomenon as a real risk. Recent surveys carried out in all the Italian coastal areas have demonstrated the low level of risk perception in almost all the regions overlooking the sea (Cerase et al. 2019; Cugliari et al. 2022), despite the long record of historical tsunamis available for the Mediterranean basin (Maramai et al. 2014). Moreover, recent studies have assessed the tsunami hazard for the whole Euro-Mediterranean region, taking into account both historical and geological data, showing that it is pretty high for many areas (Basili et al. 2021). The most prone areas to potential tsunamigenic earthquakes are the Greek islands in the Aegean Sea, the Marmara Sea, the Hellenic arc, the Ionian islands, southern Italy from Sicily to Calabria and Apulia, the north-western African margin of Morocco and Algeria, the Eastern Mediterranean. However, since tsunamis are able to travel very efficiently over long distances, all the areas in the Mediterranean can be considered at risk, including those that are far from important active faults at sea. Looking at the catalogue of documented tsunamis one can also finds other areas where "minor" events have been recorded in the past (for instance, in Italy: Ligurian Sea, Adriatic, Stromboli volcano, as the one occurred in 2002 described by Bonaccorso et al. 2003; Tinti et al. 2005). Moreover, it has to be considered that future tsunamis could occur in areas where they did not happen in historical times. For this reason, the hazard maps mentioned above take into account also potential tsunami sources in areas of non documented events but that are known for their seismic and tsunami potential (Basili et al. 2021).

In the Mediterranean, the percentage of earthquake induced tsunamis on the total number of known ones is even higher than at the global scale (almost 90% according to Maramai et al. 2014; 2019). Most of the reported events are not huge tsunamis like the 2004 and the 2011 events in Indonesia and Japan already mentioned, nonetheless many of them have

produced damage and in some cases death. The EMTC catalogue also contains some devastating events, as the one originated in Crete in 365 AD, or the 1908 Messina-Reggio Calabria event, both triggered by earthquakes. While it is true that the frequency of damaging tsunamis is lower than that of earthquakes, it must be considered that their impact can be devastating. On the other side, we also know that whereas for strong earthquakes the only way to moderate their impact, in terms of human life losses, is reducing buildings' vulnerability, for tsunamis it is possible to reduce the exposure with efficient warning systems and people's awareness. It is therefore very important to implement all possible actions to mitigate the risk, starting from the improvement of speed and accuracy of TEWS, but also increasing citizens' awareness, preparedness and response.

In the Mediterranean, as well as in other regions worldwide, besides earthquake induced tsunamis there are several active volcanoes with a high tsunami potential, both in Greece (worth mentioning the eruption of Santorini (Thera) volcano around 1600 BC, the first documented tsunami for the Mediterranean), and in Italy. In our country, the most active volcano from this point of view is certainly Stromboli, with several documented tsunamis mostly due to the collapse of its northwestern flank, the so-called *Sciara del Fuoco,* or to pyroclastic flows on the same slope. The last damaging episode occurred in 2002, when the water reached an elevation on land (runup) of more than 10 meters (Tinti et al. 2005). On the island there is an experimental local tsunami warning system which is able to send an alert to authorities and citizens in a less than a minute from when a tsunami hits two measuring points offshore the Sciara (Lacanna and Ripepe 2024). This system is still formally considered experimental although it is directly connected with alerting systems like sirens and messaging to local authorities. A discussion on the benefits and criticalities of such a system is beyond the scope of this contribution. At present, a joint effort supported by Civil Protection Department to the Istituto Nazionale di Geofisica e Vulcanologia and the University of Florence that implemented the local TWS is ongoing to improve the system and integrate it in the regional one (the NEAMTWS).

3. TSUNAMI MONITORING AND WARNING SYSTEMS

The first monitoring and warning system for tsunamis of seismic origin was established in the Pacific Ocean after a strong event that occurred in the

Aleutian (Alaska) islands in 1946, immediately after the end of WW2. The tsunami, which was triggered by a powerful earthquake (magnitude 8.6, that means a released energy about 1400 times that of the strongest earthquake recorded in the Central Italy seismic sequence of 2016, with M6.5), destroyed the massive lighthouse of Scotch Cap, and caused more than one hundred and fifty victims in Hilo, Hawaiian Islands, that were reached - without any warning - several hours after the tsunami waves started from the Aleutian Islands. Some other important tsunamigenic earthquakes occurred in the following years in the Pacific Ocean, including another event in Nankai, Japan in the same year (M8.1-8.4), a M9.0 event offshore the Kamchatka peninsula (Russia) in 1952, and the huge Chilean, M9.5 earthquake, the largest seismic event ever recorded on Earth until now, only to cite the strongest ones. In the following years, both the U.S.A and Japan carried out important efforts to implement efficient seismic networks and their tsunami warning centers, that became fully operational (though not as fast and efficient as today) already in the 70's.

It was therefore a big shock when, several decades later, in 2004, another huge tsunami hit the Indian Ocean, also in this case caused by a big earthquake (M9.2), and reached people on the coastal areas without any warning. The tsunami waves were huge and caused more than 230,000 fatalities and massive damage in Indonesia and many other countries, including African countries that were reached by the tsunami waves several hours after the earthquake.

After this disaster, the United Nations Educational, Scientific and Cultural Organization (UNESCO) took the lead to coordinate a global tsunami warning system that could cover all the coastal areas of the world. Four Tsunami Warning and mitigation Systems were established, namely the (already existing) Pacific (PTWS), the Indian Ocean (IOTWS), the western Atlantic/Caribbean (Caribe TWS), and the North-Eastern Atlantic, Mediterranean and connected Seas Tsunami Warning System (NEAMTWS), that of course includes Italy.

3.1. THE NORTHEAST ATLANTIC AND MEDITERRANEAN TSUNAMI WARNING SYSTEM(NEAMTWS) AND THE ITALIAN "SIAM"

In this international context, Italy has gradually built up the necessary skills to create a defense system for coasts exposed to the risk of tsunamis that could be generated in the marine and coastal seismic areas of the Mediter-

ranean. It took several years to set up a coordinated Euro-Mediterranean seismic network and a sea level monitoring network, building on UNESCO Member States national funding with the support of projects funded by the European Commission (Amato 2020). In October 2014, in close collaboration with the National Department of Civil Protection, the INGV began its monitoring activities of strong Mediterranean earthquakes that could generate tsunamis, after two years of testing. As a result, the Tsunami Alert Centre (Centro Allerta Tsunami) was created within the Istituto Nazionale di Geofisica e Vulcanologia (CAT-INGV). The CAT, in addition to monitoring earthquakes and providing a rapid alert in the event of a potentially tsunamigenic seismic events, analyses sea level data for confirmation or cancellation of the alert. In fact, immediately after an earthquake, it is not possible to know if a tsunami has been generated by the shock or not. The first direct instrumental evidence of tsunami waves come either by tide gauges in the harbors (or offshore buoys, but there are not yet in the NEAM region) or by observations by people or webcams. These latter cannot be used by alert centers to quickly verify the occurrence of an ongoing tsunami for obvious reasons (timing of report, reliability, etc.), so we must rely on the tide gauges. Unfortunately, these are not so densely distributed along the Mediterranean coasts, so it takes several tens of minutes to have a reliable confirmation of a tsunami.

For Italy, these data come from ISPRA's National Mareographic Network, which homogenously covers our coasts; the CAT also analyses in real time seismic and tide gauge data from numerous institutes in the Euro-Mediterranean area and globally through international agreements. It must be said that the distribution of these instruments is far from being dense and homogeneous, there are entire regions like the north African countries or even the eastern side of the Adriatic in which they are absent or very rare. This strongly limits the efficiency of the TWS to have timely and effective information about ongoing tsunamis. The only way to send rapid alert messages is the "blind" assessment based only on earthquake information.

In 2016, following an international assessment and evaluation procedure within the NEAMTWS, the CAT-INGV has been recognized by the UNESCO-IOC as an official Tsunami Service Provider for the Mediterranean region. Since then, it has provided alert messages to most of the Euro-Mediterranean countries and other international Institutions. Details of how the system is operated can be found in Amato et al. (2021) and in Lorito et al. (2021).

At the same time, the "twin" centers of France, Greece and Turkey (CENALT, NOA, KOERI) also received accreditation within the NEA-MTWS framework, for partial sectors of the Mediterranean, the Northeast Atlantic (France) and the Black Sea (Turkey). Later, also Portugal with its IPMA, became a Tsunami Service Provider for the North-East Atlantic. Since 2017, CAT-INGV has been providing the alert service to the national Civil Protection system, to the four TSPs and CTSPs of Greece, Turkey, France and Portugal; to Lebanon, Israel, Egypt, Cyprus, Malta, United Kingdom, Germany, Morocco, Spain; to the UNESCO IOC and to the European Commission (ERCC and JRC).

At national level, the activities of the CAT-INGV are articulated in the context of the National Tsunami Warning System (Sistema nazionale di Allertamento per I Maremoti di origine sismica, SiAM), which is composed by INGV, ISPRA (the Istituto Superiore per la Protezione e la Ricerca Ambientale) and the National Department of Civil Protection (DPC), which has functions of coordination and dissemination of the alert on the territory. The activities of the SiAM are regulated by the PCM Directive of 17/2/2017 (published in the Official Gazette on June 5, 2017). Following this Directive, DPC issued an important document in 2018, containing the Guidelines for local authorities to implement their civil protection procedures for the tsunami risk (published in the Official Gazette on 15 November 2018). Although the deadline for this adjustment was just a few months after its release, it must be said that very few Italian coastal municipalities have updated their civil protection plans to cope with tsunami risk and to be compliant with the civil protection guidelines.

Since January 1, 2017, CAT-INGV has been carrying out the alerting service in operational mode, in direct connection with the DPC's *Sala Situazione Italia* to which alert messages are sent. From here, the alert is delivered to local authorities and all the components of the civil protection system (prefectures, regions, fire brigades, national transportation and industrial facilities, etc.). The alert messages (which should be called more correctly "threat" messages, according to the international indications, to point out the distinction between the scientific assessment of a potential THREAT as determined by Tsunami Service Providers and the definition of the ALERT levels which is under the responsibility of civil protection authorities) sent by CAT-INGV to DPC and to the international recipients, contain the estimated level of alert/threat (red, orange, or just an information/no alert levels) for a series of pre-determined "forecast points" along

the coasts, and the expected arrival time of the first tsunami wave at these points.

It is important to emphasize that, unlike what is commonly done for other risks, the tsunami alert messages are delivered directly by DPC to the end-users (local authorities, prefectures and all CP components) without any intermediate evaluation. In the near future the alert messages will be delivered directly to people living in or passing through the cell broadcast technology named IT-ALERT. In other words, the quick assessment of a tsunami threat carried out in a few minutes by a suite of scientific choices and software will reach directly any single person located permanently or temporarily near the coast at risk. It is evident that, in case of a missed alert or even a false (or overestimated) assessment, there is a high chance for scientists managing the TWS of being involved in a judiciary investigation. In the first case this can even bring to a criminal offence for manslaughter, possibly involving both the researchers who developed the detection software as well as those present during the event, for instance during their shift in the operating seismic and tsunami warning room.

The decision to send the alert messages automatically to the local authorities and the population directly, without any filter by the civil protection officers, is due the timing of the tsunami threat which can be very short in case of earthquakes occurring very close to the coast (or in case of tsunamis induced by a volcano flank collapse like in the 2002 Stromboli event). It was the case of the recent Samos tsunami in 2020 (October 30), well documented by webcams, video clips and pictures, when the first waves reached the coast of the Samos island 3-4 minutes after the shock. Similar timing was observed for the Palu (Sulawesi, Indonesia) tsunami in 2018, whereas slightly larger times (5 to 10 minutes) have been reported for the 1908 Messina-Reggio tsunami (Baratta 1909; Platanìa 1910). Of course and luckily, not all the tsunamis have similar timing problems. We will see later that, despite the relative small size of the Mediterranean Sea compared to the Pacific, Atlantic and Indian oceans, the propagation times for tsunamis originating in the distant corners of the basin are of several hours. This is an advantage for managing the risk in distant coastal regions, but for the NEAM area it could also be a source of problems due to the lack of correct procedures. In fact, at the establishment of the NEAMTWS it was decided to eliminate one of the threat levels (level 1) currently used in the Pacific TWS, i.e., the so-called “Watch level”, that corresponds to the following indication: *There is a potential for tsunami impact, but given*

the travel time, no response of the public is necessary at the moment (Intergovernmental Oceanographic Commission 2016). The alert levels for the NEAM region are three, issued after earthquakes of magnitude equal to or larger than 5.5 at sea or on the coasts: Information level, for smaller events (no tsunami expected); ADVISORY level, when the runup expected is less than 1 meter; WATCH level[1] for runup larger than 1 meter. The areas to be alerted are defined, for earthquakes with increasing magnitudes, as "local", "regional", or "basin-wide", with radius of 100 km, 400 km or the whole basin, respectively. From this very rough classification one can immediately understand that at the moment there are no upper limits to the expected inundation in case of a WATCH level, and this represents a serious problem for risk management. In Italy, the SiAM decided to adopt a methodology that is based on the estimated long-term hazard. In other words, the more hazardous regions will likely have larger inundation (and evacuation) areas (see the documentation in: https://sgi2.isprambiente.it/tsunamimap/).

3.2. RECENT EVENTS IN THE MEDITERRANEAN REGION POTENTIALLY AFFECTING ITALY

After a few years of testing and optimization of the procedures, the CAT was accredited as a NEAM Tsunami Service Provider for the Mediterranean in 2016, and started its operational activity for the Italian civil protection service in January 2017. Since then, more than 40 events have occurred in its responsibility area (the whole Mediterranean Sea), for each of them alert or information messages have been issued to the Italian and the Euro-Mediterranean countries. Most of them were INFORMATION messages, for earthquakes of magnitude between 5.5 and 6.3, but there have been also 12 events that triggered ADVISORY (7) or WATCH (5) levels for earthquake with magnitude between 6.1 and 7.8 (see https://cat.ingv.it/it/ for details on the data and on the procedures).

As for the historical catalogue (Maramai et al. 2021), also the recent events outline the most hazardous regions of the Mediterranean: Several events originated in Greece (both in the Aegean Sea and along the Hellenic arc) and in Türkiye, but almost all other active regions were affected by

1 For some unclear reasons, the naming of the alert levels adopted in the NEAM region are not the same as for the PTWS. In particular, in PTWS the WATCH level means that there is time to take decisions, whereas in the NEAM region the WATCH level is attributed to the largest threat (expected runup larger than 1 meter, without regard to the timing of the tsunami propagation).

some marine earthquakes, as in the northern coast of Africa, in the Sicily Channel, the Adriatic, the Cyprus arc, and the easternmost side of the Mediterranean, with the devastating earthquake in Turkey of February 6, 2023. As anticipated before, this event deserves a particular description for its impact on the Italian Tsunami Warning System. Before that (next section), it is worth describing briefly some of the previous events that triggered some actions (or non-actions) in the civil protection systems of the Mediterranean countries, and particularly the Italian one.

Two tsunamigenic earthquakes occurred in the Aegean Sea in 2017 (Kos Island, M6.8) and in 2020 (Samos Island, M7.0). In both cases the tsunami alert messages were issued by the NEAM Tsunami Service Providers within 8 to 10 minutes after the events. The alert level in both cases was a local WATCH (or RED according to the Italian nomenclature the maximum within a distance of 100 km from the epicenter), ADVISORY (for 100 to 400 km from the epicenter), INFORMATION for more distant regions. In both cases the Italian coasts were outside the alerted areas, therefore no civil protection actions were put in place, nonetheless the INFORMATION messages were delivered to the whole recipients (local authorities, prefectures, etc.) immediately after the events. The tsunami reached heights of 2-3 meters, and in both cases the second wave was the largest, at least in the locations were videos were taken either by webcams or by eye witnesses. This happens frequently, and is a relatively lucky circumstance because the first wave (that may include a sea withdrawal) represent “natural warnings” that can safe lives, if people are aware of the risk and know how to behave. Unfortunately, experience from these and other events show that this awareness is not always present, not even among people living in coastal regions and even less among tourists. Despite the relatively modest size of the two local tsunamis, both caused damages on harbors and beach resorts, due to the speed and the length of the waves carrying a lot of energy. In the Samos case, a woman was killed by the tsunami when it reached the nearby coasts of Türkiye. These two events represented important reminders, particularly for our Greek and Turkish colleagues but also for the whole NEAM community, that even “small” tsunamis are dangerous. Even if they do not generate kilometers-long inundation areas and very high waves like the mega-tsunamis described in the previous section, they are more frequent than those, and are able to produce damage and even casualties.

We have used a video taken by a webcam in a Samos beach resort to point out the issue of the danger of small tsunamis, adding comments and

sings on the images. To date (September 2024) the video has been viewed by four million people, as evidence of the strong interest in this topic and the importance of using effective communication tools, especially with the new generations (https://www.youtube.com/watch?v=YM6hha4n5W4). For some reflections on risk communication and on the social impact of tsunamis, readers can also see the contribution by L. Cugliari (this volume).

Another interesting case is the earthquake of magnitude 6.8 that occurred in 2018 in the Ionian Sea near the coast of Zakynthos, not far from the coasts of southern Italy. In this case, the "yellow area" (the 400 km radius area surrounding the epicenter) included Apulia and Calabria. The two regions and all their municipalities were alerted (ADVISORY, or yellow level) during the night of October 25, 2018. The travel times of a tsunami from Zakynthos to the closest Italian coasts are of about 30-40 minutes. Since the alert message was issued 8 minutes after the earthquake, there was sufficient time to take some action (in a case like this, it would be enough to warn people to stay away from the beach and the coastal areas).

Although the SiAM Directive mentioned above had been already approved from almost two years, and the DPC Tsunami Risk's Guidelines for municipalities were published some months before this event, at the time of this event not many local authorities had implemented the civil protection plan. Particularly surprising was the reaction of a mayor of an important municipality in Apulia, who the day after declared to a journalist that he had received the alert message a few minutes after the event (and this was a good news) but he decided to go to sleep again and not doing anything because the expected (tsunami) wave height was "only" up to 1 meter, and people there were used to sea waves of 2-3 meters. This second statement was of course completely wrong because tsunami waves of one meter, or even half a meter, are very different and more dangerous than a typical sea wave generated by the wind. This is demonstration of the general underrating of the tsunami risk, not only by local authorities but also by citizens, as demonstrated by risk perception studies carried in the last few years by our team of social scientists (Cerase et al. 2019; Cugliari et al. 2022a,b; Amato et al. 2024; Moreschini et al. 2024). The Zakynthos earthquake did not generate a relevant tsunami (tide gauges recorded anomalous sea level changes of only 10-20 cm referable to the tsunami) because, contrary to the Kos and Samos events described above, the fault movement in this case was mostly horizontal, thus not being able to deform the sea bottom and pushing the water up and down as necessary for tsunami generation.

This event is particularly significant not only for its huge impact on the Turkish and Syrian territories (more than 60,000 deaths and more than 120,000 injured), but also for its impact on the NEAMTWS. The earthquake was very strong, magnitude 7.8, with a fault rupture of about 300 km along the East Anatolian Fault (EAF) and a relative motion between the blocks of several meters, mostly but not only horizontally. The epicenter was located at less than 100 km from the sea, and the rupture propagated in both directions (northeast and southwest) reaching the coastal areas of Eastern Mediterranean. Since the epicenter was located within 100 km from the coast and due to the high magnitude, the CAT-INGV issued a WATCH (red) alert for the whole Mediterranean. A similar assessment was done by the KOERI, the Turkish Tsunami Service Provider, whereas the NOA (the Greek TSP) did not release any alert message because their location was slightly more distant from the coast (more than 100 km) and in this case the Standard Operational Procedure (SOP) does not require to issue an alert. This different behavior among the three TSPs operating in the Eastern Mediterranean area enhances the limitations of the approach followed up to now by the TSPs, i.e., a rigid Decision Matrix with fixed thresholds and strict boundaries. We will discuss later on the benefits and the risks of abandoning the Decision Matrix approved by the IOC-UNESCO for a more reliable and scientifically sound method which is however original and innovative and has not been officially approved by any international organization.

The earthquake occurred at 2:17 Italian time of February 6, and the alert was issued by the CAT-INGV at 2:25, eight minutes after the earthquake. The estimated arrival time of the hypothetical first tsunami wave at the closest Italian coasts were around 7 a.m., more than four hours and a half after the shock. One hour after the first message the tide gauge of Iskenderun (in Eastern Turkey) recorded the tsunami, that was of only of about 40 cm peak-to-peak, but enough to trigger a confirmation message by the two TSPs of Türkyie and Italy. In the meantime, in Italy the civil protection measures had been activated: the initial message (and later the confirmation one) was delivered by DPC to the local authorities and to all the civil protection system components. The messages contain the level of threat (WATCH, or red alert) and the time of the expected tsunami arrival

times at the different locations (the forecast points). For Italy these were between 4.5 hours for the closest points to more than 7-8 hours for the distant ones (e.g., Veneto, Liguria).

Many Regions activated their emergency plans, sending messages to the municipalities asking to activate the local emergency centers. Some of the Regions decided to wait considering the long propagation times, actually departing from standard operational procedures (SOP) for emergencies, or better interpreting them in a peculiar way, since no indications of delayed actions were included in the SOPs. Moreover, early morning trains were stopped in some regions, some schools were kept closed, in Catania the very popular religious procession of Sant'Agata that was going on that night was stopped with thousands of people in the street (then it was started again after reception of the second message where the two readings of tsunami waves were small – another departure from SOPs and an unjustified decision).

The alerting phase was definitely closed after almost 5 hours, at 7:02 (Italian time), because very few tide gauges were operating in Eastern Mediterranean, and we decided to wait until the expected tsunami arrival times at the first Italian tide gauges were reached, without showing any anomalies. It was probably a conservative decision, since the few available sea level data (in Turkey and Greece) showed very small or zero anomalies. Despite the early time of the tsunami ending (7:02 in the morning), several civil protection actions were maintained for the whole morning (like school closed), also in this case departing from the procedures. It is worth mentioning that the Türkiye TSP (the KOERI) closed the alert even later, around 12, ten hours after the event.

In summary, this event was a very complex case, described by someone as a "false alarm" (which was not completely), during which several unexpected reactions in emergency response were prompted. Luckily, no harm nor damage was provoked by these actions, therefore no legal action was undertaken. Actually, there were probably indirect economic losses for companies and families, but this was not enough to attempt prosecutions.

Also for Tsunami Service Providers and Civil Protection authorities, this event represented a turning point. First of all, the dismissal of the decision matrix in favor of a more complex but more rigorous method has been accelerated (although not yet implemented at the time I write, October 2024). The method (called Probabilstic Tsunami Forecasting, or PTF) is a real time probabilistic assessment of the tsunami based on a huge

suite of pre-calculated scenarios (Selva et al. 2021a). In practice, once an earthquake occurs in a specific area, all the geological, seismological, historical information on that area are used to make an initial estimate of the more likely tsunami impact along the coasts, considering (and this very important) the related uncertainties. The level of "conservatism" is therefore decided a priori by the decision makers, trying to balance between possible false and missed alerts. As previously mentioned, this step, which is almost a paradigm shift for tsunami warning, is brand new and is not applied as such in any warning centers (although some of them are testing similar procedures). This means that adopting it without a full consensus from the scientific authorities coordinating the global and the regional TEWS could be dangerous from a legal point of view. If the method fails in issuing correct alert messages during a real tsunami with damages and fatalities, it is possible that the TSP scientists who decided to adopt it will be in trouble. On the contrary, how to stay with a Decision Matrix that has proved to be too simplistic (although very conservative) and ignore that there is a better methodology that can avoid many problems and above all be more accurate to forecast the tsunami impact? This is an interesting issue not only for seismologists and tsunami experts, but also for law experts (see the contribution by C. Valbonesi in this volume) and for social scientists.

3.4. THE LAST MILE

Until here we have seen the relevant progress made by the TEWS in the last twenty years, improving more and more the rapidity and the accuracy of the forecasting procedures, i.e., the so-called upstream component. This is the first but not the only element needed to maximize the impact of such systems. Indeed, an efficient Early Warning system must include the so-called "last mile" (or downstream component), in other words must respect two main conditions: a) to reach all the citizens, and b) the citizens must know how to respond and what to do. For this reason, one of the main indications of the Sendai Framework for Disaster Risk Reduction (SFDRR 2015-2030), is focused on "people-centered" actions (Priority 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction):

> «To invest in, develop, maintain and strengthen people-centred multi-hazard, multisectoral forecasting and early warning systems, disas-

> ter risk and emergency communications mechanisms, social technologies and hazard-monitoring telecommunications systems; develop such systems through a participatory process; tailor them to the needs of users, including social and cultural requirements, in particular gender; promote the application of simple and low-cost early warning equipment and facilities; and broaden release channels for natural disaster early warning information« (UNISDR 2015)

As can be seen, words like "people-centered", "social technologies", "participatory process", "the needs of users", "social and cultural requirements", indicate a strong attention towards the involvement of people in the decision process and emphasize their role in the risk reduction actions.

The Italian legislative decree n. 1/2018, reforming the Civil Protection sector, states this clearly in art. 31 (comma 1 and following):

> «1. The (Civil Protection) National Service promotes initiatives aimed at increasing the resilience of communities, encouraging the participation of citizens, both individual and associated, also through professional training, in civil protection planning as regulated by Article 18, and the dissemination of civil protection knowledge and culture.

On the other side, if it is necessary for authorities to put all the possible efforts to inform and involve citizens in the risk reduction activities, also citizens should be active actors in this. As discussed by Valbonesi (2021), the Decree 1/2018 failed in introducing a mandatory role of citizens in the practice of risk reduction. In other words, the (unfortunately) frequent attitude of citizens of not feeling actively involved in the risk and emergency management would not imply their liability in case of accidents due for instance to their incorrect behavior.

Many efforts have been put in the last few years in all the global Intergovernmental Coordination Groups, including the NEAMTWS, to improve this sector of the risk mitigation chain. The ICG/NEAMTWS has recently approved its 2030 Strategic Plan, which in the first page reports the following statement by the United Nations Tourist World Organization:

> "A rise in coastal activities and population increase vulnerability and risk. It is estimated that the Low Elevation Coastal Zone (LECZ) (< 10 m height) in the NEAMTWS region is home to about 116 million inhabitants. With 1,403 million international arrivals in 2018, the Mediterranean has become the world's primary tourist destination" (UNTWO 2019)."

Therefore, such an important presence of people in the zones at risk needs their active participation in order to reduce the risk.

The NEAMTWS Strategy is articulated in three main pillars: 1) Tsunami hazard and risk assessment; 2) Detection, warning and dissemination; 3) Awareness and response (Intergovernmental Oceanographic Commission 2023). Whereas the first two pillars involve an active role of scientists in all the steps of the processes, the third one implies the participation of people and defines the best tools to achieve a significant risk reduction. For this goal, it is important the involvement of social scientists who can help in understanding the perception of risk and in defining the best communication strategies (for more details on this the reader can see Cugliari, this volume).

4. BLACK SWANS OR GREY RHYNOS (OR BOTH)?

Based on what described in the previous sections, we may be temped to classify the tsunamis in two main categories: Black swans and grey rhynos, according to their size and destruction capacity. We have seen in the first part of this contribution that indeed both mega-tsunamis and small, still locally dangerous tsunamis may occur. However, we must consider first of all that between the two there is an almost continuous suite of cases that have occurred (and will occur) due to large or very large earthquakes, large or very large volcanic eruptions, large or very large landslides, and so on. Considering the earthquake typology, there are reports of tsunamis generated by events with magnitude above 6.5 (approximately) up to magnitude 9.5 (the largest earthquake recorded so far by seismic instruments, that occurred in Chile in 1960), with any value in between. For some seismic events characterized by a specific rupture mechanism in volcanic regions, tsunamis can be generated even at smaller magnitudes (5 to 6). Of course, very big earthquakes, like the 1960 Chilean one, as well as the 2004 event in Indonesia and the 2011 one in Japan, are very rare, both considering their frequency worldwide, and even more if we focus in a specific region. Moreover, the magnitude of the causative earthquakes is not the only parameter affecting the degree of "tsunamigenicity" of a specific event. The others are related to the characteristics of the fault that ruptures during an earthquake in or close to the sea (depth, sense of movement, etc.).

Indeed, also the 2011 Great East Japan tsunami was interpreted as a "black swan" by some authors, due to the fact that there were no recent,

clear evidence of such big events in the documented history of Japanese tsunamis. Black swans are described as events which, a) are surprising for the observers, being "extreme outliers", b) have a major impact, and c) it is rationalized by hindsight as if it could have been expected (Taleb 2010). Indeed, after this event, evidence came out of similar big tsunamis that had been studied in the distant geological past of the country.

In an interesting comment written by Robert C. McCue after the nuclear accident that occurred during the 2011 Japan mega-tsunami, he reflects on the nature of this event (Fukushima Dai-Ichi – Black Swan Event or Engineering Design Error? https://www.mdcsystems.com/fukushima-dai-ichi-black-swan-event-or-engineering-design-error/):

> "Is this just the latest example of a Black Swan Event? At first glance it would appear to be one, but then what about the ancient warning system erected by previous generations which could have prevented the entire nuclear accident? Tsunami Stones, which have been in place on the Japanese coast for centuries, provided an ominous warning: "Do not build your homes below this point."

It is interesting the reference to the "tsunami stones", witnesses of previous destructive events and erected to preserve memories of the past and warn on the future.

Also Synolakis et al. (2015) have argued in a similar way, writing that "The Fukushima accident was preventable" (in the paper's title), and recalling that the adoption of international best practices and standards would have prevented the accident. In this case the focus is not so much on the earthquake-tsunami event but on the nuclear accident, but the call to best practice is certainly very important for all those who have to manage risk. Referring to the so-called "NaTech" disasters (i.e., "natural-hazard triggered technological" accidents, term coined by Showalter and Myers (1994), often they were labelled "black swans" (mostly by industrial companies), meaning that they could not be prevented. However, there is a vast literature contrasting this view and attributing the disasters to either human error or technological failure. For a review of these cases see Krausmann and Necci (2021), from which the sentence below is taken:

> "Adverse events come in all sizes, ranging from frequent minor incidents to rare catastrophic shocks. The standard line of attack to prevent or control any such incident is to apply appropriate risk-management strategies in fulfillment of some legal requirement and

> following industry best practice. Different types of risk (conventional, extreme, unknown) require different management approaches. There is no "one-size-fits-all" solution. Enter White, Gray and Black-Swan risks".

Although the Authors refer explicitly to NaTech events, what above can be applied more in general to natural risks, in particular to tsunami risk, and should be considered for its management.

An evident example of what may happen if the procedures are not well defined, especially when the risk management is borne by various subjects, is the case of the 2010, Maule tsunami in Chile. The so-called "Caso Tsunami" is a very complex one, both from the geological and from the judicial point of view, and cannot be reviewed in detail here. The reader can refer to the volume by Valbonesi (2023) who emphasizes the importance of clear standard operational procedures and interactions among the various Institutions and individuals during an emergency.

Is the 2010 Chilean tsunami another black swan? As a geologist, I would definitely say no, if only because very large earthquakes and tsunamis are relatively frequent in Chile. Only fifty years before, in 1960, a magnitude 9.5 earthquake (the largest seismic event recorded in the instrumental era) hit the Pacific coasts of Chile with a big tsunami propagating troughout the Pacific Ocean. Many other events have occurred in Chile before that, including one in 1835 described by Charles Darwin who was there when the earthquake and the tsunami hit the area of Concepción. It is interesting to note how the 2010 disaster served as an important lesson to the Chilean Institutions and authorities, who redefined radically the tsunami alert system. When another big event occurred in 2014 in northern Chile (earthquake magnitude was 8.2) the warning procedures work correctly and thousands of people were evacuated successfully. In the four years between these two events many drillings were organized in Chile, as well as information campaigns that surely improved the preparedness and response of citizens.

So, are these mega-events really black swans, or rather grey rhynos? Grey rhynos are highly probable, high impact but neglected threats. They are not random surprises, but occur after a series of warnings and visible evidence. In our case, the "visible evidence" is the historical record and the geological knowledge, especially in regions where these phenomena are (relatively) frequent. Here the concept of "highly probable" must be contextualized. Tsunamis are clearly rare phenomena if we consider human life as a reference. However, if we think in terms of geological eras

(therefore, hundred thousand, millions or tens/hundred million years), also recurrence times of centuries are to be considered frequent. In this frame, even the mega-tsunamis are not so rare and therefore cannot be considered real black swans. In some way, this follows on another level what Taleb describes in his book, i.e., that the perception of black swans depends on the observer. In this case the "observer" would be the eye through which we look at a specific phenomenon.

5. CONCLUSIVE REMARKS

In conclusion, the reduction of tsunami risk can be reached considering the complexity of the phenomenon in all its facets, from the scientific and technological aspects to the social and human ones. Among the second, it is extremely important to understand people's risk perception and raise their awareness and preparedness, with periodic campaigns and drills, organized with the active involvement of citizens, especially students and young generations. It is also important to reach people using the most common media communication streams, both social and classic broadcast media like TV. Risk perception surveys carried out in all coastal regions of Italy have shown that the television is still the most used tool to retrieve information on science issues (and on tsunami in particular) surprisingly even for young generations, much more than institutional channels such as Civil Protection or scientific institutions websites.

Among the first (scientific and technological challenges), there is certainly the need for faster and more accurate forecasting. This includes both the deployment of new instruments (tide gauges, offshore buoys, SMART cables, etc.) to have more and more precise and detailed measures of an ongoing tsunami during its propagation, and new, more accurate methods for an improved forecasting. As described for the Turkish alert of 2023, rigorous, although internationally validated procedures, can bring to problems like evacuations, school closures, train stopped, etc., with not negligible economic losses. This experience suggested us to accelerate the transition to a more accurate, though more complex, forecasting methodology. However, as described above, the introduction of new methods, not yet validated by the scientific community and by the international governing bodies of the tsunami risk (IOC-UNESCO coordination groups) is critical and deserves particular attention. Even if the scientific community has

validated this method (Selva et al. 2021) and is convinced of its validity, the decision of using it in the standard operational procedures is critical and has involved several bodies, including the INGV Scientific Council, the Board of Directors, a panel of international experts. Its imminent adoption will be an important step forward in the path towards a better tsunami risk reduction, but will probably increase the liability and the legal exposure of scientists and all those involved in the alerting chain. Nonetheless, we believe as scientific community that it is not possible to postpone too much this decision. Another false alert like the one triggered by Turkey event of February 6, 2023, could seriously compromise the credibility of the system, both for the SiAM point of view and for the UNESCO member states of the NEAM region. Furthermore, there is the risk of further downgrading the authorities' and people's risk perception with possible dramatic consequences in case of a real damaging event. Great attention must be paid to drafting documentation of the operating procedures, in their validation and frequent updating, not only to limit scientists' and authorities' liability, but above all for a more effective management of tsunami risk and for providing a better service to society.

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IMPROVING PEOPLE'S SELF-PROTECTION BEHAVIOUR TO ENHANCE COMMUNITY RESILIENCE TO TSUNAMI RISK

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«Festina Lente»
Tranquillus, G.S. (1954). *De vita duodecim caesarum libri XII*

PREFACE

Festina Lente is a Latin locution that I have had imprinted on me since high school. It articulates, and fulfils, two essential connotations of risk communic(action)[1], especially in the context of relationship between institutional policymaking and its translation into citizens' behavior (sometimes not). In Italy, this relationship, is often characterised by two-speed procedures: '*festinant*' rapid, hurried (sometimes contorted) from an institutional point of view in contrast to the capacity for comprehension, decoding and consequent individual and community action or reaction, which are mostly '*lentē*'.

In this chapter I will refer – using examples from my field experience in recent years with the National Institute of Geophysics and Volcanology – to those situations in which more immediate, synthetic, and decodifiable information from the weakest links in the chain, less '*lentē*', would 'be sufficient' to generate more effective responses to phenomena such as tsunamis and coastal risks. At the basis of rational human (individual and community) action, it is essential to increase knowledge and improve awareness of territorial risks by clearly indicating appropriate rules and behaviour to be used preventively – and if necessary – in relation to the context.

1 In this specific case, I decided to split the word communication to better represent the two concepts associated with two different meanings, as explained later.

1. INTRODUCTION

Tsunami risk management constitutes a considerable challenge for those in Italy – and not only, as we will see later – who are involved, at various levels, in the mitigation chain (before) and event response (during/after) in relation to events that are hazardous to people's safety (see e.g. Valbonesi et al., 2019; Amato, 2020; Selva et al., 2021).

Institutions (national, regional, and local), as well as research bodies and competence centres, are working to design or re-adapt risk mitig (action) strategies that make interventions on the territory more applicative and concrete, through more shared, effective, and efficient communication. In this way, different public bodies will be provided with tools to implement, if necessary, collective, and autonomous behavioural responses appropriate to the situation and which are in any case protective (Margheriti et al., 2021; Rafliana et al, 2022; Massa & Comunello, 2024).

The mitigation process would thus be completed (Kasperson & Pijawka, 1985; Tsuchiya & Shuto, 1995; Wang & Weng, 2020; Oetjen et al., 2022). 'Mitig(action)' is a term that embraces two fundamental concepts originating from Latin of a desirable unified process: *mītĭgāre*, i.e. to reduce, a management-related task performed by the institutions in charge, actually carried out in multiscale risk reduction policies; *ăgĕre*, as a behavioural reaction that all individuals, institutions and bodies in charge, once they have decoded and internalised the information provided by regulations, will consciously implement (Messer, 2003; Miranda & Kim, 2006; Bulkeley et al., 2011). The path can be summarised in three phases: Assessment, Preparation and Hazard Response (Parsons et al., 2016; McEntire, 2021). This process necessarily requires a continuous and multi-directional exchange between the 'upstream' component of the system (those who assess and mitigate risk) and the 'downstream' component of the system (those who act) (Sakalasuriya et al., 2018; Haigh et al., 2019).

In this chapter I will focus on the relationship between the two components which, interpreted in a '*festina lente*' key, invites the actors involved in a risk mitigation process to find a balance between i) the rapidity of production of a regulatory and procedural apparatus oriented to fast and urgent rationalisation, and ii) the need for understanding, accuracy and reflexivity at the basis of success of a visible/implementing mitigation process which, in my opinion, is struggling to be accomplished in Italy. This process was theorised by Gerald Roland who proposed a similar categorisation of insti-

tutions in 2004 (Roland, 2004). Roland identifies two types of Istitutions: the 'slow-moving' institutions such as culture which includes values, beliefs and social norms that require gradual change and people assimilation, and the 'fast-moving' institutions such as political institutions that may not necessarily change often but can change quickly without the need for readaptation of the 'slow-moving' institutions. From this theorisation emerges the need to incorporate institutional norms into cultural norms.

The result of this balanced and thoughtful process would lead, even if slowly, to an increase in the resilience of communities exposed to various coastal hazards. Finally, the assimilation of management rules, use, good practices (Das, 2023) and – above all – knowledge and awareness of the risks linked to the coastal context in which one lives, stimulates citizens to use self-protection behaviour from which they and the upstream component benefit (Main & Hammond, 2008; Dominey-Howes & Goff, 2013). The process is long and not immediate, and the lack of specific investments and young resources engaged in the process is a further scourge to which proper attention is not paid.

2. THEORETICAL CONTEXTUALIZATION

2.1. THE SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION 2015-2030

The discourse cannot be shaped omitting an overview of the advances made to date at the international level in the field of Disaster Risk Reduction (DRR), the frame within which we are moving. Following the Hyogo Framework for Action (HFA) (UNISDR, 2005) in 2015, during the third World Conference on Disaster Risk Reduction, the United Nations launched the Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR) (UNDRR, 2015). This key document establishes a cohesive set of action lines to counteract the impacts of natural events that, depending on the context and exposure, can primarily harm individuals and, secondarily, human infrastructure.
The primary action objectives for the four macro-areas of the SFDRR are:

1. Understanding disaster risk.
2. Strengthening disaster risk governance to manage disaster risk.

3. Investing in disaster risk reduction for resilience.
4. Enhancing disaster preparedness for effective response, and to 'Build Back Better' in recovery, rehabilitation, and reconstruction.

For the purposes of this chapter and my personal study expertise, I will focus on macro-areas 3 and 4 of the SFDRR. Macro-area 3 urges governments to invest funds and energy into increasing community resilience in disaster risk reduction. This is particularly desirable when individuals within a community achieve widespread A) knowledge of their living environment and contextual risks, B) awareness of the regulatory norms in place, and C) understanding of their reactions in emergencies – thus promoting greater autonomy in managing themselves and their community, which also considers their surroundings – in the event of a hazardous occurrence. Furthermore, it is hoped that there will be an understanding that, in the medium and long term, terrestrial environments are subject to variability, with implications for different ecosystems, particularly marine ecosystems (Pearson & Pelling, 2015).

Macro-area 4 refines the discourse on individual autonomous accountability within various roles, emphasising and reinforcing what was introduced earlier in point C. The focus is on enhancing community preparedness to face disasters by considering every aspect: scientific, technical and operative, social, and communal.

Macro-area 4 is based on the theory of Build Back Better (BBB) (Fernandez & Ahmed, 2006). BBB gained international relevance within the context of disaster management, environmental crises, and post-disaster reconstruction policies following the disastrous tsunami of 2004 in the Indian Ocean – an event that prompted global disaster risk reduction systems to rethink population protection strategies and implement new globally interconnected early warning systems. The strategy proposed in BBB has since been adopted by various organisations, including the United Nations, and applied in different global contexts. Based on the idea that after a crisis, the focus should not just be on rebuilding to pre-existing conditions, but rather on rebuilding in a more sustainable, resilient and equal way, with a focus on the existing and future social context.

From a social intervention perspective, the reconstruction plan acknowledges that a community's resilience is determined not only by its physical infrastructure but also by its social texture and network. A key point in this regard is to enhance the capacity of individuals to resist and

cope with future crises through self-protection actions and mechanisms. This can be achieved through i) continuous training and support – for residents and among residents – to assume an active role in risk management; ii) improved and increased management of local resources by residents, enabling them, in times of crisis, to activate mechanisms for mutual support in collaboration with the relevant authorities during the reconstruction process (Magis, 2010; Castleden et al., 2011; Berkes & Ross, 2012).

I realise that the resilience summarised in point 4 embraces a holistic view that puts social factors first and then the environmental, economic and production spheres on the same level. This approach represents an optimal improvement in intracommunity relationships – both vertical (Institution/Citizen) and horizontal (Institution/Institution – Citizen/Citizen) – (see i.e. Lotfi & Larmour, 2022) to better address future challenges arising from climate change, which are becoming evident much sooner than anticipated a few years ago (such as rising sea levels, coastal erosion, storm surges, and increasing marine temperatures), as well as unpredictable geological phenomena that generate tsunamis (such as major earthquakes, coastal or underwater landslides, volcanic eruptions or collapses).

In conclusion, integrating the application of the SFDRR principles and the Build Back Better strategy to promote community resilience to disasters is essential (Kennedy et al., 2008). Future-focused strategies that engage individuals and communities at every level of risk management and disaster response are crucial to address the challenges posed by a changing environment (Khan et al, 2023; Mitra & Shaw, 2023).

2.2. A WEBERIAN INTERPRETATION OF THE SFDRR

An analysis of macro-area 4 of the Sendai Framework for Disaster Risk Reduction (SFDRR) from the perspective of Max Weber's theory (Weber, 1958, 1978) allows us to understand the complexity of the social and cultural dynamics that influence disaster risk management. Weber, through his distinction between different types of social action, offers a useful interpretive lens for understanding how human action is conditioned by rational, ethical, cultural and affective factors, which are essential for interpreting the behaviour of institutions and communities towards risk (Weber, 1978).

One of the central aspects of Weberian considerations is the concept of instrumental rationality, which refers to action oriented towards achieving specific goals in the most efficient way possible. In this context, mitiga-

tion action with respect to purpose, emphasised in the SFDRR, is reflected in risk reduction policies that are based on scientific data, risk analysis and long-term planning. Weber describes this action approach as the most typical type of modern rationality, where every measure taken is aimed at achieving a goal: the reduction of vulnerabilities and the protection of human lives. Governments, international organisations and communities, from this perspective, are encouraged to develop rational, coordinated and disaster-prevention-oriented strategies.

Along with instrumental rationality, Weber identifies a second type of social action: the value-rational social action. In the context of SFDRR, risk mitigation action can be guided by moral and ethical values, such as the duty to protect human lives and the safety of communities. This perspective is evident in policies that, even if economically onerous or politically challenging to implement, are adopted to respect principles such as human dignity, solidarity and social justice. Here, the effectiveness of action is measured not only in terms of concrete goals, but also in respect for shared ethical values that reflect a collective responsibility for the well-being of people and the environment.

Weber also emphasises the role of habits and traditions in human actions, identifying a type of social action named 'traditional social action'. In this sense, context-specific mitigation action emerges when decisions are influenced by established cultural practices. For example, the reconstruction of infrastructure in vulnerable areas, despite risk awareness, can be interpreted as behaviour influenced by deep-rooted cultural habits. The decisions based on local traditions, rather than on a rational risk analysis, show how instrumental rationality can coexist with value-rational social action and established practices, which have their own importance in modern societies. The Sendai Framework attempts to balance the need for a rational, planned response to disasters with recognition of emotional reactions that inevitably arise in crisis situations. In Weber's theory there is a place for the existence and persistence of affective action, driven by emotion rather than logical reasoning. This type of action is relevant in the immediate aftermath of a disaster when the responses of communities and authorities can be strongly influenced by emotions. The importance of involving local communities, listening to their concerns and integrating their knowledge into decision-making reflects this awareness. Understanding local realities, risk perceptions and collective emotions thus becomes an essential element in improving the effectiveness of risk reduction policies.

The Weberian interpretation of macro area 4 of the SFDRR also leads us to consider the increasing rationalisation of modern societies in their attempt to manage risks. Weber observed how modern societies increasingly tend towards rationality, especially in their organisational and bureaucratic forms. Here, institutions must operate according to rational logic, developing early warning systems, emergency plans and long-term strategies to reduce the risk of disasters. However, Weber also emphasises that the legitimacy of political action is not only based on technical efficiency, but also on the ability to involve and mobilise communities. Citizens' understanding (*Verstehen*) of policies[2], as well as their active involvement in risk reduction strategies, becomes a key element for the legitimacy of political action.

In other words, effective risk management requires not only rationality and organisation, but also recognising the affective, cultural and moral dimensions that influence human action. The Sendai Framework, while emphasising the need for scientific and rational approaches, understands the importance of integrating social dynamics and considering the involvement of local communities as a key element in the success of risk reduction policies.

2.3. CITIZENS'BEHAVIOUR AS A FUNCTION OF THE INSTITUTIONS' PERCEPTION. SOME INSIGHTS FROM TYLER'S POINT OF VIEW AND THE SOCIOLOGY OF LAW.

Through Tyler's lens and the sociology of law, in this section I deal with the perception of normative legitimacy and the resulting self-protective (or not) behavioural responses of citizens in response to a disaster occurring, in our case caused by a tsunami. Tyler, a legal sociologist, developed an important theory on the relationship between citizens and the law, particularly regarding the perceived legitimacy of institutions and regulatory compliance. His research focuses on how and why people choose to comply with laws and social norms. His work offers key insights on how to promote self-protective behaviour in contexts of risk, such as tsunami resilience.

I start this reflection from the hypothesis that every regulatory action by institutions and targeting citizens in risk management corresponds to a community reaction, which can be positive (in agreement with the regulation) or negative (contrary, i.e. non-compliance) (Jackson et al., 2012). The behaviour that citizens assume when faced with a natural risk management regulation (and risks in general) may depend on several variables

2 A similar approach was used to contextualise social vulnerability to natural hazards in three European countries. To read more, I recommend reading: Kuhlicke et al., 2011 (see references)

that mainly gravitate on two different levels, strongly correlated between them especially if we look at the final objective, that is, the effective and rational action of risk mitigation for the population. The first level lies in the strength and authority of the institution issuing the norm. An institution perceived by the community as legitimate, reliable and fair, and which invests in dialogue with the population and in building a sense of participation and trust, will receive the support of the public in issuing instruments for the mitigation and management of individual and collective safety. According to Tyler, in this way, the public will be more inclined to accept and respond positively to regulations, and consequently adopt behaviour appropriate to the situation in compliance with the regulations in force (*procedural justice*). The second – and equally important – level concerns the reception, assimilation and understanding of legislation (*transparency*). In this process, civic education tools and the dissemination of clear and targeted information to different target groups play a crucial role. Several variables directly influence this level, including the dissemination of knowledge about natural hazards and, consequently, the cause that led the authorities to implement the legislation. In addition, awareness of the territorial context, acquired through direct experience and constant information, is equally relevant. Also decisive are aspects related to the ability to understand the regulation itself, the clarity of the language used, the simplicity of the instructions provided, and, last but not least, prior experience of past threats or events that have left their mark on the collective memory.

These two levels refer to the normative functions identified by Weber (see previous paragraph) and Tyler, emphasising the educational and behavioural role of the law. They encourage reflection on the importance of active contribution, both individual and collective, in the prevention and protection of people. They also mediate between the upstream and downstream components, promoting greater risk awareness and education on safe behaviour. Adapting Tyler's theory to the case of tsunami risk management, institutions responsible for civil protection build the trust of citizens at two different times: in peacetime and in crisis. Institutional bodies, competence centres and civil protection organisations, in peacetime, are required to carry out activities that increase the level of knowledge, preparedness and response of citizens in the event of a disaster. These include information campaigns, drills, field work and continuous information through media and social media. Field presence and continuous contact with the public foster preventive responses by the population based on individual and communi-

ty self-preparedness and strengthen citizens' trust in the authority. In this specific case, the predominant communication conveyed by platforms and applications is not able to achieve the same effectiveness as direct contact with the population (Cerase, 2017). This last factor emerges especially in those contexts where social and/or territorial vulnerabilities are known.

The time of crisis is an unbalanced situation (Shaluf et al., 2003) in which the Civil Protection agencies offer support to the populations through their territorial activities with monitoring and risk assessment, timely communication of warnings, coordination of rescue operations, evacuation, psychological assistance and the reconstruction phase while waiting for normality to be restored.

If citizens perceive that authorities act transparently, making decisions based on scientific data and working for the public benefit, they will be more likely to follow official guidelines, such as evacuation or taking safety measures (see also Paton, 2007; Paton, 2008.

Individuals tend to comply with laws when they feel that decision-making processes are fair, that their concerns are heard and that they can participate in some way in decisions affecting them. Therefore, in risk prevention contexts, involving local communities in civil protection strategies and providing them with clear and accessible information strengthens the perceived legitimacy of institutions by predisposing the individual to regulatory acceptance. The right predisposition of the individual ensures that, in addition to passive regulatory compliance (compliance with the norm), proactive community behaviour towards the hazard situation is stimulated. The correlation between regulatory compliance, risk awareness and the inclusion of local communities in the decision-making process leads to what I would define as 'hybridisation of tsunami resilience'. Namely, the process of vertical (mixed top-down and bottom-up) and horizontal (interdisciplinary) integration that strengthens a community's resilience and adaptation capacities in the face of tsunami risk. The result is a flexible and robust resilience model capable of combining innovative and adaptive tsunami risk response strategies.

2.4. SELF-PROTECTIVE BEHAVIOUR AND RESILIENCE IN COASTAL COMMUNITIES. A GROWING LITERATURE.

Promoting self-protective behaviour at both the individual and community level to mitigate coastal hazards and tsunami risk has become a global pri-

ority in disaster risk reduction (DRR) policies, especially since the devastating Indian Ocean tsunami in 2004. This catastrophic event, also known as the Sumatra tsunami, caused the deaths of more than 230,000 people and extensive damage in several countries, highlighting the vulnerability of coastal communities to this type of natural hazard. Since then, fostering prevention strategies, disseminating risk knowledge and implementing early warning systems have become central elements of global initiatives to improve resilience against natural disasters, emphasising the need for collective action at the global level (Athukorala & Resosudarmo, 2005).

The 2004 Sumatra earthquake is one of the most devastating - and widespread in the media - recent tsunami events to hit the shores of multiple oceans (Murthy, 2013). Between the 18th and 19th centuries until today, there have been several tsunamis that could be described as global, i.e. which have produced effects of varying magnitude and casualties in nations tens of thousands of kilometres from each other across oceans. This is due to the physical and energetic characteristics of the phenomenon, which I will not describe here, and which you will be able to explore in depth in a vast literature.

To better understand the frequency with which these events occur – and considering the data from historical archives – it is useful to mention some of the major global events that have challenged international communities and helped to shape their resilience capabilities. These disasters have not only revealed global vulnerabilities but have also pushed societies to improve their prevention and response strategies, thereby strengthening collective resilience. These disasters not only revealed global vulnerabilities, but also prompted societies to improve their prevention and response strategies, enhancing collective resilience. These include the tsunami caused by the eruption of the Krakatoa volcano in Indonesia in 1883, which spread across the Indian Ocean and reached the Pacific Ocean coasts of South Africa and Australia. The Aleutian Islands earthquake and tsunami in Alaska in 1946. In that case, tsunami waves propagated in the Pacific Ocean and reached countries thousands of kilometres away (Hawaii Islands, coasts of California and Oregon). The Valdivia earthquake and tsunami in Chile in 1960. This was the strongest earthquake ever recorded in history. The tsunami waves, in that case, caused deaths thousands of kilometres away - also due to the absence of warning systems on a local and global scale. The event caused, 22 hours later, loss of life in Japan and on the Hawaiian Islands and produced significant damage in the Philippines and New Zealand. Similar events, although of different intensity occurred

in 1952 in Russia and in 1964 in Alaska. In the recent past, events that produced widespread effects affecting several nations include those in 2004, as already mentioned, then in 2005 in Indonesia, in 2007 in the Solomon Islands, in 2009 in Samoa, and in 2011 in Japan. The latter event was similar in significance to the Sumatra tsunami, caused around 16,000 casualties and a nuclear disaster, and affected several nations such as the west coast of the United States, the Hawaiian Islands, Chile and other countries bordering the Pacific Ocean. The most recent tsunamigenic event that affected in a major way all the Oceans including the Atlantic Ocean and in a widespread way almost all the international seas (some anomalous variations were also observed in the Mediterranean Sea) dates back to 2022. I refer to the volcanic eruption and tsunami of Hunga Tonga-Hunga Ha'apai, in the Pacific Ocean north of Tonga. In this case, however, the early warning systems were effective, and warnings were issued in all nations affected to varying magnitudes. Nevertheless, two fatalities were recorded in Peru, thousands of kilometres away[3].

These events prompted an increasing and widespread scientific production on risk perception and the psychological factors that interact with individual and collective behaviour, at best positively interfering with the growth of community resilience.

In Japan, after the 2011 tsunami, Yamori (2013) conducted a study on a local cultural practice that best expresses the concept of self-protection, identified in the Japanese term 'Tendenko', literally translated as "everyone for himself/herself". Tendenko has its origins in the Tohoku region that has experienced numerous disasters and tsunamis over time. It represents an imperative of individual action against the hazard in the need to save oneself i) individually ii) without thinking of those around, whether family, friend or stranger iii) according to one's self-acquired knowledge of the threat. This practice, ethically and culturally unrelated to our culture (I refer to Italian culture), prioritises the safeguarding of oneself as an individual. Such a culture involves a great amount of knowledge derived from a deep-rooted experience of hazardous natural phenomena associated with a culture of risk management deeply embedded at every level, coupled with clear, concise laws and effective territorial planning tools for risk reduction and self-protection; differently from some of the Indonesian

3 For more details on historical and recent tsunamis, please refer to the National Oceanic and Atmospheric Administration (NOAA) tsunami catalogue (namely: NCEI/WDS Global Historical Tsunami Database). The full reference is listed in the references.

localities studied by Hall (2022) where there is no unified culture and unified response as found in the Tohoku area of Japan. Hall's study, in fact, found differences in the degree of self-protection and self-efficacy of the respondents. Indeed, major differences can be seen by gender. Women perceive themselves to be more vulnerable than men in the event of an adverse event. Differences also emerge by geographical area. The research covers various cities and islands, and one factor that clearly emerges in terms of self-protective behaviour is religious beliefs. Muslim adolescents perceive themselves to be more vulnerable and less ready to react than their Catholic and Protestant peers. The Indonesian study shows how community action policies, including active involvement of citizens through participation in public assemblies for risk management planning and identifying gathering areas and escape routes help increase the sense of self-protection and lead to greater community resilience. Finally, the effectiveness of field training and continued participation in educational activities emerges.

An additional, not secondary aspect in terms of individual self-protective behaviour in response to tsunamis and increased community resilience is the individual's physical preparedness and positive perception of the environment in which one finds oneself (Imamura & Anawat, 2008; UNESCO-IOC., 2019). This last element is crucial as it recalls the responsibilities of local authorities in the proper communication of risk and the clear indication of evacuation routes and behaviour that must be implemented in the event of an emergency (Buylova et al., 2019).

3. TSUNAMI RISK IN ITALY. AN UNDERESTIMATED RISK, AT PRESENT.

Tsunami risk is defined as the probability that a causal event (earthquake, volcanic eruption, volcano flank collapse, aerial or submarine landslide, or meteorological event) triggers a series of tidal waves that impact the coastline and cause damage to people or property (UNISDR, 2009; NOAA, 2021). This first assumption contains, in its entirety, the product of the three components of the risk formula: Hazard X Vulnerability X Exposure. Given the extensive bibliography on the subject, I refrain from further consideration in this regard.

Italy, historically and recently, has been affected by several tsunamis of different magnitudes. Since 1900 there have been 18 tsunamis for

which an anomalous sea level variation has been recorded. The largest of these is the 1908 tsunami, caused by a strong earthquake in the Ionian Sea. In the past twenty years, events related to the eruptive activity of the Stromboli volcano have caused tsunamis of varying magnitude. The largest one occurred in 2002. In 2019, 2022 and 2024 there have been other episodes of collapses of accumulated material on the sciara del fuoco (northern slope of the volcano) that have caused the early warning system to be activated or the alert threshold to be exceeded (Maramai et al., 2019a; Maramai et al., 2019b).

Italy is located in the centre of the Mediterranean Sea and the Mare Nostrum is one of the basins with a large number of submarine and aerial tsunamigenic sources (the former are mostly concentrated near the plate margins, the latter are linked to volcanic activity but also to large rocky ridges that could collapse and cause local tsunamis, even disastrous ones). Our geographical location, going back to the risk formula, greatly increases the hazard factor. Elements such as urban sprawl and the tendency to populate the coastal areas of our country, where some of the largest metropolitan cities are located, greatly increase exposure; not least, the great vulnerability to tsunamis of coastal structures. High-impact industrial complexes, large port facilities, infrastructure (residential and tourism) and high-frequency communication networks, such as railways and highways increase exposure and vulnerability factors. In this chapter, I have focused on tsunami risk since my research interest is oriented purely on tsunamis. The preceding factors increase the risks associated with marine phenomena and climate change widely. Phenomena such as sea-level rise, storm surges, flooding and coastal erosion similarly impact or even significantly increase and interfere with each other and with tsunami risk. These aspects will need to be increasingly considered in the future. Since 2018, INGV - in collaboration with the Civil Protection - has been carrying out activities to study tsunami risk perception on the population. To date, the following have been surveyed: i) residents in the coastal municipalities of all Italian regions; ii) two samples (panels) representative of the entire national population, divided by quotas; iii) students of some high schools; iv) tourists who visit the island of Stromboli in the summer (spending a few hours or several days on the island;) v) the inhabitants of the island of Stromboli through in-depth interviews and focus groups.

What widely emerges is an underestimation of tsunami risk expressed in a general low risk perception. In some coastal areas affected by

tsunamis in the past, historical memory helps to maintain better than average levels of tsunami risk perception. This is especially evident in Calabria, Sicily and Stromboli Island (local inhabitants level). Respondents mostly acquire information through the mainstream media (TV). It is different for younger respondents who use smartphones and draw information about tsunamis from social platforms or scientific, albeit unaccredited, channels. I will not elaborate further on the results of this extensive survey as there are several publications in scientific journals (Cerase et al., 2019; Cugliari et al., 2022a; Cugliari et al., 2022b; Moreschini et al., 2024; Amato et al., 2024).

What emerges, however, from a general reflection, is a lack of attention paid to this type of risk at all levels. This is evident in the lack of territorial interventions of various types: informative, dissemination, (local) regulatory and applicative. Communities have a poor perception and they underestimate this risk as widely as risks from the sea because they do not receive enough information and few actions are taken in this regard. Consequently, the behaviour they would adopt in case of an alert or a situation requiring a rational reaction would be inadequate.

4. TSUNAMI RISK MANAGEMENT ON ITALIAN COASTLINES. PARTICIPATORY OBSERVATION INSIGHTS.

From a regulatory and management perspective, the Italian Civil Protection Code, embodied in Legislative Decree 1/2018, represents the main legislative reference for emergency management in Italy (G.U. 1/2018). This Decree includes tsunami risk management and has reorganised the entire civil protection system, giving the competent authorities responsibilities in preventing, managing and overcoming emergencies. Specifically, the activities included in the Decree concern: A) tsunami risk prevention and mitigation carried out by the competent bodies (INGV and ISPRA), which provide the scientific assessment and primary information, useful for the development of warning plans and coastal inundation belts; B) vertical coordination between institutions (central government, regions, provinces and municipalities) by the Civil Protection Department, which is responsible for emergency management at the various levels; C) the development and implementation of emergency plans at the various levels (national/local). In 2017, the Italian Tsunami Alert System (SiAM) was established,

which includes three key bodies for tsunami risk management: the Civil Protection Department; INGV and ISPRA. The SiAM, which operates in the wider Mediterranean context of the NEAMTWS (North-Eastern Atlantic, Mediterranean and connected seas Tsunami Warning System) allows for the timely sharing of data and information to issue an alert in the event of an event and guarantees the monitoring, issuing of the alert and its dissemination. The three points are guaranteed by the close interaction of the three constituent bodies (ISPRA, INGV and DPC).

Tsunami risk management and mitigation interventions, shifting the point of observation to the regional and then local level, are coordinated through an 'inverted pyramid' process by the Italian national Civil Protection Department, which issues guidelines to the regions and then individual municipalities transpose and implement them (Paleari, 2018). The regions are, therefore, responsible for supporting and supervising coastal municipalities in the drafting and subsequent implementation of Municipal Emergency Plans for tsunami risk.

Individual municipalities, in developing their own Municipal Tsunami Risk Emergency and Management Plans, must therefore follow national directives and comply with three key points:

i) learning and verifying the areas at risk of flooding identified by ISPRA and identifying specific local characteristics requiring special attention (presence of industrial complexes, civil dwellings, accommodation facilities, school facilities, etc. in the inundation areas); ii) developing evacuation plans, routes and procedures tailored to the territory; iii) training and raising awareness of the population also through drills and dissemination of information material. Today, the gap between the legislation, briefly described above, and the actions on the ground carried out by coastal municipalities is still significant. The concept of '*Festina Lente'*, a two-speed system proposed at the beginning of this chapter, becomes evident in the transition between legislation and local action.

From an institutional and SiAM system perspective, much has been done. Inundation areas have been mapped for all of Italy, there is a good network of tide gauges placed in harbours and a dense network of seismometers for an alert to be issued in the event of a tsunami well below the timeframe required by the regulations.

There are two, maybe three, Italian coastal municipalities where the national tsunami risk management guidelines have so far been converted into products. And not entirely.

We must recognise the efforts made by Minturno municipality, in the province of Latina, in southern Lazio, which has installed vertical signs, mapped sensitive structures in inundation areas, and identified collection points and areas from which to manage a possible tsunami alert. It has also carried out '*table top*' and field exercises, involving the public, particularly students among the weaker segments of the population, and has a siren system to sound the alarm. The municipality of Palmi, in the province of Reggio Calabria, and the municipality of Anzio, in the province of Rome, have put up vertical signs, as indicated by the regulations for the management of tsunami risk. Other municipalities are implementing the guidelines, such as the municipality of Otranto in the province of Lecce, and the municipality of Lipari in the province of Messina, in the specific context of Stromboli.

These actions received a boost in the other coastal municipalities, except for the municipality of Anzio (RM), following the proposal of the INGV and the DPC to join the international tsunami risk mitigation programme promoted by UNESCO: Tsunami Ready (UNESCO-IOC, 2020).

However, I prefer not to go into details here about the process for achieving recognition as a Tsunami Ready municipality. However, I consider it crucial to point out how this virtuous programme aims to provide practical tools and guidelines for communities to develop the capacity to respond effectively to a tsunami emergency, reducing vulnerability and increasing risk awareness. It is a standardised, point-based model (indicators) that supports step by step all levels of the community (from institutions to stakeholders to citizens) in the tsunami risk mitigation process and provides for strong vertical and horizontal stakeholder interaction.

In the remaining Italian coastal municipalities, there are no clear signs of the learning and conversion of tsunami risk management guidelines into mitigation actions.

5. CONCLUSIONS

The chapter aims to provide different interpretations, according to sociological and sociology of law approaches, to emphasise the importance of self-protective behaviour based on the logic of conscious action to increase the resilience of coastal communities to tsunami risk. From the considerations conducted so far, a clear disconnect emerges between the scientific/regulatory production in the field of tsunami risk mitigation, both in the

international context and in local contexts, compared to what is then perceived by citizens and, even more, by the actions that, based on the tools available to the community, would be implemented. This contribution aims to provide interpretative cues that can help decision-makers and public administrations, through the reinterpretation of regulations in a sociological key, to make regulations more effective and to reduce the gap between the 'Upstream' component (those who assess risks and draw up mitigation regulations) and the 'Downstream' component (those who receive provisions and decode them into behaviour). Different international examples such as Japan, Indonesia and New Zealand make it clear how important it is to adapt regulations and consequent actions to the local context and target audience so that citizens have greater trust in institutions. Institutions, in this process, will have to offer communities information that is simple, clear, accessible, fair and even more so, shared a priori with the target community. This latter step of sharing choices, of setting aside a top-down logic, is struggling to take off. The consequences are evident in various Italian contexts, as for example on the island of Stromboli (ME), where lack of communication, of participatory processes and of sharing local management choices generates friction at various levels. This friction disincentivises the population's response i) to act consciously in the event of an emergency, ii) to carry out continuous actions for risk mitigation, iii) to participate in decision-making processes, should they be proposed, and iv) to place trust in institutions that are seen as external and extraneous entities, bearers of interests and predatory for local activities. These aspects have emerged from my personal experience shared with some INGV colleagues during the interviews mentioned earlier and during the ten days I spent on the island surveying tourists' tsunami risk perception. At this point I do not think this chapter can have a conclusion. I would, however, close with an observation I gained from a meeting I attended during my PhD visit to New Zealand: what I know influences what I do. If we take the individual into account, this reasoning translates into: what I know (awareness), influences what I do (self-management). If we take the community into account, we translate this into: social awareness influences relationship management. So, intentions influence actions, and consequently actions influence results.

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NOTES FROM JURISTS

THE CRIMINAL LAW OF THE SEA: SOURCES, RULES, SUBJECTS, TERRITORIALITY.

Stefania Rossi
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1. SOURCES AND PRINCIPLES OF MARITIME CRIMINAL LAW

The branch of navigation includes the regulation of air, sea and inland water navigation, but the study of maritime law stands out because of the more prominent regulatory tradition; in fact, rules protecting navigation at sea have been found since ancient times. While, at first, the interest was aimed at safeguarding "sailing" in its "private" dimension (i.e., protecting the ownership of the vessel and its cargo, commercial trades, as well as ensuring compliance with the orders given), over the centuries, the need to preserve a "public" dimension has also emerged, especially in terms of the safety of people from dangers, both those immanent to the environmental context and those caused by third parties[1].

The maritime criminal law has, therefore, assumed increasing importance and within it are norms of a sanctioning nature placed to defend peculiar interests protected by law: such as the safety of navigation, the tranquillity of life on board, the health and physical integrity of persons, the safeguard of the surrounding environment etc. The subject matter finds its main source in the Navigation Code[2], but important provisions are also contained in the Italian Criminal Code and industry regulations, supplementary laws and decrees, as well as within international Treaties and Conventions.

1 For a broader examination of the historical development, may we refer to Rossi 2020: 5 ff.

2 The text was approved by Royal Decree 30 March 1942, No. 327 and came into force on 17 April of that year. Through this Code, an attempt was made to regulate all possible legal events inherent in navigation, and the legislature divided the discussion into three main parts, preceded by some preliminary provisions concerning the sources of law and jurisdiction (Articles 1-14): Part One deals with maritime and inland navigation; Part Two with air navigation (and both are dedicated to civil and administrative profiles): Part Three contains the (common) "criminal and disciplinary provisions".

In terms of principles, the distinguishing features of the maritime criminal law, in a nutshell, are: specificity, autonomy, complementarity, and unity.

First of all, it should be remembered that the maritime criminal law cannot be separated from the regulations of common criminal law, but rather represents a specification, as it reflects particular needs. The specialty of maritime criminal law is thus grounded in the necessity to implement regulatory adaptations that address the inherent characteristics of the nautical and aviation sectors, creating a "system within a system". It is therefore of paramount importance that the maritime criminal law serves as a significant and necessary "adaptation" of the traditional general-part approach, taking into account the unique environmental context and the need for "enhanced" protection of certain legally protected interests[3].

That being said, it is undeniable that the maritime criminal law exhibits substantial "autonomy", whereby, where a case is not regulated, directly, by provisions proper to the law of navigation (by the Navigation Code, laws, regulations, corporate rules and related customs), regulatory integration through the common law is granted only on a subsidiary basis[4].

In addition to its "autonomy" and "specificity", the maritime criminal law manifests a close "complementarity" with ordinary criminal matters, the fundamental principles of which are not replaced but rather are supplemented by provisions of similar general scope, which, however, often have a derogatory nature[5].

3 See, among others, Spasiano 1963; Rivello 1990: 76 ff. e 1985: 3 ff.; Leone 1940.

4 This principle of self-regulation is made explicit within Article 1 of the Navigation Code according to which: "in matters of navigation, maritime, inland and air, this Code, the laws, regulations, corporate rules and customs relating thereto shall apply. Where provisions of the law of navigation are lacking and there are none applicable by analogy, civil law shall apply".

5 The same traditional classification of offenses in navigation (divided into "proper" and "improper" offenses), while formally referencing classifications used in criminal law doctrine, deviates from them with differing interpretative options that necessitate a reconsideration of these categories for a new and different naming. As for "proper" offenses, they are distinguished by the absolute originality of the protection provided; the interest protected by the norm is a *particular* and *exclusive* interest of navigation (for example, the offense of desertion under Article 1091 of the Navigation Code; the offense of false course under Article 1140 of the Navigation Code and that of arbitrary landing or abandonment of person under Article 1155 of the Navigation Code or, again, crew mutiny under Article 1105 of the Navigation Code and abandonment of ship or aircraft in distress under Articles 1097-1098 of the Navigation Code). On the other hand, "improper" offenses are those that coincide with criminal offenses already provided for in the Italian Criminal Code or inferable from the criminal law, but which represent a specialisation of protection, resulting in modifications at the penal level, due to the particular needs of navigation (consider Article 1104 of the Navigation Code, which typifies the offense against a captain, officer, non-commissioned officer, or graduate: this complex case takes the form of contempt of a public official). On this point, more extensively, Rossi 2020: 52 ff.

Finally, the maritime criminal law is characterised by a unified vision, also from the point of view of sanctions: unity is primarily derived from the existence of (special) principles that unite the sectors of maritime, inland, and aerial navigation, which, in terms of criminal law, are contained in Part Three, Book I, Title I (Articles 1080-1087 of the Navigation Code). The unitary imprint is further expressed in the close relationship established between the punitive legal corpus and the various branches into which the entire subject is divided; there exists, in fact, an inextricable intersection between private law and public law, and – within the latter – between administrative norms and criminal sanctions.

2. SPATIAL DELIMITATION, EXERCISE OF SOVEREIGNTY, AND LIMITS TO NATIONAL JURISDICTION

2.1. TERRITORIALITY AND EFFECTIVENESS OF CRIMINAL LAW

In reconstructing the scope of the criminal statute of the Navigation Code, it is necessary to investigate the scope of application of the rules contained therein. As is well known, criminal law is determined in space according to the "territoriality principle," obligating all those, whether citizens or foreigners, who are in the State territory. That being said, from the combined provisions of Articles 3, 4 paragraphs 2 and 6 of the Italian Criminal Code the applicability of national law to vessels and aircraft flying the Italian flag is established, regarded, by *fictio iuris*, as the "territory" of the State, regardless of their location[6].

Although the territorial criterion is based on the absolute presumption of state interest in regulating any fact or relationship that falls within the area subject to State sovereignty, the convergence of other general principles and the need to protect a specific, peculiar category of interests protected by law may lead the legislature to prosecute even acts that were not committed on its own territory and would otherwise go *tout court* unpunished. This exceptional extraterritoriality of the criminal law connotes precisely the navigation sector and, in particular, the incriminating provisions contained in the Code as a result of Article 1080 of the Navigation Code[7].

6 In essence, the term "nationality" or "flag" designates a precise criterion of a ship's connection with the legal system of a State that involves being subject to national law.

7 On the scope of the provisions of the Navigation Code, extraterritoriality of the criminal law, and

The principle of territoriality in the application of criminal law may, then, be further derogated from in cases where the offence has elements of internationality related to the nationality of the offender, the victim, the injured interest, or, again, to the harmful repercussions that criminal conduct can have on the public order of a foreign State and the supranational value of the legal goods involved. In the latter respect, significant exceptions are dictated by international Conventions, especially in the areas of navigation safety and environmental protection, and more generally, international regulations have been fundamental in defining the legal arrangement of spaces, but also in scaling back the principle of jurisdiction closely linked to the flag in the face of the greater significance that instances aimed at protecting absolute values have assumed.

2.2. EXERCISE OF SOVEREIGNTY AND LIMITS TO JURISDICTION

In order to define the sovereignty of the Italian State in the maritime sphere, it is necessary to recall, along with the norms contained in the Italian Criminal Code, the preliminary provisions of the Navigation Code and international law.

With regard to the latter, the United Nations Convention on the Law of the Sea (hereinafter UNCLOS), signed in Montego Bay, Jamaica, on 10 December 1982, which entered into force on 16 November 1994, and consisting of three hundred and twenty articles and nine annexes, is of particular importance. The analysis of the contents of the Convention, in relation to the special legislation, makes it possible to trace the limits placed on a State's sovereignty in the international arena and is of primary importance in delineating criminal jurisdiction at sea.

Regarding spatial delimitation, according to Article 2 paragraph 2 of the Navigation Code, national sovereignty extends over inland waters and over a stretch of sea adjacent to the mainland and island coast (the so-called "territorial sea") that has a precise outer boundary: within 12 miles of the low-tide coastline (standard basis of measurement) or the straight coastline (if the latter appears jagged or indented). This is also confirmed by Article 3 of the UNCLOS Convention, which grants contracting States the power to determine the breadth of their territorial sea "up to a limit not exceeding 12 nautical miles from the coast".

preclusions to special legislation see Rossi 2020: 94 ff.

Premised on this precise statement, the sovereignty of a State over its territorial sea encounters limits that are outlined in international law: this is the so-called "right of innocent passage" by foreign ships over the territorial sea (Article 17 UNCLOS)[8] and the regime for the exercise of "criminal jurisdiction over foreign vessels" by the authorities of the territorial State (Article 27 UNCLOS).

With particular regard to the second limitation, it should be noted that Italian criminal jurisdiction cannot be exercised over warships in transit, as they enjoy absolute immunity. In the case of private and merchant ships, international custom grants exemption from Italian criminal jurisdiction for foreign ships in transit concerning only "internal matters". Article 27 UNCLOS, indeed, specifies that the criminal jurisdiction of the coastal State should not be exercised on board a foreign ship transiting the territorial sea for the purpose of making arrests or conducting investigations related to offenses committed on board during the passage, unless the facts of criminal relevance, by their consequences or by their very nature, disrupt the life of the territorial community, or if the intervention of the local authorities has been requested by the ship's Captain or a diplomatic agent or consular officer of the ship's flag State; or if such measures are necessary for the suppression of illicit traffic in narcotic drugs or psychotropic substances.

Based on this principle, in conjunction with the provisions of Article 4 paragraph 2 of the Italian Criminal Code and subject to further exceptions dictated by international law, crimes committed aboard Italian private or merchant ships, which may substantiate "domestic facts," must be considered to be committed in Italian territory, even if the ship was sailing in the territorial waters of a foreign State. If, however, external repercussions (facts disturbing the tranquillity and good order of the coastal State and its territorial sea) result from the events that occurred, the law of the place where the ship is located shall apply[9].

8 An "inoffensive passage" constitutes a rapid and continuous crossing, without the option of anchoring (permitted, exceptionally, in cases of force majeure or danger, or imposed by the need to render assistance to persons or other vessels), which does not prejudice "the peace, good order and security of the coastal State" (*under* Article 19 UNCLOS). The coastal State may always suspend the right of innocent passage, provided that the suspension is essential to the protection of national security, is temporary in nature, is non-discriminatory, and covers specific areas of territorial sea (Ronzitti 2016: 109).

9 Regarding the distinction between "internal facts" and "external facts" as a criterion for delimiting between the opposing spheres of jurisdiction of the flag State and the coastal State, the case of the Italian oil tanker *"Enrica Lexie"* is emblematic, *which ended after a long judicial and diplomat-*

Among the preliminary provisions of the Navigation Code, the same Article 5 is devoted to the law governing acts performed on board (Italian) ships sailing in a place or space subject to the sovereignty of a foreign State, and provides that the same shall be governed by the law of the flag in all cases where, according to the normal rules of private international law, the law of the place where the act is performed or the fact occurred should apply. The rule, within the second paragraph, also specifies how this flag principle also applies to foreign ships transiting through a space subject to the sovereignty of the Italian State, under the condition of perfect reciprocity. However, in connection with what has just been reported, it is worth noting that the Code considers the law of the flag, i.e., the national law of the vessel, to be operative, with a significant clarification: namely, when the fact or act occurred *on board* the vessel *in the course of navigation*.

Returning to the international regime of the sea, distinct from the territorial sea is the so-called "contiguous zone": a seat belt adjacent to the territorial sea that has a 12-mile limit additional to the first drawn boundary (totalling 24 miles from the coastline). The establishment of a contiguous zone is optional and allows the coastal State that proclaims it to exercise the right of *hot pursuit*, that is, to capture those who flee offshore after committing crimes within 24 miles; however, since there are no rules that allow for the assimilation of this area to territorial waters and to consider that the coastal State can exercise its criminal jurisdiction exclusively there, no type of absolute sovereignty extends to this area. Still different is the "exclusive economic zone" (EEZ), which can extend up to 200 miles from the coastline base line; the establishment of such a zone is optional and aimed at the exploration, exploitation, conservation and management of natural resources in the sea and the marine subsoil (but, for this purpose, a proclamation by the coastal State in agreement with adjacent and bordering States is required).

Lastly, there is the so-called "high seas", which identifies "all parts of the sea not included in the territorial sea or internal waters of a State"

ic dispute. In 2020, the judges of the Permanent Court of Arbitration granted functional immunity to the Navy riflemen, noting how they were engaged in a mission on behalf of the Italian State. Contextually, Italy was ordered to compensate the Indian State for the death of the two fishermen and for the damages suffered by the vessel's seafarers. The Indian Supreme Court closed all proceedings against the two Italian soldiers following the Italian State's payment of 1.1 million euros in damages. The Hague Tribunal granted Italy jurisdiction over the criminal case, ending the international dispute. In 2022, the Public Prosecutor's Office at the Court of Rome requested that the criminal case be dismissed, and the Preliminary Investigations Judge of the Court of Rome ordered the dismissal arguing that the two soldiers acted in a state of at least putative legitimate defense (see Mannucci 2014; Caracciolo, Graziani 2013; Salamone 2012; Busco, Fontanelli 2013; Licata 2013).

(and also excluded from the contiguous zone and EEZ). Articles 86-90 of the Montego Bay Convention enshrine the free use of the high seas and, therefore, no State is in a position to impose its sovereignty while being able to freely sail a national ship, which will, in this case, be subject to the exclusive jurisdiction of the flag State. The same regulation is contained in Article 4 of the Navigation Code, titled "Italian ships and aircraft in areas not subject to the sovereignty of any State", which clarifies that Italian vessels located on the high seas are considered as Italian territory.

3. THE GUARANTORS OF NAVIGATION AT SEA

Having defined the legal regime of navigation and its implications in criminal law, and delved into the realm of responsibility, it is important to note that the Navigation Code identifies several key figures within the nautical context, individuals recognized by criminal law as guarantors of the safe exercise of navigation.[10].

The first prominent figure is that of the Shipowner, meaning the person who undertakes the operation of a ship, often relying on a range of collaborators (such as the ship agent). Then there is the captain, who directs a crew aboard the ship, with its members bound by a functional relationship aimed at ensuring navigation safety and maintaining onboard discipline.

During a maritime expedition, understood as a shared endeavour of interests and risks, the Shipowner is ultimately the organizing party, while the Captain serves as the operational leader and the highest authority present on board.

10 In this regard, we refer to the so-called maritime safety, which is distinctly separate from maritime security. Safety pertains to operational security, specifically the prevention of accidents through the monitoring of the efficiency and adequacy of vessels, infrastructure, and personnel. Conversely, security involves the prevention of unlawful acts and the suppression of criminal conduct to ensure safety and public order. This distinction is common to both maritime and aeronautical contexts, and according to some scholars, the conceptual difference lies in the fact that safety refers to the inherent security of navigation, concerning the movement itself, while security pertains to external factors dependent on the actions of third parties (see Arroyo 2003: 1193). Regarding maritime security, it is important to highlight the role played by the Port Authority and Coast Guard, which enforces compliance with both the rules governing nautical navigation and the regulations protecting the marine environment. This body is indeed assigned tasks related to assistance for ships, navigation safety, search and rescue operations for vessels, maritime surveillance, and policing, not to mention its fundamental role in addressing the widespread phenomenon of illegal immigration.

Regarding the Shipowner, this refers to a business entity (or a shipping company) that is usually also the owner of the ship. However, there are also cases of a 'managing' Shipowner (who receives a mandate from the owner to take care of all necessary aspects for the operation of navigation) and a "chartering" Shipowner (who, through the lease of the ship, becomes the assignee of its enjoyment and operates the navigation and associated commercial activities in their own name)[11].

Regarding the main obligations imposed on the Shipowner, they must, first and foremost, equip the vessel, ensuring its constant maintenance, and appoint the Captain. However, they must also commit to safeguarding the efficiency of the working environment, as well as the health and safety of those employed on board or at their owned shipyards. Therefore, they are required not to allow a ship to depart if it is not seaworthy or lacks any of the prescribed furnishings, equipment, instruments, or supplies. The Shipowner will be held liable for permitting navigation despite the lack of essential technical requirements, the absence of an updated safety plan to protect their employees, or the inadequate training of the onboard crew[12].

The Shipowner's position of guarantee (which can be partially delegated to the Captain, thereby increasing the burdens on them) is not limited to events occurring on board, but extends to all operations conducted in the immediate vicinity of the vessel and is aimed at eliminating foreseeable sources of danger for the crew, the technical maintenance staff, and the passengers.

Another significant figure in the operation of a maritime enterprise is the Ship Agent (commonly referred to as a maritime agent in practice): this individual acts as the Shipowner's ground collaborator, tasked with managing their interests at port calls. They carry out a range of administrative and commercial operations (assisting the Captain with local authorities; receiving or delivering cargo; embarking and disembarking passengers; promoting or concluding contracts for the use of the ship with the issuance of the relevant documents, etc.). Essentially, this is an auxiliary connected to the Shipowner by a special contract known as a recommendation contract, to which the rules of mandate with representation apply[13].

11 Berlingeri 1957; Sarfatti 1937; Spasiano 1958; Comenale Pinto, Romanelli 2002; Vermiglio 2010. For a more general overview see Scialoja 1933.

12 For a more detailed discussion, see S. Rossi 2015b: 115 ff.

13 Rossi 2015b: 119 ff.

3.2. THE CAPTAIN OF THE SHIP

The role of the Captain is one of the most complex due to its technical, private, and administrative aspects, as well as the variety and scope of tasks assigned to this individual. The responsibilities that define the command function under Article 1117 of the Navigation Code are essentially the verification of the ship's suitability for navigation (before departure, the Captain must personally ensure that the ship is capable of undertaking the journey, meaning it is well equipped and loaded); the exclusive direction of navigation; the procurement of supplies and everything necessary during the expedition; the maintenance and preservation of documents and ship's logs; and the reporting of extraordinary events[14].

Legally, the Captain assumes the role of a private individual exercising a public function and as a civil status officer, to whom disciplinary and police powers are granted. Regarding the separate, associated hierarchical power, the Captain exercises this directly over the crew and passengers and, as the individual invested with the highest authority, represents the Shipowner in the exercise of legal functions of both a private and public nature.

Like the Shipowner, the Captain is responsible for compliance with regulations aimed at preventing workplace accidents and has the obligation to establish procedures and instructions for the safety of the crew, as well as to inform the Shipowner of any deficiencies and potential risks present on board. The specific prevention obligations imposed on the Captain can be extended by the Shipowner to other individuals (e.g., the second-in-command, the first mate, and other crew members, according to the hierarchical order), who will become jointly responsible without undermining the captain's position of guarantee, as they must ensure constant oversight of all activities on board and all manoeuvres. Therefore, the Captain's conduct in violation of the described prevention obligations establishes their criminal liability, possibly in conjunction with that of the supervisors and the Shipowner[15].

The Captain, as the person responsible for navigation and the head of the expedition, is endowed with the powers necessary to ensure its proper execution and success. In the case of complex manoeuvres (such as entering and exiting ports), delegations are not permitted, and the Captain must directly oversee the operations, coordinating the present crew. This does not mean that the Captain must personally manage the navigation

14 Rossi 2015b: 120 ff.

15 Rossi 2015: 121 ff.

throughout the entire journey (as he is entitled to rest breaks), but it is essential that he instructs the deck officers on the most appropriate manoeuvres and closely monitor their implementation. If events occur during the journey that endanger the ship, the crew, the individuals, and/or the cargo being transported, the Captain must attempt to safeguard the passengers and the cargo by all means at its disposal. In the most serious danger cases, he may not order the abandonment of the ship until all operations suggested by nautical practice have been attempted, consulting the opinions of the deck officers or, in their absence, at least two of the most experienced crew members[16].

In cases where abandonment is the only possible solution, it must be preceded by an international distress message (mayday) requesting immediate assistance from the maritime authority, the Coast Guard, and other vessels in the nearby waters. The Captain must then personally direct the evacuation operations necessary to ensure the safety of all passengers and, ultimately, must be the last to abandon the ship. This behavioural requirement, specifically aimed at ensuring the orderly rescue of individuals and preventing the spread of widespread panic, was notoriously disregarded during the sinking of the "Costa Concordia", an incident that led to one of the most significant criminal trials against a ship's Captain (charged with offenses of negligent shipwreck, multiple counts of manslaughter, multiple counts of negligent injury, abandonment of the ship, abandonment of minors or incapacitated individuals, in addition to a series of other contraventional charges, for failing to immediately report to the competent maritime authority and, in fact, providing false information to it). This case concluded with his definitive sentence of 16 years in prison and one month of house arrest, along with compensation for damages[17].

The case referred to allows, in fact, a further order of considerations, linked to the poor evaluation of the profiles of cooperation negligent, as well as the underestimated impact of an inadequate risk management and control system on the cause of the shipwreck.

16 The reference norm is Article 303 of the Navigation Code (Abandonment of the ship in danger). Regarding the extraordinary advisory body mentioned earlier, it is based on an ancient institution of maritime law that also involved merchants and their representatives present on the ship; this assembly had, in certain cases, the task of making decisions regarding the conduct of the expedition and even the manoeuvres of the vessel. Lefebvre D'Ovidio, Pescatore, Tullio 2019: 352.

17 Italian Supreme Court of Cassation, IV, 12 May 2017 (filed 19 July 2017), No. 35585, in DeJure database. Regarding the dynamics of the shipwreck and the sequence of subsequent events, see Pisa 2012: 367; Aimi 2013; Rossi 2015a: 5 e 2015b. For an in-depth discussion of the entire court case and the final declaration of liability see Rossi 2020: 130 ff.

In the present case, in fact, profiles of responsibilities have emerged that can be attributed to the c.d. "culpable cooperation", an institute provided for by art. 113 c.p., which has generated many questions of interpretation, related to the identification of its function and the assumptions of its operation.

The participation of several persons in the same crime is a matter that mainly concerns the causal relationship and in cases, like this one, where there is a legal obligation which falls simultaneously on more than one person (Captain and "key men" of the crew), the link between the conduct of one of the guarantors and the event is not lost as a result of the subsequent failure to intervene by other parties, who are also under an obligation to prevent the event.

In the concrete production of the harmful event, culpable cooperation can be achieved either through the completion of certain actions or through omissions and what characterizes this institution is the existence of a psychological bond between agents. In reality, the extent of imputation cannot be based solely on this link, understood as awareness of cooperating with others, or (at most) as awareness of the wrongful nature of another's conduct. In an evolutionary process in the interpretation of guilt, this latter, even in the multi-objective imputation, has been understood as a violation of a rule of conduct with precautionary content.

Well, with specific reference to situations in which the partners act "simultaneously" and according to a specific organisational form, it is considered that the common involvement in risk management by the different parties justifies the criminal relevance of "atypical" conduct, unrelated to the violation of a precautionary rule with a precautionary purpose in relation to the event caused.

Ultimately, in cooperation with the other party, the simultaneous management of a common risk should lead to an increase in the efficiency of the precautions.

This is well understood in relation to what happened on board the "Costa Concordia", where the officers present were required to carry out a whole series of "typical" tasks, at the orders of the Captain, concerning the individual professions (such as to report radar information, perform an efficient watch service, signal danger of navigation, prompt advice on any appropriate action to avoid collision with an obstacle), but they were also perfectly aware that the exercise of navigation is not always and absolutely reserved to the commander, and that, on the contrary, they could be

required to intervene if the latter made risky choices or showed objective difficulties in management.

The duties mentioned several times, involving graduated members of the crew in cases of emergency, have, in fact, a precautionary nature that also concerns others' behaviour, in the sense that they require verifying and preventing any negligent activities by third parties (in this case the Captain). It follows that the original margins of the typical single-subjective fault are extended to include a "claim for prudent interaction" whenever the integrated involvement of several subjects is imposed by organisational needs related to the management of a risk (as in this case).

This overall interpretative framework allows to consider the cooperation of the officers in relation to the shipwreck of Costa Concordia: in particular, given a factual situation which made it foreseeable that failure to intervene would have increased the risk and, therefore, the "claim of prudent interaction" was due, failure to act appropriately and holding a passive attitude may lead to imputation under Art. 113 c.p.

The institution of culpable cooperation requires, moreover, a verification on the predictability and evitability of the event and on the fact that it is among those which the precautionary rule violated aimed to prevent. In this second view, to raise a charge of liability against the agent, it is not sufficient to establish the existence of a causal link between the breach of a precautionary rule and the event, but it is necessary to "concretise the risk", verifying whether the type of event actually occurred was among those taken into account in the formation of the precautionary rule.

Now, as for the predictability and subjective evitability, the psychological coefficient of participation of the author in the event must be parameterised in relation to the nature of the case and the constitutional interests at stake: in this case the protection of life and physical integrity imposes a particular level of care and prudence on the author, and for this reason he is called to account not only in cases of inattention or negligence or violation of precautionary rules, but also when he has ignored a dangerous circumstance or has fallen into error on its meaning and the ignorance or the error have been determined by fault and are therefore reprehensible because not inevitable .

In the end, it is considered that the fault is discernible not only if the events were foreseeable, but also if they were not foreseen because a dangerous circumstance was ignored due to fault or wrongly assessed always for fault. And this is precisely what happened on board the "Costa Concor-

dia", where situational awareness was distorted by the presence of more people (even outside the crew), conversations not focused on the operations in progress, the use of mobile phones. On the command deck there was a confused atmosphere, not respecting the most basic safety rules, which contributed to generate false expectations and errors due to lack of attention.

In light of the considerations above, all the required criteria (predictability/ evitability and materialisation of risk) seem to exist and, considering the particular situation in which the events took place, it is possible to identify a "claim of prudent interaction" among the guarantors engaged in command deck the evening of the shipwreck.

However, this classification is partially contradicted by the judgment of the G.u.p. of Grosseto, which applied the sentences agreed upon to the co-defendants of the Captain.

The ruling, while acknowledging that all the conduct was related to each other (according to specific and autonomous positions of responsibility) within a complex organization (such as the governance of a ship), underlines that: This complex organization is distinguished from others by a command structure which is almost entirely vertical; where, by express legal provision that hierarchises the relationship between the entities operating in the same organisation, the individual possibilities of intervention within the respective positions of responsibility and guarantee give way to facing decision-making choices of different and opposite sign taken by the command holder». And also that: «according to the reconstruction of the event and the responsibilities for as evincable from the acts of investigation [...] the conduct of today's defendants, even if not of minor importance, is obviously of less importance than the conduct of the co-defendant who held the command position on the ship».

In a nutshell, the judgment clearly recognises a fault-type liability for all defendants, due to the different positions of guarantee and individual conduct, but does not apply art. 113 c.p. to the officers, confirming it, instead, for the hotel director and the responsible Costa Crociere of the unit of crisis established on ground.

In the end, the culpable cooperation applies to the commission of crimes of murder and multiple colpose injuries (ex art. 589 cc. 2 and 4 c.p.), but not to the crime of shipwreck ex art. 449 c.2 c.p.

This exclusion is not really justified and does not allow a correct reading of the responsibilities in the context of a complex organisation, such as that of a cruise ship, where different operational levels are interwoven.

In addition, in the case under consideration, it is worth remembering that the cause of the shipwreck event was a mix of factors, individual, relational, organizational, but also environmental because they affected bad practices, although not prohibited, such as bowing.

In the absence of significant controls, repeated violations of rules of prudence, tolerated and not sanctioned, trigger a process of normalisation of deviance and very dangerous overconfidence, where the objective limit to be respected becomes a subjective limit to be challenged by those who command the ship. In this context, it is considered desirable to change the operating conditions that made such a disaster possible by reviewing management practices in commercial and tourist shipping, strengthening the system of controls and reinforcing a more general safety culture in transport organisation which limits irregular potentially hazardous practices.

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PROTECTING SEA ECOSYSTEM FROM TSUNAMI RISK AND FROM RISK OF MARINE POLLUTION IN THE INTERNATIONAL LEGAL FRAMEWORK

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1. THE REASONS AND THE OBJECT OF THE INVESTIGATION

Θάλλαττα! θάλλατα! cried joyfully the Ten Thousand Greeks sawing Euxeinos Pontos (the Black Sea) from Mount Theches near Trebizond after participating at Cyrus the Younger's failed march against the Persian Empire in the year 401 B.C.

This story, as well known, is told by Xenophon in his famous *Anabasis*.

More than two millennia later, the encounter with the sea, although for different reasons, is an element of certain fascination and reverence for those who approach it with due respect.

Yet the most short-sighted economic policies, perpetrated by almost all industrialized Countries, have made the sea a place devoted to the exploitation of resources and subjected to the action of terrible pollutants, such as plastic, that do not result from macro-events but from systemic choices whose consequences will be suffered for many generations.

Similarly, the construction of a relationship with the sea that guarantees, especially for citizens living in coastal areas, effective protection against atmospheric phenomena and natural phenomena of significant destructive power is still going on.

In this dual role as a risk factor and as a legal asset in need of protection, the sea once again becomes an emblem of conflicting demands and a *liquid* space for policies to safeguard its ecosystem which, to date, have not achieved the desired results.

There are many reasons for this, and the narrow scope of this investigation does not permit the socio-economic analysis that underpins the

reasons for the lack of international and uniform protection of the sea, as both subject and object of risk.

Well then, wishing to recall a well-known but still very topical key to the interpretation of the relationship with the marine ecosystem, it is worth emphasizing the still-present difficulty of considering sea as a legal asset in itself and likewise as an element in itself harbinger of causing damage to the population.

The dismiss of a functionalist idea in which the ecosystem receives protection because of its propaedeuticity to safeguarding human health and life could be a valid support to overcome the most serious distortions caused by the anthropocentric approach.

If, in fact, the instrumentalization of the system of criminal protection of the marine ecosystem for man safeguarding, has given rise to a fragile and decontextualized protection on which we will try to dwell during our reflections.

Similarly, protection from the sea conceived in a victimological vision has given rise to the pretermission of the categories of fortuitous event and force majeure.

If, on the one hand, what is lacking today is a system of protection that guarantees the integrity of the legal asset environment, *sub specie* of the marine ecosystem, on the other hand, secularly, the failure to recognize its identity generates an excess of human responsibility that sees man constantly subjected to a criminal reproach for all the consequences of natural phenomena.

In this complementarity and secularity lies the reason why it appears necessary here to address both faces in which the marine environment plays a relevant role for criminal law.

Today, however, the degeneration of anthropocentrism, characterized by a circularity of effects that is very inauspicious, is gradually giving way to an eccentric approach, recently sanctioned also by Italian Constitution, which, in Art. 9 not only elevates the environment, biodiversity and the ecosystem (and therefore also the marine ecosystem) to constitutionally protected assets[1], but places them in a global intergenerational perspective[2], guaranteeing the 'rights of future generations'.

1 In contrast to Art. 41 of the Constitution, which guarantees a balance with strong anthropocentric features.

2 This principle was first upheld by the *Corte costituzionale* in its judgment 105/2024, Pres. Barbera, Rel. Viganò. Previously, of great interest, see: Nevola-Verrengia-Prestipino, 2023.

Talking about 'future generations' acknowledges and authorizes an international opening in the protection of the marine ecosystem and the approach to the sea as a life-threatening element.

However, the international dimension of the protection *of the* sea shows profound differences with the protection *from the* sea.

If the latter is characterized by the absence of a uniform and binding regulatory framework, relying mainly on *soft law* harmonization instruments and leaving the repression of the unfortunate consequences of adverse events entirely to the often very different choices of individual countries, the same cannot be said for the former.

The protection of the sea, as a legal asset, is not only entrusted to the harmonization of European Directives and international Conventions on which we shall have the opportunity to dwell but is at the Centre of a very broad debate that is presumably destined to lead to the creation of ecocide as an international crime.

To appreciate this profound dissimilarity, it is therefore necessary to first dwell on the original core of the reflection that focuses on the marine ecosystem as a risk factor, with particular attention to the tsunami risk in its historical and legal dimension, characterized by an exquisitely national criminal response, not free from deep criticalities and distortions and categorize by the debate on the role of *soft law* in that sector.

In a specular manner, we will then deal with the protection of the sea as a declination of the broader legal asset of the environment, immediately framed in a regulatory system that is an expression of deference to the demands of European and international law, which has progressively evolved over time to open up to an incremental offences that are not always accompanied by deference to the principle of criminal law.

Remarkable questions, in this sense, are raised by the new Directive (EU) 2024/1203 of the European Parliament and of the Council of 11 April 2024 on the protection of the environment through criminal law and replacing Directives 2008/99/EC and 2009/123/EC, which not only aims at harmonizing the regulation of environmental offences within national criminal laws, by providing for a more binding protection, inspired by precautionary and preventive principles, and aimed at restoring, or in any case compensating, the environmental damage caused, according to the "polluters should pay" principle, but above all prescribes to Member States the incrimination of the crime of ecocide, in the wake of the broader international debate aimed at introducing this offence in the list of crimes punished by the International Criminal Court.

Once this framework has been traced, it will be possible to outline some lines of research that, *de iure condendo*, taking note of the critical aspects of the current system, will help to harmonies the two faces of protection within the international framework and with harmonization tools not exclusively entrusted to the *ius terribile*.

2. CRIMINAL PROTECTION FROM THE SEA: NEW TOOLS FOR AN OLD RISK

The history of the peoples and cultures that have sailed the seas for millennia has handed down to us an attitude of deep fascination and equal awe towards the sea.

To limit ourselves to our Mediterranean, classical literature provides us with a very rich tradition in which the sea constitutes the setting for dramatic stories, characterized by catastrophic outcomes, mostly propitiated by divinities hostile to seafarers.

Among the most fascinating narratives are those related to tsunami risk, which reveal a singular pervasiveness and awareness of often peculiarly destructive phenomena.

If already in the Odyssey (4.505-10) Poseidon is accredited with the power to break mountains and sink coastlines, some fonts attribute to him the role of direct or indirect cause of a seismic event, as happened in relation to the earthquake of 464 B.C. when Thucydides (1.28.1) attributes to the Spartans the belief that it was due to a sacrilege committed against Poseidon[3]. A similar opinion is also handed down to us with reference to the earthquake in the Gulf of Corinth in 474 B.C. in relation to which Xenophon (Hellenes 4.7.4) recalls that when an earthquake began, they used to intone the *peana*, i.e. a religious choral song, dedicated to Poseidon.

But Poseidon is above all blamed for the famous tsunami in Argos, described by Pausanias (2.22.04): «Here [in Argos] is the sanctuary of Poseidon called Proclistio [i.e. bathing with the waves]. For they say that Poseidon submerged most of the region, becausé Inachus and the other judges had decreed that the region belonged to Hera and not to him. Then Hera obtained from Poseidon that the sea turned back; the Argives then dedicated a shrine to Poseidon Proclistius, at the point where the waves

3 Thucydides 1996. For a broader contextualization see Guidoboni – Comastri – Traina 1994: 504.

receded». In the Roman world, where Poseidon takes the name of Neptune, there is no shortage of references to tsunami as the result of his will. Indeed, the poet Ovid (*Met.* 11.199-215) tells us that «the lord of the sea directed all the waters to the shores of greedy Troy, turned the land into a sea, deprived the farmers of the produce of the soil and covered the fields with waves».

The cultural matrices that are rooted in the literary sources recalled so far undergo a singular process of oblivion that is accompanied by a complete underestimation of the incidence of the tsunami risk not only in Italy but also throughout the Mediterranean, if not the entire world.

The Pacific Tsunami Warning Center (PTWC), the official tsunami warning centre in the U.S. began in 1949 as a response to the 1946 tsunami generated in the Aleutian Islands that devastated Hilo[4].

Since 1965 the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) has been responsible for the intergovernmental coordination of the Pacific Tsunami Warning System (PTWS). Following the 26 December 2004 tsunami in the Indian Ocean, the IOC Member States requested at the 23rd IOC Assembly (June 2005) that similar warning systems be developed in the Indian Ocean (IOTWS), the Caribbean (CARIBE-EWS) and the North-Eastern Atlantic, the Mediterranean and Connected Seas Tsunami Warning and Mitigation System (NEAMTWS).

The Mediterranean has hosted one of the deadliest tsunamis ever, generated by the A.D. 365 Crete earthquake. Another major tsunami with more than one hundred thousand of casualties and severe damage to coastal cities occurred in 1908 (Messina, Italy). As recently as 2002 (Stromboli, Italy), and 2003 (Boumerdes, Algeria) tsunamis were generated, though fortunately these were not very damaging. The North East Atlantic area is also an area at risk where well-known earthquake sources can generate a tsunami causing extensive loss of life and property as did the famous 1755 Lisbon earthquake, whose ensuing tsunami impacted not only the Portuguese coasts but also those of Spain, Morocco and the Caribbean.

After ten years of development NEAMTWS has now entered a phase where four National Tsunami Warning Centres in France, Greece,

4 For more details see https://www.tsunami.gov/?page=history#:~:text=Pacific%20Tsunami%20Warning%20Center%20(PTWC)&text=Official%20tsunami%20warning%20capability%20in-,house%20the%20Honolulu%20Geomagnetic%20Observatory.

Italy, and Turkey, act as Tsunami Service Providers (TSP) and provide tsunami alerts to other NEAMTWS Member States[5].

In Italy, after more than two years of testing earthquakes and tsunamis on a global scale, the Tsunami Alert Center (CAT), together with its Greek, French and Turkish counterparts, was accredited during the thirteenth session of the ICG (Intergovernmental Coordination Group) - NEAMTWS in September 2016. The CAT then went into operational mode on 1 January 2017, in agreement with the National Department of Civil Protection (DPC).

This very brief excursus on the genesis of the choices of protection against the risk of tsunami allows us to immediately highlight a peculiar characteristic of the system that we are going to analyze here, without claiming to be exhaustive.

This is the international background, a feature rich of profound implications on the instruments of protection and on the choices related to the penal protection of such a complex risk.

In fact, the international matrix of tsunami risk management poses some essential questions to the criminalist that focus on: 1. The choice of protection instruments, their place in the Civil Protection organization and the consequences in terms of criminal liability; 2. The presence of a rich and complex regulatory framework of tsunami risk management emanating from international bodies, the possibility of counting it among the *soft law* instruments and its impact on negligent liability for macro-events.

2.1. THE ITALIAN TSUNAMI WARNING SYSTEM

In the context of the Italian legal system, the management of tsunami risk presents structural peculiarities that raise interesting questions regarding criminal liability for unfortunate events that may result from incorrect choices.

It is worth briefly mentioning the structure deputed to oversee tsunami risk management, which finds its main protagonist in the INGV Tsunami Warning Centre (henceforth CAT), accredited as the Mediterranean Tsunami Service Provider within the NEAMTWS (North-Eastern Atlantic and Mediterranean Tsunami Warning System) of UNESCO.

5 For these aspects see UNESCO DIGITAL LIBRARY, 10 Years of the North-Eastern Atlantic, the Mediterranean and Connected Seas Tsunami Warning and Mitigation System (NEAMTWS) Accomplishments and Challenges in Preparing for the Next Tsunami, available at https://unesdoc.unesco.org/ark:/48223/pf0000247393.

As mentioned, in 2017 the CAT entered its full operational phase, a circumstance that led to the need to regulate its relations with the other institutional actors involved in tsunami risk management.

This led, *first of all*, to the issuance of the Directive of the Council of Ministers establishing the 'National Warning System for Earthquake-Generated Tsunamis-SiAM', published in the Official Gazette on 5 June 2017, and *in secundis*, to the inclusion of the service in Annex A - Service Activities, of the "Framework Agreement between the Civil Protection Department and the National Institute of Geophysics and Volcanology for seismic and volcanic surveillance activities on the national territory, technical-scientific advice and studies on seismic and volcanic risks"[6].

The Directive and Annex A (in relation to CAT - DPC relations) represent the disciplinary framework in which, at a national level, the object of the service, the methods of its provision, the coordination profiles, and the growth and development objectives are established (the latter, in fact, are better determined in Annex B of the INGV - DPC Framework Agreement).

Each competence profile outlined corresponds to an equal technical and scientific responsibility in warning delivery.

This framework is the starting point for the subsequent documents that individually or jointly regulate the operational profiles of CAT.

Among them, particular importance must be given to the *Indications for updating civil protection planning for the tsunami risk*, issued to the Directive of the President of the Council of Ministers of 17 February 2017, published in the Official Gazette no. 128 of 5 June 2017 on the "Establishment of the National Warning System for Earthquake-Generated Tsunamis- SiAM" and *Decreto Legislativo* no. 1 2018 "Civil Protection Code"[7].

The indications are intended for Italian municipalities which must (or rather, should have long ago) updated their Civil Protection Plans to the tsunami risk, as an implementation measure with a greater impact than safeguarding the population.

If the municipalities are therefore entrusted with the task of implementing civil protection measures for populations prone to tsunami risk,

6 The text of the directive is available at https://www.protezionecivile.gov.it/it/normativa/direttiva-pcm-istituzione-siam-0/

7 The text is available at https://www.protezionecivile.gov.it/it/normativa/indicazioni-alle-componenti-ed-alle-strutture-operative-del-servizio-nazionale-di-protezione-civile-per-l-aggiornamento-delle-pianificazioni-di-protez/

they are not, however, part of the organizational structure identified by the SiAM Directive, which sees the INGV CAT, ISPRA and the National Department of Civil Protection (DPC) involved in the management of the risk in question.

The complex multi-individual structure in charge of risk management poses numerous questions for the criminal law.

However, the *sedes materiae* allows us to devote attention to profiles of greater impact, related to the multi-individual nature of risk management, the peculiar aspects of the duty to act.

Let's start with the first one.

2.2. THE MULTI-INDIVIDUAL NATURE OF TSUNAMI RISK MANAGEMENT IN SIAM

The legal and regulatory framework outlined by the sources shows that the first functional segment of a complex institutional system for managing a natural risk must be identified in the INGV CAT.

The national and international combination in which CAT is embedded constitutes the systemic datum from which to start to make explicit, from the very beginning of this study, the hermeneutic coordinates that must be followed for a congruous and exhaustive determination of the potential responsibilities arising from the service provided.

Regarding the national profile, the location of the CAT in the SiAM organization, codified by the Directive of the Council of Ministers of 17 February 2017, published in the Official Gazette on 5 June 2017, highlights the scientific role reserved for the Centre (para. 1; 1.1) and its centrality in the alerting system. Para. 1.3., in conjunction with Annex 3, defines the messages that the CAT must send out in the event of an alert and regulates the technical-scientific prerequisites (these are: information - alert - update - revocation - confirmation - end of event).

The Directive also specifies the limits of the service offered, the procedures in the event of malfunctions and, above all, the flow of information between the various actors in the service (section 1.4).

The CAT's area of competence takes on an exquisitely technical-scientific face and is functionally placed in a prodromal and instrumental moment for the start-up of the complex Civil Protection machine, which constitutes the center of imputation of both preventive-educational activities for the population, and alarm and rescue activities in the event of a tsunami.

No responsibility can be attributed to the INGV operators if the harmful event must be attributed to the exclusive responsibility of the other two SIAM actors, namely ISPRA and DPC.

To better understand this assertion, it is necessary to make explicit that the meaning of tsunami risk coincides with the notion contained in the Directive of the President of the Council of Ministers (G.U. 5 June 2017).

This risk is originated by seismic events that may take place in the Mediterranean Sea, which may generate an anomalous variation of the sea level, capable of impacting the coastlines of our peninsula. As established by the Directive, «the CAT is activated for seismic events of an estimated magnitude equal to or greater than 5.5 that occur exclusively in its area of competence» defined in Annex 1 of the Directive itself.

It also specifies the methodologies and scientific parameters adopted to ensure the warning, resulting of precise methodological options taken by scientists and technicians.

Certainly, the heated scientific debate and the profound differences in the community of reference fuel a certain anxiousness in the criminalist, who is used to trusting in the existence of an epistemic parameter as uniform as possible to guide the operator's decisions and the judge's decisions.

But so be it: the relative youth of this science prevent the individual actors from expressing convergence profiles on certain central aspects and, indeed, seems to exacerbate the differences between the choices adopted in the various centers.

Certainly, emblematic is the issue concerning the use of the decision matrix, a central element in determining the expected level of alert for the current potentially tsunami: the chosen solutions appear to differ even in those centers (not all) that have decided to adopt this tool[8].

Undeniably, therefore, the epistemological framework of tsunami risk is profoundly varied and sometimes contradictory.

The circumstance induces an even more serious fear when one reflects on the nature of the tsunamigenic risk: in fact, unlike the seismic risk, it is characterized by an exquisitely predictive nature. The CAT operator communicates a technical-scientific datum, the result of a complex elaboration (as well as suffering from great uncertainty), prodromal to the potential occurrence of a natural event harbinger of dangers for infrastructures and for the safety of citizens.

8 These discrepancies were evident during the events in Chile in 2010 and in Japan in 2011.

It is easy, therefore, to understand how this dual uncertainty - of the scientific datum reflected in the predictive datum - is also a harbinger of potential difficulties when determining liability for the event.

This circumstance becomes even more decisive in view of the multi-individual face of risk management before which we must reflect carefully in order to correctly delineate the framework of responsibilities arising from it.

The focus of this reflection lies in the need to counter an approach, admittedly common in a certain jurisprudence, designed to extend the blame of negligence for unfortunate events arising from the complex management of a risk to all those who were formally or substantially involved, without focusing attention on the real existence of real prerequisites capable of founding a real liability.

In the economy of this analysis, it is not superfluous to recall, first of all, how multi-individual offence can arise from a concurring phenomenology of the crime and, in particular, from a context of negligent cooperation[9].

Excluding, in fact, that in the case we are dealing with, there may be a consciousness and intention to harm or endanger human lives, it is more realistic to assume that several persons cause an event involuntarily through the violation of a precautionary rule aimed at preventing it and which each of them was required to observe. This is possible when several professionals are involved in the management of the same risk. In particular, the management of the alert may represent negligent cooperation when the conduct giving rise to the offence takes place in a synchronous context.

As doctrine points out, in order to be culpable there must be the following conditions: «1. the non-intentional nature of the criminal act; 2. the intention to materially or psychologically contribute to the perpetration of the conduct (common or by others) contrary to precautionary rules or risky and the cause of the event; 3. the foreseeability or foreseeability and avoidability of the criminal event» (F. Mantovani - Flora 2023: 549).

A different responsibility will occur in the event that several negligent conducts contribute to determining the event, remaining disjointed from each other. For example, the combination of the SiAM, made by the synergy between ISPRA, CAT and DPC, determines the possibility that the same event may be causally attributable to several negligent conducts, even independent of each other, carried out in a diachronic dimension[10].

9 *Ex plurimis* Corbetta 2015: 1806 ss.; Losappio 2012; Spasari 1956.

10 Fiandaca - Musco 2019: 614, where it is pointed out that the discrimen between cooperation and

Let us consider the case where a tsunami hits the Italian coast and causes casualties. It is quite possible that the death of people is the product of a causal synergy between radically different factors, such as a wrong communication of the risk, associated with a failure by the local authority obliged by law (the municipality) to provide warning. The coexistence of these forms of conduct determines the liability of all the persons who have given rise to it where, certainly, they assume a causally relevant value and none of them acts as an interruptive causal factor capable, pursuant to Art. 41, para. 2 of eliding the others' liability[11].

Determining whether the participating conduct gives rise to a case of negligent cooperation represents profoundly different consequences in substantive and procedural terms, such as the uniformity of the title of the offence for all the parties involved, between all.

In the SiAM system the conduct of the individual operators is therefore connected and functional to a converging purpose. The circumstance would lead to an application of the indictment of negligent cooperation (Art. 113 Italian Criminal Code) where several conducts, implemented by different operators, pertaining to different entities and at different stages of development of the same risk give rise to the event.

This consideration must be enriched with the other essential profile of criminal negligence, this element (*mens rea*). We have said that the connection of the conduct from the subjective point of view represents the founding element of culpable cooperation in which the participants are "mutually aware", as the Supreme Court considers, of «contributing with the action or omission of others to the production of the unintended event» or, as better expressed by doctrine, are endowed with the consciousness and will to concur «in the conduct that violates the precautionary rules of conduct»[12].

This awareness connotes the negligent face of the conduct and represents the element of ontological and functional connection towards the

concurrence of autonomous causes is constituted by the existence or non-existence of a psychological link between the different agents.

11 Arts. 41(2) and 45 of the criminal code regulate the concurrence of pre-existing, concomitant and supervening causal factors that exclude the causal relationship insofar as they allowed the occurrence of an event that was not even a probable consequence of the conduct.

12 F. Mantovani - Flora 2023: 550 and in the same sense M. Gallo 1957: 116. Contra Boscarelli 1958: 98, who maintains the irrelevance of awareness of cooperation in causally oriented cases; although with different nuances, see also: Pannain 1985, 168. Fiandaca - Musco 2019: 614, where it is pointed out that the discrimen between cooperation and concurrence of autonomous causes is constituted by the existence or non-existence of a psychological link between the different agents.

production of the harm. The importance of the subjective element of the offence (*mens rea*) is questioned by the *Sezioni Unite Penali* of the Italian *Corte di Cassazione*, which recalled how «the borderline between the case of culpable cooperation and that in which the concurrence of independent culpable causes is configured is often uncertain». The Court states, in fact, that part of the jurisprudence has placed excessive emphasis on the «indicated psychological trait» (i.e. the awareness of the other's culpable conduct).

It is necessary to require that the awareness of the cooperation in the action or omission of others must involve not only the structural and operational profile of the risk management *sub specie* of the behavior which can have violate precautionary rules, functional to the risk management.

However, the *Sezioni Unite* also stated that «each agent must act taking into account the role and conduct of others. This generates a link and an integration between the conducts that operates not only on the level of action, but also on the precautionary regime, requiring each one to relate to, and be concerned about, the conduct of the others involved in the context. This claim of prudent interaction identifies the canon for defining the basis and limits of the fault of cooperation»[13].

Every interaction must therefore be characterized by a "mutually critical and dialectical relationship" that, in the writer's opinion, goes as far as awareness and dutiful dissent expressed against the wrong choices of others.

2.3. THE RELATIONSHIP BETWEEN NEGLIGENCE AND OMISSION IN TSUNAMI RISK MANAGEMENT

Moreover, the complex identification of the boundary between a multi-individual offence and a singular one, suffers, in our context, from a difficulty related to the correct identification of the positions of guarantee and the relative sources susceptible to assume relevance in the tsunami risk management system.

13 Cass. Sec. Un., 18 September 2014, no. 38343 in DeJure. The judgment states how «the glueing factor of the different conducts» is identified in the «psychological» profile by both prevailing doctrine and case law. The Court states how «it is the awareness of cooperating with others». There is no unanimity, however, as to whether «this awareness must extend to the point of grasping the culpable character of the conduct of others». In fact, there is an oscillation between the thesis of the mere awareness of the conduct of others, which, however, ends up disproportionately broadening the indictment, and the thesis that requires the «awareness of the culpable character of the conduct of others» which «carries the risk of emptying the rule and rendering it useless».

As is well known, the identification of the boundary between culpable active conduct and culpable omissive conduct is not in itself an easy task, since in the violation of the precautionary rule, the heart of the negligence, there is already in itself a *non facere quod debetur* of criminal importance. As has been correctly emphasized, negligence and omission have numerous identity profiles including «the common regulatory nature and the subjection to similar teleological connection criteria […], just as the existence of culpable causation of the event cannot be affirmed when the event does not fall within the protection sector of the violated obligation, similarly, positions of guarantee do not have an indistinct and unlimited sector of obligations: even in the case of omission, the content and teleological direction of the obligation of guarantee must be verified» (Gargani 2000, 581 ff.).

These identity profiles founded the pivot of a widespread work of interpretation aimed at transforming the culpable offence into an improper omissive offence and realized through the valorization of the "omissive face" that characterizes the violation of the rule of diligence.

The suggestions that this identity can offer must not, however, mislead as to the real presence of two profiles that are «logically functionally distinct» (Giunta 1999: 625 ff.; Gargani 2000). In fact, «the position of guarantee indicates the duty to act and the legal right in respect of which the action must perform its protective function; the duty of care (as specified by the prudential rule that completes it) indicates the manner of conduct imposed by the position of guarantee» (Giunta 1999).

The difference between the omissive moment and the negligent moment also appears to be reinforced by a consideration based on a diachronic profile of the development of the criminal dynamic since «the duty of guarantee logically arises before the duty of diligence»: where the duty to act is lacking, it should be entirely useless to verify negligent conduct.

The priority check on the existence of the culpable negligence makes it easy for the interpreter to deduce from it the three cardinal profiles of the *non facere quod debetur*: the existence of a rule underlying the action, the omissive moment inherent in the failure to comply with it, and the active ownership of the obligation incumbent on the subject burdened . The result that follows unveils a scenario of plain violation of the cardinal principles of criminal responsibility.

On closer inspection, this process of inversion does not only affect the verification of the existence of the prerequisites for omissive liability,

but also infects the assessments regarding active conduct causing the event (Gargani 2013).

The "omissive moment of negligence" represents, therefore, a test case for the tightness of the criminal justice system, so much so that the natural overlaps that may arise require the determination, as clear as possible and *ex ante*, of the active or omissive coefficient of the responsibilities incumbent on the persons called upon to manage a source of risk.

The physiognomy of the obligation to prevent the event must take into account the specific context in which it occurs. Tsunami risk management is a peculiar area that, however, is likely to participate in the issues and reflections developed with reference to the broader relationship between criminal law and natural hazards.

The sector of natural risks has long suffered from a phenomenon of hyper-criminalization that leads to an over responsibility both to scientists and to civil protection, often in disregard of the orthodoxy of criminal negligence. It has been pointed out that since 2008 «the intervention of the judiciary following natural disasters has become increasingly evident with a genuine escalation of new investigations and criminal proceedings» (Amato 2015: 391 ff.).

These prosecutions often result in convictions, which are a symptom of a growing claim to the attribution of obligations to manage and prevent unfortunate events linked to the phenomenology of risk. The underestimation of prevention policies, associated with a tendency to not responsibilize individuals, increases the tendency to identify a *scapegoat* in contexts in which, it is fair to say, there is undoubted scientific uncertainty.

The existence of cognitive gaps about management and prevention of certain risks is associated with a plurality of equally valid scientific and operational solutions developed by the community of scientists and technicians.

If this scientific uncertainty represents the first element that perturb the reconstruction of a duty to act, and more generally of a negligent responsibility obsequious to criminal principles, the second of the aspects that contribute to fueling a complexity that is difficult to manage.

In fact, it is a matter of the plurality and complementarity of the sources on which the obligatory positions intended to protect the population from the tsunami risk are based. Alongside the obligations identified by the Civil Protection Code, *Decreto Legislativo* no. 1 2018, there are the institutional prerogatives identified in detail by the aforementioned SiAM

Directive and by the operational protocols that regulate the institutional relations between the actors involved.

To this tripartition must be added international sources, among which the Tsunami Ready Programme must play a decisive role.

The Tsunami Ready Programme, which is being piloted in many Italian coastal cities, as well as in many European and South Pacific communities, is governed by UNESCO IOC Document No. 74 of 2022[14].

As stated: «The Tsunami Ready programme seeks to build resilient communities through awareness and preparedness strategies that will protect life, livelihoods, and property from tsunamis in different regions. The main goal of the programme is to improve coastal community preparedness for tsunamis and to minimise the loss of life, livelihoods, and property. This is achieved through a collaborative effort to meet a standard level of tsunami preparedness through the fulfilment of a set of established indicators» (*ibid.*). Indeed «The Tsunami Ready programme is implemented as a voluntary, performance-based community recognition programme that promotes an understanding of the concept of readiness as an active collaboration among national and local warning and emergency management agencies and government authorities, scientists, community leaders, and the public» (*ibid.*).

The programme explicitly points out that «Although communities can be recognised as being 'Tsunami Ready', this recognition does not imply approval or promise that a community can or will perform at a certain level in case of tsunami. Tsunami Ready recognition does not mean that a community is tsunami proof; it is rather the acknowledgement and recognition that a community has adopted mitigation measures to cope with their tsunami risk» (*ibid.*).

Talking about Tsunami Ready introduces us to the broader topic of the role that can be recognized in the copious international regulations on tsunami risk management, mainly fed by documents issued by NEAMTWS as well as, in some cases, by Intergovernmental Oceanic Commission, which crystallize the empirical data accrued in tsunami risk management in documents that certainly cannot be ignored by those around the world who are called upon to preserve population's safety.

14 Available at https://www.ioc.unesco.org/en/tsunami-ready-programme

No less important is the international dimension in which the Tsunami Warning Centre embodies itself: the accreditation of Tsunami Alert Center (CAT) with NEAMTWS is the result of a complex procedure aimed at demonstrating that it possesses the technical-scientific requirements dictated as condition sine quibus not to rise to the rank of Tsunami Service Provider.

The affiliation of the INGV CAT to the NEAMTWS represents an obligation to comply with the international standards necessary for the tsunami warning and at the meantime impose to submit the technical and scientific choices made to to the highest international forum (NEAMTWS), which will be able to express an opinion on their appropriateness.

As far as the international aspect is concerned, it should be remembered that the progressive anchoring of risk management profiles to scientific knowledge shared by the national and international community of reference makes the role of the NEAMTWS crucial, at least in two respects. First, the NEAMTWS represents the forum for international scientific comparison and constitutes the place where the epistemological and operational choices adopted by the various international centers are discussed and eventually approved.

Secondly, the NEAMTW, already called upon to act as the official accrediting body of European Tsunami Warning Centers (among which, obviously, also the CAT), represents - and will represent in the future - that third and authoritative body called upon to validate the documents expressing the technical-scientific choices of the INGV CAT (job descriptions, guidelines and protocols).

But that is not all. As we have mentioned, the most important aspect lies in the regulation of risk management entrusted to the documentation drawn up by the various Tsunami Warning Centers all around the word, which make available to the international community knowledge condensed into guidelines that are, in most cases, the result of shared experience.

These are valuable documents, such as the Intergovernmental Oceanographic Commission Tsunami watch operations: global service

definition document, n. 130[15], or the Intergovernmental Oceanographic Commission Plans and Procedures for Tsunami Warning and Emergency Management, n. 76[16].

The influence of these provisions in the national legal framework, with reference to the objective and subjective element of the criminal offence (actus reus and *mens rea*), presupposes the answer to the question as to whether, due to their characteristics, they have the status of *soft law*.

As emphasized by doctrine, «Soft law refers to instruments such as declarations, recommendations, codes of conduct, action plans, expert opinions, and handbooks. Soft law is produced by state actors, international organisations, civil society organisations, multinationals, trade associations, and legal experts» (Bergtora Sandvik 2018). There is no doubt that «soft law can harden over time through state action, for example, as treaties or as customary law. In the context of the continued proliferation of lawmaking procedures and sites, soft law is many things to many actors: political and legal actors see soft law as a pragmatic instrument for governance; the business sector relies on soft law to facilitate private enterprise; and civil society uses soft law as a vehicle for social change» (*ibid*.).

Soft law rules are devoid of a direct binding force. They «influence and restrict the will and freedom of their addressees», but «do not establish a real obligation or provide for a specific sanction. If one does not consider the sanction to be a necessary attribute of the rule, one can either recognize the instruments under consideration as sources of law, or, on account of their imperfect effectiveness, one can speak of 'atypical sources'» (Chiarelli 2019: 1).

In the light of this reconstruction, it seems that both the documentation offered by the UNESCO IOC and the documentation elaborated in the context of the Ocean decade 2020-2030, i.e. the *Roadmap for cooperation on the UN Decade of Ocean Science for Sustainable Development* (2021-2030) can be counted in the genus of *soft law*.

This is not denied even by comparison with the further indicators provided by the doctrine, which considers those sources of production, even international, by bodies, not necessarily the direct expression of state or territorial bodies (as is the case for the documents we have cited), whose rules are formulated according to a level of precison that is also decidedly soft (all the rules we refer to have a general programmatic content). These

15 https://unesdoc.unesco.org/ark:/48223/pf0000246931

16 https://oceanexpert.org/document/19966

are rules with a prescriptiveness relative to the group to which they belong that has forged them or adheres to them, and also with an often international or transnational effectiveness (a cardinal requirement of the provisions under consideration) (Bernardi 2015: 43).

The cogency of these norms, independent, as we have said, from the presence or absence of a sanction for their non-compliance, depends rather on the adherence of the individual State bodies to the international body that produces them.

The legality of the *soft-law* rule, therefore, is to be found in the degree of its effectiveness, i.e. in the «capacity of the rule to be shared and applied by its recipients» (Persio 2015: 2064).

The recognition of such a degree of cogency is not always unanimously agreed.

However, it is undeniable that *soft law* is today applied very widely in many areas of the *legal system*.

In this regard, as correctly pointed out by the doctrine, the "vehicle of entry" of international *soft law* sources is certainly the impact they have in the jurisdictional activity.

As emphasized by the doctrine «If one then accepts a concept of interpretation in such a broad sense as to embrace, in principle, the entire application phase of the criminal rules» or, if one prefers, the whole of the so-called "law in action" (Bernardi 2015: 44), it becomes even more evident that *soft law* sources may often have significant repercussions on the issues entrusted to the decision of the criminal court. For instance, they may contribute to the determination of the standards of diligence that exclude culpable liability on the part of the perpetrator, since – according to the prevailing thesis – the concept of 'disciplines' within the meaning of Art. 43 para. 1 of Italian Criminal Code includes rules issued by private authorities (Bernardi 2015: 45). Moreover, it deserves to be emphasized that even accepting the minority thesis according to which *soft law* sources are to be excluded from the concept of "discipline" does not in any way imply their irrelevance in the recognition of negligence; it simply shifts their relevance from the area of specific negligence to that of general negligence, given that the *soft law* rules of conduct could help to specify the parameters on the basis of which to assess whether or not there is negligence and/or imprudence of a criminal nature (Bernardi 2015: 44).

3. PROTECTING MARINE ECOSYSTEM THROUGH THE INSTRUMENTS OF CRIMINAL LAW

While man had to protect himself from the sea and its destructive potential since the dawn of civilization, less awareness of it has characterized the demands for its protection.

It is only recently that the sea has been the subject of in-depth reflection designed first to understand its potential in terms of wealth and development and then to appreciate its great value as a pivotal element of the ecosystem.

Reflection on the sea as the focus of a protection intended to safeguard its biological integrity is a recent achievement in our post-industrial age in which the economic interests of large groups have always shown greater persuasive force than the ecological conscience of citizens, which, however, is inexorably making its way, finding an audience even in international institutions.

The protection of the marine ecosystem both from the deregulated exploitation of its resources and from pervasive polluting phenomena presents traits of greater complexity than the protection of the sea as a risk factor for tsunamis, but nevertheless shares with it essential traits that insist on the profiles of the tendentially multi-individual face of the harm caused to the environmental matrix and the profound and complex ascendancy with international sources.

To give a more precise account of these aspects, it seems important to reconstruct briefly and without any claim to exhaustiveness the international discipline dedicated to the protection of the sea, and then to verify what instruments are offered by our national legislator, highlighting their limits and frictions with criminal law principles. Starting from the numerous criticalities proposed by the current system, we will approach the recent guidelines expressed by the EU Directive 2024/1203 especially with reference to the profile of the incrimination of ecocide and the potential it expresses.

3.1. A BRIEF OVERVIEW OF THE INTERNATIONAL REGULATORY FRAMEWORK OF MARINE PROTECTION

Sea and ocean have long been an unregulated environment. The application of the principle of the freedom of the seas, which reserved jurisdiction over a narrow strip of sea, limited to national coastlines, to individual states, soon

demonstrated its tragic limitations by significantly favoring a deregulation that was the precursor of the most famous and tragic accidents, such as that of the Liberian oil tanker Torrey Canyon which sank in 1967 off the coast of Cornwall, the Sea Star, which caught fire in 1972 in the Gulf of Oman, the Amoco Codiz, which was destroyed off the coast of Brittany in 1972, the Urquiola, which ran aground off the city of A Coruña in 1976, or the Exxon Valdes, which hit a reef in the Gulf of Alaska in 1989 (Rizzo Minelli 2024: 23).

The succession of such catastrophic events has allowed the development of an ecological conscience destined to translate into both the conclusion of international agreements and the strengthening of national legislation as a means of first safeguarding the marine environment.

In the international regulatory dimension, an important role must be acknowledged to conventional law and, in particular, to the *International Convention for the Prevention of Pollution of the Sea by Oil* (so-called Oilpol) adopted in London on 12 May 1954, which was the first to protect the marine ecosystem by introducing a ban on discharging residues of polluting operations from tank-washing in specific sea areas, for which the State of registration of the ship can also resort to the criminal instrument[17].

If a broader protection is granted by the *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*, of 29 December 1972[18], through which the contracting states intended not only to limit the dumping of wastes into the sea[19], but also to adopt the necessary measures to prevent marine pollution, the most significant step forward must be recognized in the *International Convention For The Prevention of Pollution from Ships*, later amended by the 1978 Protocol (so-called Marpol 1973/78)[20]. The Marpol Convention aims to «put an end to deliberate pollution of the marine environment» and likewise aims to prevent accidental or negligent pollution, extending the prohibitions to all «harmful substances» liable to endanger human health and harm the equilibrium of the marine ecosystem (Art. 2(2)).

17 Art. 4 obliges flag and coastal states to classify as an offence any violation of the Convention's rules concerning the discharge of substances into waters and to provide for appropriate and necessary proceedings against the offender.

18 It entered into force in August 1975 and was later supplemented by a subsequent Protocol in 1996.

19 These are those substances - other than those produced in normal ship operations - that are 'disposed of at sea, in the name of the express desire to bring all types of marine pollution caused by ships under international treaty regulations'.

20 The Convention was ratified by Italy by *Legge* no. 662 1980 and entered into force on 2 October 1983. On the Marpol Convention, *ex multis*, Griffin 1994: 489; van der Zwaag – Powers 2008: 423.

In pursuit of this objective, the Convention requires individual states to adopt, in their domestic legislation, «sanctions of such a nature as to discourage potential violators», which, although not necessarily criminal in nature, nevertheless constitute severe measures capable of deterring any violation of the Convention itself, while also favoring «the development of a common legal language for the entire world community».

The protection requirements introduced by the Marpol Convention were then taken up and developed by the *United Nations Convention on the Law of the Sea*, also known as the *Montego Bay Convention* of 1982, came into force on 16 November 1994[21], was the first to establish a legal order for the seas and oceans that favors international communications, peaceful uses of the seas, the equitable and efficient utilization of resources and the protection of the marine environment. The Convention provides a definition of «pollution of the marine environment» which is «the direct or indirect introduction by man of substances or energy into the marine environment, including estuaries, where it has or maỳ have harmful effects such as harm to living resources and marine fauna and flora, hazards to human health, interference with maritime activities, including fishing and other legitimate uses of the sea, deterioration of the qualitỳ of seawater due to its use, and degradation of approval values»[22].

Section VI of Part XII of the Convention, provides, in Arts. 213-228, the rules applicable in the case of marine pollution resulting from «land-based», «seabed», «from vessels», «from or through the atmosphere», and «by dumping» activities, also establishing that violation of the provisions may be punished by criminal sanctions by individual nation-states and dictating, in this regard, a detailed regulation on criminal jurisdiction designed to identify the State competent to hold the trial and the applicable criminal law[23].

21 Ratified in Italy by *Legge* no. 689 1994.

22 On the relevance of the convention, *ex plurimis*, Tephany 2019: 508 ff.

23 While the exercise of criminal jurisdiction for violations of the rules on ship-source pollution is generally the responsibility of the ship's flag State - since it is provided that when proceedings have been instituted by a State to punish an infringement, these are suspended from the time when the flag State has instituted proceedings for the same infringement within six months of the first being instituted (Art. 228(1)), which is also obliged to receive from the coastal State or the port State a complete file and a record of the proceedings – Art. 218 also confers on the State in whose port a vessel is located the duty to «receive from the coastal State or the port State a complete file and a record of the proceedings». Art. 228(1), which is also obliged to receive from the coastal State or the port State a complete file and the minutes of the trial – Art. 218 also empowers the State in whose port a vessel is located to «undertake investigations» and to «institute proceedings in respect of any discharge from that vessel outside the internal waters, territorial sea or exclusive economic zone of

In a nutshell, the Convention introduces a universal jurisdiction of the port state, as an exception to the principle of territoriality and jurisdiction of the flag state, which is close to the principle of universal jurisdiction and the mechanisms provided for *crimina iuris gentium*.

As for sanctions, these are left in concrete terms to national legislation, which must however ensure a deterrent effect with respect to the commission of criminal offences[24].

In conclusion, it is worth recalling how these Conventions of international scope are complemented by others aimed at protecting specific geographical areas, including the 1976 *Barcelona Convention for the Protection of the Mediterranean Sea* and the *Convention for the Protection of the Marine Environment of the North-East Atlantic*, signed in Paris in 1992 (Rizzo Minelli 2024: 24).

3.2. THE PROTECTION OFFERED IN THE FRAMEWORK OF THE EUROPEAN UNION

The brief excursus on the international face of the protection of the sea cannot omit a reference, albeit not exhaustive, to the discipline envisaged by the European Union in the protection of the sea from polluting agents that can upset its balance and integrity.

Here again, it should be noted that the EU regulations offer a safeguard mainly related to the harmful effects caused by ships, which are recognized as major sources of pollution.

The search for a regulatory apparatus designed to harmonize the legislation of member states, including through the introduction of effective criminal sanctions, has led to limit the analysis to more recent times, to the formulation of Directive 2009/123/EC, which states that «Under this Directive, illicit ship-source discharges of polluting substances should be regarded as a criminal offence as long as they have been committed with intent, recklessly or with serious negligence and result in deterioration in

that State in violation of applicable international rules and standards established through the competent international organisation or general diplomatic conference».

24 Of particular importance, because they relate to the type of penalty that may be imposed, are the provisions contained in Art. 230 of the UNCLOS, which provides that only pecuniary penalties may be imposed for infringements of pollution regulations committed by foreign ships beyond the territorial sea: if, however, such infringements have been committed in the territorial sea and a serious and deliberate act of pollution is involved, the psychological element of the offence must be taken into consideration in order to assess whether custodial penalties, in addition to pecuniary penalties, should be imposed.

the quality of water. Less serious cases of illicit ship-source discharges of polluting substances that do not cause deterioration in the quality of water need not be regarded as criminal offences. Under this Directive such discharges should be referred to as minor cases» (Considerando 9).

Art. 4 punish the author of any type of discharge, even if it is 'minor', while Art. 5 maintains the system of exceptions already regulated by the repealed decision, thus excluding the punishment of those who discharge pollutants into marine waters in order to comply with the requirements of the Marpol Convention.

Directive 2009/123/EC also provides for the liability of legal persons, which is necessary related to two conditions: that the conduct must have been committed by a person who holds powers of representation, decision-making or control (para. 1) or that the author is subject to the authority of the latter (para. 2). The polluting harm must fall within the types of conduct peremptorily provided by the Directive and must be carried out for Legal Person's benefit.

While the 2009 Directive represents a tool for the protection of those factors that have the greatest impact on the integrity of the marine ecosystem, it should nevertheless be pointed out that the European Union legislator had already previously been concerned to safeguard, by means of criminal law instruments, the environmental matrices that are potentially harmful.

Directive 99/2008/EC establish that it «obliges Member States to provide for criminal penalties in their national legislation in respect of serious infringements of provisions of Community law on the protection of the environment. This Directive creates no obligations regarding the application of such penalties, or any other available system of law enforcement, in individual cases» (Considerando 10).

The provisions of the Directive present profiles of great interest in the economy of this reflection since they expressly involve «waters» among the objects of the protection offered.

Thus, Considerando 5 already states that «effective protection of the environment, there is a particular need for more dissuasive penalties for environmentally harmful activities, which typically cause or are likely to cause substantial damage to the air, including the stratosphere, to soil, water, animals or plants, including to the conservation of species».

One is immediately entitled to assume that the generic indication «water» can also refer to marine waters, in view of the scope of Annex A,

which, among the list of Community legislation adopted on the basis of the EC Treaty, the infringement of which constitutes an infringement within the meaning of Art. 2(a)(i) of the directive, includes not only Council Directive 76/160/EEC of 8 December 1975 concerning the quality of bathing water (4), Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, and Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality.

The express mention of these areas of protection authorizes us to consider that the scope of Directive 99/2008/EC also extends to marine waters whose integrity, also in terms of safeguarding flora and fauna, is protected by the obligations of incrimination provided for natural persons and legal entities that endanger or cause damage to the environment by conduct supported by intention or negligence.

The set of safeguards imposed by the Directive represented a turning point in the protection of environmental matrices entrusted to a penal instrument whose effectiveness has often proved to be inefficient in terms of both general prevention and special prevention.

In particular, the prescribed incriminations have resulted in provisions that are particularly no compliant with criminal law principles.

In order to understand this regulatory *aporia*, we briefly dwell on the Italian legal framework devoted to protecting water ecosystems through criminal law.

3.3. MARINE SAFEGUARDING IN ITALIAN CRIMINAL LEGISLATION

The regulation of water protection in our legal system shows a complex face that is inevitably affected by the choices made by our legislator in the various *bodies* of legislation designed to provide criminal protection against endangering or damaging the environment.

The two approaches, made by *Decreto Legislativo* no. 152 of 2006 and Title VI bis of the Criminal Code both present considerable peculiarities concerning the incrimination technique chosen, the relationship with the administrative paradigm of reference and the compliance with the principles of criminal law.

In fact, the protection of marine waters is provided for primarily in Part Three, under the heading «Rules on soil protection and combating desertification, protection of waters against pollution and management of

water resources», and in particular in Section I, under the heading «Rules on soil protection and combating desertification», Title I, «General principles and competences» of *Decreto Legislativo* no. 152 2006.

Art. 53 of Chapter I identifies the object of protection in the «hydrogeological restoration of the territory» in which the water element must also be identified, in accordance with Art. 54, with «coastal waters», i.e. with «the surface waters situated inland with respect to an imaginary straight line distant at each point one nautical mile on the external side from the nearest point of the base line that serves as a reference for defining the limit of the territorial waters, and which extend, where appropriate, to the external limit of the transitional waters».

Coastal waters are also referred to in Art. 54(1)(l), which includes «coastal waters» in the notion of «surface water body».

Section II, headed «Protection of Waters against Pollution», in Title I «General Principles and Powers», in Art. 73, in identifying the Purposes of Protection includes:

Para. 1(a)(1) «the function of preventing and reducing pollution and implementing the redress of polluted bodies of water»;

Para. 1(e)(3) «to protect territorial and marine waters and to achieve the objectives of relevant international agreements, including those which aim to prevent and eliminate pollution of the marine environment, with the aim of ceasing or phasing out discharges, emissions and losses of priority hazardous substances with the ultimate aim of achieving concentrations in the marine environment near background values for naturally occurring substances and close to zero for anthropogenic synthetic substances».

These objectives are also pursued through:

Para. 2(g) «the adoption of measures for the gradual reduction of discharges of emissions and any other source of diffuse pollution containing hazardous substances or for the gradual elimination of such discharges where they contain priority hazardous substances, contributing to the achievement in the marine environment of concentrations close to natural background values for naturally occurring substances and close to zero for anthropogenic synthetic substances»,

Para. 2(h) «the adoption of measures to control discharges and emissions into surface waters according to a combined approach».

Also in this case, Art. 74(1)(c) identifies among the objects of protection as «coastal waters: surface waters lying inland from an imaginary straight line distant at each point one nautical mile on the outer side from

the nearest point of the baseline serving as a reference for defining the limit of territorial waters and extending, where appropriate, to the outer limit of transitional waters»[25]

The integrity of marine water resources is criminally protected from polluting discharges, as provided for in Art. 137 which sanctions «whoever opens or in any case carries out new discharges of industrial waste water without authorization, or continues to carry out or maintain such discharges after the authorization has been suspended or revoked, shall be punished with imprisonment from two months to two years or with a fine ranging from one thousand five hundred euro to ten thousand euro», a penalty that is increased (para. 2) «when the conduct described in paragraph 1 concerns discharges of industrial waste water containing dangerous substances included in the families and groups of substances indicated in the tables» of Annex A.

The prescription also provides for harsher penalties for «anyone who violates the requirements concerning the installation and operation of automatic controls or the obligation to keep the results of such controls as set out in Art. 131» as well as for «the operator of urban wastewater treatment plants who exceeds the limit values when discharging».

The regulation also provides for criminal protection against non-compliance with measures taken by the competent authorities.

Also of great interest is para. 13 of the same norm, which provides that «the penalty of imprisonment from two months to two years shall apply if the discharge into the waters of the sea by ships or aircraft contains substances or materials for which an absolute prohibition of spillage is imposed pursuant to the provisions contained in the international conventions in force and ratified by Italy, unless they are in such quantities as to be rendered rapidly harmless by the physical, chemical and biological processes occurring naturally in the sea and provided that prior authorization is obtained from the competent authority».

The effort to give environmental regulation a solid architecture capable of bearing the weight of the complex protection requirements poses

25 Art. 83. Bathing waters «1. Bathing waters must meet the requirements of *Decreto del Presidente della Repubblica no. 470 1982*. 2. For the waters that are still not suitable for bathing according to the decree mentioned in paragraph 1, the regions shall communicate to the Ministry for the Environment and the Protection of the Land and Sea, by the beginning of the bathing season following the date of the entry into force of part three of this decree and, subsequently, on an annual basis before the beginning of the bathing season, all the information relative to the causes of the non-bathing and the measures they intend to adopt, according to the methods indicated in the decree mentioned in article 75, paragraph 1».

critical problems of compatibility with the inalienable principles that reinforce criminal prosecution.

The first and most evident contrast takes place on legality and involves the chosen protection technique, which appears, on the one hand, entrusted to an indeterminate regulatory formulation structured on the reference to secondary sources such as authorizations or threshold limits, indicated by regulatory sources or administrative acts[26].

The *Decreto Legislativo* no. 152 2006 is structured in a complex of cases «constructed as (more or less) sanctioning appendices» to «administrative precepts and procedures" that express a veritable "sanctioning function of criminal law with respect to administrative law»[27].

In the *Decreto Legislativo* no. 152 2006, in fact, specific cases coexist with others of a distinctly open nature. Such dissimilarity does not prevent, however, that in all these precepts a detachment from the event is consummated, due to precise choices of protection.

But not only that: the choice of entrusting the perimeter of the lawfulness of conduct to secondary regulatory or administrative acts also profoundly influences the criminal court's decisions (Gargani 2020b: 114).

In fact, administrative discipline represents the 'logical *prius*' of environmental offences and it is entrusted with the «definition and delimitation of the object of protection as well as the identification of the boundary between licit and illicit» (Gargani 2020b: 112).

Administrative determinations constitute rules of conduct that guide the citizen's behavior and rules of judgement for the judge called upon to review their actions (Ramacci 2021: 316 ff.). For the criminal law of the environment to respect the criteria of certainty and *predeterminability* of the consequences of unlawful action it is necessary that the above rules coincide (Palazzo 1999: 548).

But in reality, this is not the case. Criminal environmental law manifests a certain degree of "uncertainty and unpredictability" that depends on the level of *ancillarity* reserved for administrative law and the correlated significance of the judge's review of the legitimacy of the administrative measure itself[28].

26 As pointed out by Gargani 2020b: 112 and in the same sense already Pedrazzi 1991: 619. Structural profiles that also affect the knowability of the precept, as pointed out by Rotolo 2018: 183 ff.

27 Thus Ruga Riva 2021: 15. This is also underlined by Giunta 2002: 852 ff.

28 Gargani 2020b: 117. For these aspects see also Silva 2014: 21 ff. On the relationship between criminal judge and public administration, see: Gambardella 2002: 276 ff. and Palazzo 2012: 1610 ff.

In the context of the offences provided for by the *Decreto Legislativo* no. 152 2006, criminal law performs a «sanctioning and accessory function with respect to the governance of the environment» reserved to the administrative authority, which exercises it by means of authorization provisions that can identify lawful risk thresholds (Giunta 2008: 1152), with a consequent emptying out of criminal jurisdiction.

Criminal protection is a protection of «administrative functions», focusing merely on the «administrative control of risky activities»[29].

This choice of "dependence and ancillary nature" should not be assessed in an a priori negative way since, precisely in these cases and for the purposes that concern us here, the judge exercises a limited discretion, bound to the violation of administrative statutes (Gargani 2020b: 119). Here the precept is more determined, and the citizen can better direct his behavior according to the established rules.

The framework of profound tension of environmental offences with the principle of legality is aggravated by the friction that also takes place with offensiveness.

Any consideration in this sense must be preceded by an acknowledgement of the unresolved identification of the legal right protected by the rules. If for some, in fact, the provisions have as their object the protection of the environment in itself, for others, on the other hand, environment would be protected instrumentally to human life and health or other interests (De Santis 2012: 21 ff.).

If in *Decreto Legislativo* no. 152 2006 the protection of human health seems to prevail, in Italian Criminal Code, the protection of the environment as an autonomous legal asset has been deemed prevalent[30].

However, regardless of the theses chosen, one aspect is scarcely refutable: this is the 'liquidity and incommensurability in space and time of the forms of offence' against the environment, which is bound to affect the structure of the incriminating offences[31].

The provisions of the *Decreto Legislativo* no. 152 2006 appear, in this sense, paradigmatic. The legislator here does not choose a uniform

29 Gargani 2020b: 118. On this ancillarity: Di Landro 2018: 116.

30 De Santis 2017: 189 ff. and Id. 2012: 21 ff. For a broader perspective of the debate see Amérigo - Aragonés – Frutos 2007: 98; González - Amérigo 1999: 14-15; Valdivielso 2005: 192. Also of great interest are the reflections of Bustos Ramírez 1991, 260.

31 Gargani 2020b: 129. It highlights equally relevant issues in the context of Spanish criminal law Ochoa Figueroa 2014: 255.

environmental protection strategy in advance, but leaves this to the identification, on a case-by-case basis, of the object of protection.

The elusiveness of the legal asset is reflected in a complex of contraventions constructed as criminal behavioral models that, favoring forms of anticipation of protection, take the form of abstract danger offences[32] intended to repress conduct that might not actually be offensive to the legal asset (Ruga Riva 2019, 16).

In its eagerness to overcome the strong criticalities highlighted, the legislature introduced Title VI bis into the corpus of the Criminal Code with *Legge* no. 68 2015.

Some of the provisions of this legislation also act as a potentially valuable safeguard for the marine ecosystem.

This concerns, in particular, the case of environmental pollution, Art. 452 *bis* Cr.C., which punishes with severe penalties anyone who, inter alia, «unlawfully causes a significant and measurable impairment or deterioration» of «waters» and in any case of an «ecosystem», which may well be the marine one. Where marine pollution causes, as an unintended consequence of the offender,

«Personal injury, except in cases where the illness lasts no more than twenty days, serious injury, very serious injury or death», the penalty is significantly increased under Art. 452 *ter*, which punishes «death or injury as a consequence of the crime of environmental pollution»[33].

When the damage of the marine ecosystem became of particular gravity and diffusion, the legislator, in order to pay full respect to Directive 99/2008/EC, provides, in Art. 452 *quater* Cr.C. the crime of Environmental Disaster.

The penalty of imprisonment from 5 to 15 years is in fact foreseen for anyone who causes «1) the irreversible alteration of the equilibrium of an ecosystem; 2) the alteration of the equilibrium of an ecosystem whose elimination is particularly onerous and achievable only with exceptional measures; 3) the offence to public safety by reason of the importance of the fact for the extension of the impairment or its damaging effects or for the number of persons offended or exposed to danger».

32 Contieri 2018: 29. On abstract danger, in a critical sense, M. Gallo 1969: 1 ff.; for an initial reassessment then consolidated G. Fiandaca 1977: 184 ff.; in a monographic vein Parodi Giusino 1990; for a reconstruction of the picture Canestrari 1991: 1 ff. and Angioni 1994: 97 ss.; in a hermeneutic reconversion of the abstract into the concrete Catenacci 2006: 1415 ff.; more recently D'Alessandro 2012.

33 In the case of death of more than one person, injury to more than one person, or death of one or more persons and injury to one or more persons, the punishment to be imposed for the most serious case, increased by up to three times, shall apply, but the term of imprisonment may not exceed twenty years).

Here again, the regulatory plot reveals an unequivocal failure of any attempt to protect the marine ecosystem in a manner obsequious to the principles of criminal law (Padovani 2015: 10 ff.).

The case of environmental disaster, in particular[34], presents aspects of profound indeterminateness that are rooted in the chosen linguistic formulation, which does not allow the possibility to really distinguish it from the environmental pollution[35].

The typicity is focused on a clause of special illegality, which is identified with the abusiveness of the conduct, coinciding with its contrariety to administrative paradigms aimed at regulating aspects of balance between the protected rights (Giunta 1997: 1107). It entails that the framework of lawfulness, i.e. the boundary of lawful risk, has already been identified by the administrative authority, and this should be sufficient to preclude a meaningful review by the judge.

But this is not the case, since judicial practice shows a continuous and pervasive intrusion of decisional power into the field of administrative discretion that should remain outside it.

And even worse appears to be the situation when we reflect on the compliance with the principle of offensiveness[36].

The case of Art. 452 *quarter* Cr.C. does not allow for a proper procedural ascertainment of the offence, with the result that the main effect of the repressive action is concentrated in the precautionary stage, the natural venue for ascertaining the 'fumus' (Gargani 2018: 25).

From this point of view, the offence devoted to punishing the crimes of negligent pollution and environmental or for danger also presents considerable criticalities. Art. 452 *quinquies* of the Cr.C., let us recall, provides that «If any of the facts referred to in articles 452 *bis* and 452 *quater* are committed through negligence, the penalties provided for in the same articles shall be reduced by between one third and two thirds».

It also provides that «if the danger of environmental pollution or environmental disaster arises from the commission of the acts referred to in the preceding paragraph, the penalties shall be further reduced by one third».

34 On critical issues, *ex multis*: Ruga Riva 2016: 4635 ff.; Cornacchia 2018: 102 ff.; Pisani 2018: 112 ff.; Accinni 2018: 130 ff.

35 These are considerations by De Santis 2012: 21 ff. In the same sense Gargani 2018, 22; Id. 2020a, 10. In the same sense Amoroso 2018: 2953 ss.; Riccardi 2018: 319 ff. Less critical Ruga Riva 2019: 98.

36 On the reform D'Alessandro 2016: 83 ff.

The two subparagraphs deserve separate considerations. The first, in deference to the rank accorded to the legal asset of the environment, protects it from negligent aggression. The second, on the other hand, rises to a crime nothing less than a 'case of... danger of danger'[37]!

Aiming at guaranteeing a strong protection of the environment, has been created a rule with narrow margins of applicability since it represses the *danger of endangering* public safety, in clear contrast with the principle of offensiveness[38].

The case of intentional and negligent environmental disaster also presents, as the doctrine emphasizes, a contrast with the subjective elements of the offence (*mens rea*) due to the «complex 'genealogy' of the positions of guarantee» that leads to a «difficulty in personalizing the judgement of culpability» (Gargani 2018: 25).

The stratification of different levels of offence functional to the production of an event, especially a disaster, implies the physiological co-presence of several positions of guarantee, the contribution of which appears teleologically bound up in the figure of a «*macro* unitary conduct» (Gargani 2018: 26) capable of overwhelming the fragile boundaries of the authentically personal ascription of criminal liability.

4. INTERNATIONAL PROTECTION OF THE MARINE ECOSYSTEM: THE CRIME OF ECOCIDE AND THE YEARNING FOR JURISDICTION BY THE INTERNATIONAL CRIMINAL COURT

The dysfunctional response to the protection against the macro-events that characterize the impairment of environmental matrices, including marine waters, is, on closer inspection, a international phenomenon, given the very extraterritorial nature of the asset.

A shining example of this is the international debate on the appropriateness of introducing the crime of ecocide into the *corpus* of crimes subject to the jurisdiction of the International Criminal Court.

The reasons are to be found in the peculiar characteristics that are identified not only in the imbalance of powers between the actors involved, but also in the plurality of actors, both on the offenders and victim's side.

37 In a critical sense Ruga Riva 2019: 110 ff.

38 Bell - Valsecchi: 76. In a critical sense also Gargani 2020c, 6.

From the first point of view, it is well known that many of the accidents that have a serious impact on natural and environmental resources are caused by companies operating in developing Countries which, driven by the pressing need to attract investment at any cost, do not exercise the appropriate controls[39].

To address this serious imbalance and to ensure uniform rules, it has been proposed that crimes against the environment, committed by particularly important industrial entities, should be given a new area of intervention within international criminal law, due to the existence of an «asymmetry between the ability of the judicial systems of many countries to judge them and the ability of multinational corporations to avoid any kind of effective control» (Nieto Martín 2012: 138).

The option for international criminal law would also be justified by the cross-border nature of these incidents, which often involve two or more states, or even extend to areas outside the jurisdiction of individual Countries, making greater cooperation of the international legal community indispensable (ONU 2019).

Under the second and related profile the protection of the environment from peculiarly significant and destructive events represents a phenomenon which, on the offender side, is distinguished by the involvement of complex structures, corporate or political ones, which evoke multi-individual decision-making mechanisms. On the passive side, likewise, the affected subjects, the victims, often an undefined, poorly identifiable group, at least *ex ante*, represents a circumstance which, like the previous one, calls for serious reflection on the capacity of today's (and future) criminal law instruments to offer adequate answers and, above all, to guarantee respect for general principles whose effectiveness must in any case be defended.

The major disasters that have occurred in marine environments confirm this picture.

It is sufficient to draw attention to the dynamics, consequences and persons involved in the Prestige accident that occurred on 13 November 2002 off the coast of Galicia.

Reasons related to the high value of the oil cargo the ship was carrying were behind the cargo's owner's prolonged resistance to recovery

39 González Hernández 2023: 82. Also of absolute interest is Górriz Royo 2019: 1 ff. On the relationship between legal person liability and environmental crime, for all, in the Italian literature: Scarcella 2021: 561 ff.

procedures by the Spanish Coast Guard[40] which, together with the lack of cogency of the measures taken by the Spanish authorities, led to the sinking of the ship a few days later.

The spillage of fuel from the leak in the ship resulted in a very serious damage not only to the marine and coastal ecosystem but also to the economy of the Spanish fishing region.

It was only thanks to a complex and costly salvage operation and the efforts of numerous volunteers that the Galician coast was restored to its integrity with singular speed, only to suffer further consequences years later due to the tides that allowed fuel deposited on the seabed to resurface.

The case of the oil tanker Prestige appears emblematic of the permanent exposure of the marine environment to pollution risks that do not appear to be entirely containable even by virtue of compliance with vessel safety regulations that have been implemented over the years, including at the European Union level (Ship Structure committee 2018: 8).

The desire for international protection, as we have tried to point out, has ancient origins.

Already the United Nations General Assembly, with Resolution 177(II) of 21 November 1947, had instructed the United Nations Commission on International Law (CDI) to prepare a draft code on crimes against peace and the security of mankind. In its long gestation, this project saw only in 1986 the first attempt to overcome the classic tripartition of the categories of crimes over which the International Military Tribunal at Nuremberg had jurisdiction: crimes against peace, war crimes and crimes against humanity (Arenal Lora 2022).

However, we have to wait until 1991 to read the first proposal to introduce an autonomous offence of ecocide. Art. 26 of the *Draft Code* provided that «Whoever intentionally causes extensive, lasting and serious damage to the natural environment, or orders such damage to be caused, shall, upon conviction, be sentenced» (ILC 1991: 107).

The offence would apply in both times of war and peace, when the prohibited act reverses itself into an «attack on the natural environment» and when the damage is «extensive, lasting and serious as well as intentional»[41].

40 Price for towing (estimated by the *Tribunal Marítimo Central Español* for this type of case between 10 and 30% of the value of the ship and its cargo).

41 Clearly borrowing its wording from Art. 55 of the Additional Protocol I to the Geneva Conventions of 1949.

Even in the hypothesis of its first introduction, the proposal raised doubts even among its authors, who were aware of the difficulty of finding the convergence among States necessary to support the influence of the offence.

Not only that, but the solution envisaged by Art. 26 had shown certain limits linked to the persistence of a firm anthropocentric approach (the application of the case remains linked to cases in which serious damage to the natural environment would have damaged man's vital interests) and to the limitation of protection to only the willful face of the conduct. This circumstance excludes the wide range of damage resulting from negligent, imprudent or impervious environmental protection that is the constant feature of a very broad phenomenology of environmental damage.

Another significant limitation stemmed from the exclusion from the object of protection of those damages arising from the "normal" activities of industrial companies, a concept that was poorly determined and thus a harbinger of interpretations with largely lax repercussions (ILC 1991: 50-53).

The critical points just highlighted led to the exclusion of crimes against the environment from the 1996 *Draft Code of Crimes against Peace and Human Security*[42].

However, the only reference remained in Art. 20(g) on war crimes, which proposed to criminalize: «the use of methods or means of warfare not justified by military necessity, with the aim of causing widespread, long-term and serious damage to the natural environment, thereby endangering the health or survival of the population, when such damage occurs» (Arenal Lora 2022: 14).

Thus, the Rome Statute of the International Criminal Court, adopted in 1998, modelled on the 1996 *Draft*, limited its jurisdiction to the crime of aggression, the crime of genocide, crimes against humanity and war crimes (Catenacci 2003). It follows that crimes against the environment remain imprisoned within the latter category, and in particular in Art. 8.2.b.iv), which identifies it as: «Intentionally launching an attack knowing that it will cause accidental loss of life, injury to civilians or damage to civilian objects, or extensive, long-term and serious damage to the natural environment that would be manifestly excessive in relation to the concrete and direct overall military damage intended».

Despite the programmatic efforts also expressed by the Office of the Prosecutor of the Court in the *Policy Paper on Case Selection and Pri-*

42 The genesis of the International Criminal Court is traced by Costi – Fronza 2020: 13 ff.

oritisation (ICC Office of the Prosecutor, 2016) which reiterated the will to support a more comprehensive effort to combat crimes involving the «destruction of the environment, exploitation of natural resources» and «unlawful expropriation» the destruction of the environment as a war crime has had very limited application in the jurisprudence of the Court (Pereira 2020: 218).

The persistence of such a significant gap in protection has led to a renewed proposal to introduce the crime of ecocide as an autonomous criminal offence in the Rome Statute (Baker 2021), defined by the *Expert Panel* of the *Stop Ecocide Foundation*[43] as «intentional unlawful acts committed with knowledge of the substantial likelihood that such acts will cause serious, widespread or long-term damage to the environment».

In particular, the proposal provides for an Art. 8b, which, in point (a), defines «intentional» as an act committed with «reckless disregard for a harm that would be clearly excessive in relation to the anticipated social and economic benefits», while in point (b), it clarifies that «serious» is «harm that results in very serious adverse changes, disruption or damage to any element of the environment». Again, subpara. (c) of the same article, specifies that «widespread» is «damage that extends beyond a limited geographical area or that is suffered by an entire ecosystem or species or by a large number of human beings». While subsection (d) specifies that «long-term» is «damage that is irreversible or cannot be remedied through natural recovery within a reasonable period of time», subsection (e) defines the environment as «the earth, its biosphere, cryosphere, lithosphere, hydrosphere and atmosphere, as well as outer space».

The offence of ecocide provides for a twofold limit of typicity about the prohibited conduct: «there must be a substantial likelihood that the conduct will cause serious and widespread or long-term damage to the environment»; furthermore, the prohibited acts must be illegal or intentional.

It follows that, «the prosecution must demonstrate a substantial likelihood of causing serious and widespread or long-term harm through illegal or intentional acts or omissions».

The decision to support the introduction of ecocide as a fifth autonomous crime subject to the jurisdiction of the International Criminal

43 The documents and definition prepared by the independent panel of experts invited by the Stop Ecocide Fundation in 2021 are available at https://www.stopecocide.earth/legal-definition . The quotes are excerpted from those internet pages.

Court shows serious critical aspects, which could undermine its practical feasibility[44].

As the doctrine rightly points out, precisely with reference to the legal asset, «the environment creates peculiar challenges for its protection that are not necessarily the same as in other areas of IPR» (Arenal Lora 2022: 14).

First of all, there is a difficulty in identifying the illegal conduct, since the damage may be caused by conduct that is both contrary to and obedient to administrative provisions intended to regulate the environment.

In spite of the defining efforts, we face an uncertain notion of environment and even more so of ecosystem which violates principle of legal certainty[45].

Not only that, but the nature of the damage[46] and its diffusion do not allow the precise identification of the offender to whom the causally relevant conduct must be ascribed.

There is the diachronic perspective in which the damage lives and develops, which is the harbinger of macro-position of guarantee in contrast to the principle of culpability (De la Cuesta 2017: 7).

Not less problems can be faced within the jurisdiction of the International Criminal Court[47].

Moreover, any amendment of the Treaty of Rome would require an amendment under Arts. 121 and 122 that would only be relevant for those states parties that have ratified it[48]. Similarly, Art. 25 of the Treaty limits the jurisdiction of the International Criminal Court to natural persons, which would prevent the prosecution of what empirical data suggests are the main authors of ecosystem-destroying conduct, namely legal persons and states (Olasolo – Galain Palermo 2018: 81).

44 Many of which are highlighted in Carlizzi et alii 2003.

45 Arenal Lora 2022: 18. The problematic profiles of the discipline are addressed by Clifford - Edwards, 2012.

46 He speaks of cumulative effects with reference to environmental damage: Gargani 2016: 4.

47 From the perspective of the revision of the instrument, amendments may be proposed, adopted and ratified in accordance with Arts. 121 and 122 of the Statute. Although any State may propose an amendment, it must be adopted by a two-thirds vote of the Assembly of States Parties or at a Statute Review Conference. Amendments shall enter into force for all States Parties one year after ratification by 7/8 of the States Parties. However, amendments to Arts. 5, 6, 7 and 8 - which concern the scope of the Statute and the definition of crimes - will only enter into force for States Parties that have ratified the amendment.

48 On critical profiles see Lattanzi - Monetti 2006.

These critical issues, combined with a lack of political will, result in the persistence of resistance that has not been overcome to date in the process of including ecocide within the jurisdiction of the International Criminal Court (Ciampi 2015: 153).

5. THE EUROPEAN UNION'S RESPONSE TO THE NEED FOR WIDESPREAD PROTECTION OF THE MARINE ECOSYSTEM: EU DIRECTIVE 2024/1203

The obstacles that reform proposals cyclically come up against suggest the goodness of the alternatives.

The first is certainly the one undertaken by Directive (EU) 2024/1203, which pursues a homogeneous protection in the territory of the European Union against the most serious and widespread forms of endangering and damaging the ecosystem and natural habitat.

It is, in truth, a spatially limited response, unsuitable for striking at the real sources of the pollution that today are inscribed in the predatory policies of a few countries certainly not located in the territory of the European Union.

The punishment of ecocide as an expression of a Union legislative policy takes on a symbolic value that goes beyond the normative translation of the European Union prescription and, above all, involves if not States, at least legal persons, recognized rightly or wrongly as the protagonists not only of the dysfunctional factors that create the most serious pollution phenomena but, above all, as those on whom we must rely for the implementation of policies with a greater virtuous impact on the environment.

Thus, to provide more cogent protection for the ecosystem, EU Directive 2024/1203 in Considerando 21 affirms:

> «Criminal offences relating to intentional conduct listed in this Directive can lead to catastrophic results, such as widespread pollution, industrial accidents with severe effects on the environment or large-scale forest fires. Where such offences cause the destruction of, or widespread and substantial damage which is either irreversible or long-lasting to, an ecosystem of considerable size or environmental value or a habitat within a protected site, or cause widespread and substantial damage which is either irreversible or long-lasting to the quality of air, soil, or water, such offences, leading to such catastrophic results, should constitute qualified criminal offences and, conse-

> quently, be punished with more severe penalties than those applicable in the event of other criminal offences defined in this Directive. Those qualified criminal offences can encompass conduct comparable to 'ecocide', which is already covered by the law of certain Member States and which is being discussed in international fora»

The notion of *ecocide* is therefore linked to a quantitative and diffuse dimension of impairment that must be interpreted in the light of Considerando 13, which recognizes that:

> «Some criminal offences defined in this Directive include a qualitative threshold for the conduct to constitute a criminal offence, namely that such conduct causes the death of, or serious injury to, a person or substantial damage to the quality of air, water or soil, or to an ecosystem, animals or plants. In order to protect the environment to the fullest extent possible, that qualitative threshold should be understood in a broad sense including, where relevant, substantial damage to fauna and flora, habitats, to services provided by natural resources and by ecosystems as well as to ecosystem functions».

Transposed into the enactment of the Directive, the indications of Considerando 13 and 21 take the form of Art. 3(3), which provides that the conduct referred to in Art. 3(2) constitutes a 'qualified' offence when it causes:

«(a) the destruction of, or widespread and substantial damage which is either irreversible or long-lasting to, an ecosystem of considerable size or environmental value or a habitat within a protected site, or

(b) widespread and substantial damage which is either irreversible or long-lasting to the quality of air, soil or water»

It is precisely the letter of the Directive that comforts us on the possibility of considering the marine environment as the primary object of protection, a circumstance reinforced by the conduct indicated in Art. 3(2) which, in their multiple declinations, do not forget to place «waters» at the center of protection.

The marine ecosystem is at the heart of many of the basic offences whose incrimination is provided by the Directive.

Thus, in a perspective that seeks with difficulty to reconcile aspects of anthropocentrism and ecocentrism, the Member States «shall ensure that the following conduct constitutes a criminal offence where it is unlawful and intentional» and in particular where «the death of, or serious injury to, any person or substantial damage to the quality of air, soil or water, or substantial damage to an ecosystem, animals or plants» is caused or may

be caused by the «the discharge, emission or introduction of a quantity of materials or substances, energy or ionizing radiation, into air, soil or water» (Art. 3, para. 2(a)), «the placing on the market, in breach of a prohibition or another requirement aimed at protecting the environment, of a product the use of which on a larger scale, namely the use of the product by several users, regardless of their number, results in the discharge, emission or introduction of a quantity of materials or substances, energy or ionizing radiation into air, soil or water» (Art. 3, para. 2(b)), «the manufacture, placing or making available on the market, export or use of substances, whether on their own, in mixtures or in articles, including their incorporation into articles», (Art. 3, para. 2(c)), by «the manufacture, use, storage, import or export of mercury, mercury compounds, mixtures of mercury, and mercury-added products where such conduct is not in compliance with the requirements set out in Regulation (EU) 2017/852 of the European Parliament and of the Council» (Art. 3, para. (d)), «the operation or closure of an installation in which a dangerous activity is carried out or in which dangerous substances or mixtures are stored or used, where such conduct and such dangerous activity, substance or mixture fall within the scope of Directive 2012/18/EU of the European Parliament and of the Council (27) or of Directive 2010/75/EU of the European Parliament and of the Council» (Art. 3, para. 2(j)), «the construction, operation and dismantling of an installation, where such conduct and such an installation fall within the scope of Directive 2013/30/EU of the European Parliament and of the Council» (Art. 3, para. 2(k)), or «the manufacture, production, processing, handling, use, holding, storage, transport, import, export or disposal of radioactive material or radioactive substances, where such conduct and such a material or substances fall within the scope of Council Directives 2013/59/Euratom, 2014/87/Euratom or 2013/51/Euratom» (Art. 3, para. 2(l))[49].

A more specific focus on the protection of the marine ecosystem is instead ensured by the mandatory incrimination of the «the recycling of ships falling within the scope of Regulation (EU) No 1257/2013, where such conduct is not in compliance with the requirements referred to in Art. 6(2), point (a), of that Regulation» (Art. 3, para. 2(h)) and the «the ship-source discharge of polluting substances falling within the scope of Art.

49 An exquisitely ecocentric profile can be found in the provision of Art. 3(2)(e), which provides that 'the carrying out of projects within the meaning of Art. 1(2)(a), as referred to in Art. 4(1) and (2) of Directive 2011/92/EU of the European Parliament and of the Council (24), if such conduct is carried out without authorisation and causes or is likely to cause significant damage to the quality of the air or soil or to the quality or status of water, or to an ecosystem, fauna or flora'.

3 of Directive 2005/35/EC into any area referred to in Art. 3(1) of that Directive, except where such ship-source discharge satisfies the conditions for exceptions set out in Art. 5 of that Directive, which causes or is likely to cause deterioration in the quality of water or damage to the marine environment» (Art. 3, para. 2(i)).

The Directive shows particular attention to the protection of the environment and, in particular, of the marine environment, but it does not escape from some criticism, which focuses on two aspects in particular.

The first lies in the drafting, which does not seem to guarantee the strict typicality propaedeutic to a national legislations, truly obsequious to the paradigms required by criminal orthodoxy.

The second relates to the absence, in the crime of ecocide, of indicators capable of constituting a real discretional profile with the basic hypotheses, at least from the point of view of typicality.

Subpara. (a) of Art. 3(3), in fact, entrusts its face of greater severity to the following criteria: destruction of an ecosystem of considerable size or environmental value or of a habitat within a protected site or widespread and significant, irreversible or lasting damage to that ecosystem or habitat, while subpara. (b) speaks of widespread and significant, irreversible or lasting damage to the quality of the air, soil or water.

But if, as mentioned, most of the basic cases already present the relevant harm as a typifying feature, so it cannot be considered a discretional standard capable of giving ecocide a distinctive face.

Let us see, then, whether the other criteria set out in para. 3 can be conferred a qualifying value in terms of importance such as to justify a criminal offence with a peculiar face and, above all, with a different and superior punitive treatment.

A negative answer seems also to be given with reference to the notion «lasting» since under para. (6) an injury is relevant on the basis of its duration (Art. 6(1)(b) refers to «the duration of the injury (long, medium or short)»).

The benefit of the doubt may instead be given to the other two criteria of the *extent* and *irreversibility* of the harm. Here too, para. (6) provides that the profiles to which reference must be made in the basic case in order to qualify the harm as significant include its «extent» (Art. 3(6)(c)) and «reversibility» (Art. 3(6)(d)).

Relevant will therefore be, first and foremost, damage of a certain 'extent', a concept that an *interpretatio abrogans* of the offence of ecocide

could well overlay on the notion of 'widespread' damage required by the same, thus dissipating its distinctive feature.

More arguments can instead be made in favor of the *reversibility* of the damage. Here a more justifiable attempt to avert an original ineffectiveness of the provision suggests that the basic hypothesis in which the damage is reversible but not without difficulty should be considered relevant and that the damage that proves to be irreversible should be entrusted to the typicality of ecocide.

A more effective discretionary value may instead be conferred on the requirements of «an ecosystem of considerable size or environmental value» or «a habitat within a protected site» whose destruction is to be caused.

The profile of the spatial extent of the environmental matrix and its destruction represents, with the only possible exception of the conduct provided for in para. 3 lett. n), which already penalizes as a basic hypothesis the destruction of certain animal or plant species, the truly distinctive aspect of ecocide.

Faced with this solution and in view of the relevance conferred on the hypothesis of ecocide as a case destined to restore to the environment, including the marine environment, a compulsory protection, we must ask ourselves whether the one chosen by the legislator really represents an identity parameter or whether perhaps we could have sought symptomatic indices more suited to outline a more significant endangering or injury to the protected legal asset.

It will undoubtedly be necessary to oversee the work of transposing the directive into national legislation so that this weak typicality does not turn into discriminatory traits or, even worse, into the failure of a certainly appreciable protection programme.

6. CONCLUDING REMARKS

Criminal protection from the sea as a risk and from the risk of jeopardizing the marine ecosystem is characterized by important systemic deficiencies that require extensive reflection.

A significant starting point is represented by the valorization of the instruments offered by the ECHR to protect the life and health of citizens endangered by member states even when they implement environmental

policies that prove insufficient to protect large portions of territory subject to particularly serious damage.

Valuable examples arise both when the environment represents a risk factor in itself for the population and it is necessary for the state and local authorities to ensure that citizens are protected, and when the environment is the object of damage by man, and this has equally devastating effects on the health and safety of local communities.

Two court cases turn out to be paradigmatic: although they do not involve the marine ecosystem, they are nevertheless fundamental to understanding both what the obligations are to protect citizens from the devastating forces of nature (such as a tsunami) and what the obligations are to protect them when nature is compromised by human factors and this compromise has harmful effects on other parts of the population.

In the first aspect, the Budayeva and Others v. Russia case proves to be of great interest[50].

The case concerned a series of mudslides that struck the town of Tyrnauz in southern Russia in 2000, causing numerous causalities.

For the first time, the Strasbourg Court set out the criteria that must be analyzed to establish whether the conduct of the state authorities complied or not with the positive obligations to protect human rights arising from the European Convention on Human Rights. First, the Court decided whether the risk of the event occurred was predictable by the Russian authorities («foreseeability of the risk»). The analysis was based on several indicators, such as the origin of the danger, the imminence of the risk and the return of the disaster over time. The analysis showed that not only was the town of Tyrnauz notoriously prone to landslides, but the Russian Government had also been warned of the possible event that would occur. From these assumptions, the Court concluded that the Russian Government could have reasonably foreseen the occurrence of the adverse event. After having established the predictability of the risk and the range of the related event, the Court considered if the Russian authorities had done everything they could to protect the rights of the people under their jurisdiction (the so-called «best efforts requirement»). The Court established that Russia government neither dealt resources to prevent the harmful event not even repaired the damages.

50 (European Court of Human Rights, Budayeva and others v. Russia, Applications nos. 15339/02, 21166/02, 20058/02, 11673/02 and 15343/02, judgment of March 20, 2008. (See: http://hudoc.echr.coe.int/sites/eng-press/pages/search.aspx?i 003- 2294127-2474035).

Even more relevant is the part in which the Court ruled that the Russian authorities had failed to adequately inform citizens about the risk and to promptly evacuate them from the affected area. All these circumstances allow the Court to recognize the existence of a violation of the right to life under

Art. 2 of the Convention, because Russia failed to implement essential measures to protect people under its jurisdiction.

The Budayeva case is very interesting for many reasons. The first is related to the possibility of recognizing that Art. 2 of the European Convention on Human Rights is a appropriate instrument to establish the State's responsibility for the harmful consequences, arising from the failure to adopt proper risk management measures.

Moreover, the rules of Budayeva and Others v. Russia seems to open the way also for a preventive protection of the legal assets involved. In other words, the judgment tells us that the right to life must be defended by Government not only because of the positive obligations of protection established by the European Convention on Human Rights but also because the occurrence of certain disasters and their impact on the fundamental rights cannot always be unforeseeable by the authorities. So, a Government particularly exposed to certain types of disasters must plan in advance the essential measures to adapt to those consequences.

In this case, the possibility of appealing the Court before the event occurred is possible, however, by invoking the violation of Art. 8 of the Convention.

Under the other and complementary profile of the criminal protection of the environment, as a legal asset in itself and as an element that, when compromised, can create irreversible damage to the population, an essential role must be recognized in the tragic events that involved the city of Taranto and the activities of the Ilva company.

In the grounds of the well-known Cordella and Others v. Italy judgment, the European Court of Human Rights ruled that the Italian legislation was inadequate to meet the demand for protection made by a population that had suffered serious damage due to inadequate management of environmental matrices. The Court found, in fact, that Italy had violated the right to privacy (Art. 8 ECHR) and the right to an effective remedy (Art. 13 ECHR) to the detriment of more than one hundred and sixty people living in the areas surrounding the steel plant. By examining the epidemiological data on the health situation of the exposed populations and comparing them

with the so-called 'save-Ilva' legislation enacted since 2012, the ECHR highlighted how the Italian authorities had failed to strike a balance between the interest of individuals in "well-being" and "quality of life" and that of society in the continuation of production.

Unfortunately, the Court's failure to take any appropriate measures to implement the dictates of the Cordella judgment led to a new and even sharper condemnation of Italy, expressed in its judgment of 5 May 2022 in the appeal Ardimento and others v. Italy. In that case, the European Court of Human Rights ascertained the persistence of violations of Arts. 8 and 13 of the Convention since the Italian authorities continue to neglect to take the necessary measures to protect the health of citizens and to provide effective remedies to achieve the reclamation of the area affected by the pollution.

Although little has changed to date in the environmental management of production activities and the situation of serious environmental pollution, such as to endanger the health of the entire population living in the areas at risk (§ 10 of the judgment), the voice of the ECHR represents a strong denunciation of the current management of the environment in those areas.

Not only that, but reflection on the absolute necessity of guaranteeing swift compliance with ECHR rulings also in the national territory, in accordance with Art. 46 of the ECHR, should be indispensable.

This instrument, together with the implementation process of the EU Directive 2024/1203, represent a real opportunity for a radical rethinking of the forms of protection in the face of the most serious and widespread phenomena of environmental damage.

But the difficulties remain. Both the protection offered by EU Directive 2024/1203 and the protection offered by the European Court of Human Rights in relation to the management of natural phenomena fail to abandon an exquisitely anthropocentric approach that represents their true and most insuperable limitation.

Until man can recognize and honoring his consubstantiality with nature, he will not be equally capable of recognizing its autonomous identity and the need of its protection primarily through the instruments of culture and education.

This respect must be recognized not only for nature as an autonomous force, that influences our lives sometimes unpredictably, but also as an inestimable treasure to be defended with care.

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MULTILEVEL NORMATIVITY OF MIGRANT SEA RESCUE BETWEEN STATE DUTIES AND INDIVIDUAL GUARANTEE POSITIONS

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1. FOREWORD

The set of laws on sea rescue is contained in a multilevel and integrated system of national and international rules that provide complex and often overlapping legal obligations. In this complex network, a differentiation must be made between rules of international law governing the rescue of shipwrecked persons, often referred to as rules of the law of the sea, and rules of European law, concerning the right of asylum. The prerogatives of national laws are incorporated into this complex system.

Looking at international law as a remedy for the dysfunctions of state law or as the «law of the good» or «law of the righteous» does not allow one to perceive the dimension of rescue at sea in the complex multilevel normativity, in which it is embedded, characterised by obscurities or legislative gaps that judicial authority attempts to fill with axiological claims and by a growing tension between legal context under which search and rescue operations were originally framed and current political reality.

2. SEA RESCUE AS AN (INTER)STATE DUTY. RECONSTRUCTION OF INTERNATIONAL AND SUPRANATIONAL LAW

The obligation to safeguard human life at sea constitutes a long-standing principle of maritime solidarity (Camarda 1994; Rizzo 1992; Papanicolopulu 2016), as well as being enshrined in numerous international conventions and, even earlier, defined as an integral part of customary law

(Momtaz 1991; Oxman 1997), so its fulfilment by States is part of the more general framework of humanitarian laws.

On the obligation to rescue, international conventional law is unanimous: first, with regard to flag States, Article 98, 1st subparagraph of U.N.C.L.O.S. (United Nations Convention on the Law of the Sea) requires every State to oblige the captain of every vessel to proceed expeditiously to the rescue of any person in danger of perishing at sea.

The S.O.L.A.S. Convention (International Convention for the Safety of Life at Sea) requires the commander to proceed with all speed, to render assistance to persons in distress and, in the event that it is not possible to take appropriate action, to communicate the reasons that prevented it and to inform the competent search and rescue service; the text specifies, in addition, three situations of exemption from the obligation, in the event that the commander is unable to proceed to rescue or for unreasonable or unnecessary rescue[1].

Also, the S.A.L.V.A.G.E. Convention (International Convention on Assistance) provides for the captain's obligation to rescue any person in danger of disappearing at sea[2].

It is clear from every law that the obligation to aid arises only after the occurrence of the life-threatening event, while the obligation to set up appropriate search and rescue systems is antecedent than the occurrence of navigation, which is why it must be fulfilled earlier, even before the navigation accident or «distress» situation occurs.

International conventions do not allow rescue events to be qualified as irregular migration events, nor do they discriminate against those to be rescued or rescuers, depending on whether search and rescue activities are carried out either on an occasional way or occur on an ongoing one: in all cases, the safeguarding of human life at sea and respect for people's fundamental rights must prevail.

The activity of coordinating and arranging rescue and search operations, on the other hand, is the prerogative of coastal States.

The issue of coordination of rescue operations at sea is closely related to the system of regionalisation of the international search and rescue system, regulated by the latest version of the International Convention on Maritime Search and Rescue S.A.R., which provides for the division of the sea into «search and rescue regions», commonly referred to as S.A.R.

1 Chapter V.

2 Article 10 par. 1.

zones, defined as areas of coordination of search services, i.e., of «defined dimensions associated with a rescue coordination centre within which search and rescue services are provided»[3].

The establishment of an S.A.R. zone must be made by agreement with the States involved and its delimitation does not prejudice state boundaries: it «is not related to and shall not prejudice the delimitation of any boundary between States»[4].

Thus, «the SAR zone thus delimits an inside and an outside from which significant consequences arise in terms of responsibility for the coastal State» (Barnabò 2020: 379)[5], in which it does not exercise its sovereignty or jurisdiction, but it serves as a functional division for the recognition of obligations and responsibilities, not for the exercise of rights.

The ultimate duty of the coastal State responsible for the S.A.R. zone is to lead the shipwrecked people to a safe landing site in a reasonable time, defined P.O.S. (Place of safety).

The coordination of rescue and assistance operations for the ship must conform with the general rules and principles regarding the protection of human rights, particularly as they acknowledge the existence of essential and complementary guarantees related to the right to migrate «that justify the provision of the duty to save human life at sea on all occasions of danger to the life and safety of the migrant 'person'» (Pisconti 2022: 17).

Indeed, in this area, international human rights law and refugee law have been influential in establishing some criteria useful in defining the notion of «place of safety», that is the place where rescue operations must be concluded.

The 2004 I.M.O. resolutions - MSC 153 (78), which amended the SOLAS Convention, MSC 155 (78), which modifies SAR Convention and MSC 167 (78) bearing "Guidelines on the Treatment of Persons Rescued at Sea"- require States to coordinate and cooperate to ensure that ship masters are relieved of their obligations to assist rescued persons and to arrange and carry out disembarkation in a safe place as soon as possible.

The international conventional framework, however, has some significant gaps, given the absence in both sea rescue Treaties and customary law, of a substantive or procedural standard for identifying with certainty

3 Annex to the SAR Convention, Chapter 1 - Terms and definition.

4 Parr. 2.1.4 and 2.1.7 of Chapter 2 - Organisation and Coordination, Annex to the SAR Convention.

5 All texts quoted from Italian sources are translated by the Author.

where rescued persons are to be disembarked, especially in the absence of an agreement between States.

It is the responsibility of the competent State in the S.A.R. region to assume coordination of rescues and, likely, to provide the «place of safety», or at least of the first State contacted to provide an indication of a P.O.S. of disembarkation as the final operation, until the competent State assumes coordination.

The only really uncontroversial aspect is that the duty of the State close to the rescue site is not to automatically provide a safe harbour, but to coordinate operations and locate a safe haven that could also be outside its borders, thus leaving uncertain the identification, among many possible ones, of the coastal State that has to carry out and complete the disembarkation of the rescued migrants.

More problematic, of course, is the situation in which the State, which would be competent under the established delimitation of S.A.R. zones, fails to intervene, or fails to respond within a reasonable time, whereby it could legitimately deny the landing by exercising the power to prohibit entry into its territorial seas. Nor does the SAR Convention provide any clear textual indication suggesting that the first contact's State is automatically responsible for designating the port of landing, leaving the problem, therefore, of how to identify the coastal State that is to take charge of the landing.

Although generally the ship captains ready to intervene will also communicate the «distress» situation to their flag State, the whole system of sea rescue clearly establishes that the coordination and arrangement of appropriate measures to ensure the effectiveness of rescue are taken over by coastal States.

The power to interdict territorial seas is a prerogative recognised in international law and also affects the identification of the specific P.O.S.

Article 18 of the U.N.C.L.O.S. recognises, in fact, the right of «swift and continuous» passage, unless it is for stopping and anchoring referred to ordinary navigational events or situations of relief to persons, ships or aircraft in distress or danger, and «inoffensive», meaning that it must not cause harm to the fundamental interests of the Nation, internal peace, order and security.

In the case of offensive passage, the State regains full power to protect its borders by taking all measures it deems necessary to prevent to deny the entry, stay or transit in its waters of ships, especially when loading or unloading people in violation of the coastal State's immigration laws.

Such a provision, therefore, would legitimise strict choices of state authorities, such as measures to prohibit entry into territorial waters or naval blockades, evidently leaving out the circumstance that the transport of irregular migrants to a safe port is imposed by the need to guarantee them a place of safety as shipwrecked persons, whose legal status is completely indifferent to the cogent force of international obligations.

Finally, in EU law, the duty to rescue was reiterated by EU Regulation No. 656/2014, which establishes in Article 9 the obligation to assist «any vessel or person in distress at sea (...) regardless of the nationality or status of such a person or the circumstances in which that person is found».

Thus, from a content perspective, it does not conflict with the content of international obligations, but nothing more specifies, especially with regard to the last act of the rescue, namely the disembarkation.

3. HERMENEUTICAL PROBLEMATICS OF INTERNATIONAL SOURCES ON SEA RESCUE

The salvage of people in danger of being lost at sea, the finding of a place of safety and the identification of a venue for disembarkation are regulated by so different laws that «certainly contributed to challenge the unity, coherence and quality of the political response at national and international level» (Zamuner 2019: 977).

On the exact identification of the P.O.S., another important aspect concerns the identification of safe harbour as the closest port to the rescue site.

Neither the notion of «place of safety» nor the criteria for locating the place for disembarkation are addressed in the texts of SOLAS and SAR Conventions.

A definition of the expression «place of safety» is only provided by the 2004 IMO Guidelines as «a location where rescue operations are considered to terminate. It is also a place where the survivors' safety of life is no longer threatened and where their basic human needs (such as food, shelter and medical needs) can be met. Further, it is a place from which transportation arrangements can be made for the survivors' next or final destination».

The amended conventions and guidelines cannot say conclusively that there is one and only one place of safety for each rescue operation nor that IMO establishes precise criteria which may be used to identify such a place.

Indeed, an important criterion to identify the place of safety comes from human rights law rather than the law of the sea; according to the guidelines, «the need to avoid disembarkation in territories where the lives and freedoms of those alleging a well-founded fear of persecution would be threatened is a consideration in the case of asylum-seekers and refugees recovered at sea»[6].

This is due to the principle of *non-refoulement*, provided for in Article 33 of the Refugee Convention, in regional refugee law instruments and other human rights treaties (Trevisanut 2008; Fisher-Lescano, Löhr, Tohidipur 2009; *Gammeltoft*-Hansen 2011) which apply to every migrant rescued by ships flying the flag of a ECHR State, wherever the operation takes place.

It is an essential protection under international human rights, refugee, humanitarian and customary law, that prohibits States from transferring or removing individuals from their jurisdiction or effective control when there are substantial grounds that the person would be at risk of irreparable harm upon return, including persecution, torture, ill treatment or other serious human rights violations.

However, in the case of the Lazio Regional Administrative Court[7], following the Italian authorities' assignment of ports too far from the rescue area, the applicant ship Geo Barents, flying the Norwegian flag and chartered by Médicins sans Frontiére, invoked Rule 33 of par. 1.1. of S.O.L.A.S. Convention, which states the need for immediate disembarkation «as soon as reasonably possible», and par. 3.1.9 of Ch. III of SAR Convention, which enunciates the need for immediate disembarkation «as soon as reasonably possible». These conditions would only be realised if safe places are assigned close to the rescue site.

The administrative court pointed out that in no interpretation of P.O.S., nor in existing international norms, do the concepts of safe harbour and near harbour coincide.

The International Maritime Conventions do not, in fact, contemplate punctual indications about it: the treaties define in a negative sense the notion of a safe place characterised by broad and flexible definition, thus leaving a certain margin of discretion for its designation. There is no standard that precisely indicates the distance from the P.O.S., nor the necessary and reasonably acceptable days of navigation.

6 Para. 6.12 and 6.17 of Guidelines IMO.

7 See Lazio Regional Administrative Court, 19 June 2023, Judgment No. 10402.

Although rescue operations should be perfected by disembarkation at a safe place in the shortest time and with the least possible deviation by the rescue unit, and States should ensure the necessary coordination and cooperation so that ship captains deviate as little as possible from the intended route[8], the administrative judge excludes that the concept of safe port includes the concept of physical proximity («*vicinitas*») between the place of rescue and disembarkation, since the correct identification of the notion of safe port must take into account, above all, other factors, such as the expeditious assignment, the prompt rescue of migrants, the actual situation on board, and the logistical aspects related to need not to crowd the disembarkation territories.

The obvious is reiterated, namely that the captain is not obliged to reach a P.O.S. in the same flag State (if a closer one is available): the Grand Chamber of the Court of Justice of the EU in its judgment of 1 August 2022[9] specified that the flag State must be informed in a timely manner by the ship's captain and must render all possible assistance in cooperation with coastal States, without any obligation to provide a safe port.

According to the European Commission's Recommendation of 23 September 2020 No. 1365 the flag State has a responsibility related to the control of requirements for the purpose of ship registration, but that does not extend to the assignment of the obligation to designate a safe port of landing.

Admittedly, the allocation of unjustifiably too far ports of disembarkation contradicts the principle of fair («*ex bona fide*») cooperation among States in rescue matters, and thus it remains controversial whether the choice to locate burdensome and harassing ports respects the human rights of shipwrecked people.

The dynamics of rescue at sea are also affected by the content of Council Directive 2002/90/EC of 28 November 2002 and Framework Decision 2002/946/JHA (so-called Facilitators Package) regarding, respectively, the definition of aiding and abetting illegal entry, transit and stay and the strengthening of the criminal framework for the suppression of aiding and abetting illegal entry, transit and stay.

8 SAR Convention, Chapter 3, para. 3.1.9; SOLAS Convention, Chap. V - Reg. 33, par. 1.1.

9 Sea Watch e.V. v. Ministry of Infrastructure and Transport and Others, Joined Cases C-14/21 and C-15/21.

The absence of the purpose of profit among the substantive elements in the European definition of the crime of aiding and abetting irregular entry has legitimised member States to equip themselves with incriminating laws susceptible to attracting not only the activities of actual traffickers but also the conduct of those who, for solidarity reasons, lead migrants to European shores during rescue or assistance activities.

Many voices (Spena 2019; Cusumano, Villa 2019; Minetti 2020; Zirulia 2020; Mitsilegas 2021) have outlined the critical aspects of the European legislation: the package is defined as follows:

> «This updated study concludes that the Facilitators' Package is essentially a bad law that is not fit for purpose in the evolving political and legal context of the EU; nor does it provide an adequate response to the challenges posed by recent changes in the trends of migrant and refugee arrivals, which have largely been met by an increasingly transnational European civil society that has come to the aid of Member States that have been unprepared or unwilling to offer a sufficient welcome that respects human dignity and human rights» (Carrera et al 2018: 106).

The provision, moreover, of the mere option (and not a specific obligation) to introduce causes of exclusion of punishment for humanitarian assistance conduct is not sufficient to prevent any risk of «over-criminalisation» for the conduct of humanitarian workers at sea.

Only eight member States (including Italy and France, in contrast to the German and Spanish criminal laws, which do not provide any explicit exemptions) have endowed themselves with humanitarian exemptions, introducing provisions with uncertain and blurred boundaries.

In the «Kinsa case», brought to attention of the Court of Justice of the EU by Italian Court of Bologna[10] regarding the compatibility, validity, and interpretation of EU regulations on the Facilitators Package with certain rights under the Charter of Fundamental Rights of the European Union, it was highlighted that the incrimination obligations under EU law result in a disproportionate restriction of the rights of both «smugglers» and the «smuggled». This is particularly clear where these obligations impose severe criminal sanctions on anyone who voluntarily facilitates irregular entry, without requiring profit-making as a constitutive element, nor explicitly mandating exemption from liability for those acting with humanitarian and altruistic purposes, including rescue efforts.

10 Court of Bologna, Div. I, Ord. 17 July 2023.

This is the first time the Court of Justice has been called upon to rule on the validity and legitimacy of the incrimination obligations of the Facilitators Package, and should «the courts in Luxembourg come to the conclusion that the incrimination obligations enshrined therein are, in whole or at least in part, incompatible with the protection of the fundamental rights of the persons involved, then it would be possible to try to transfer these conclusions to the field of national criminal law» (Zirulia 2023: 363): the very ambiguous wording of aiding and abetting conduct raises serious questions about how to frame humanitarian activity in the Mediterranean.

The theory of the so-called «criminalisation of solidarity», in the context of sea rescues, is based on the absence of a careful reflection about the role of European criminal law in the context of migration policies. From this perspective, the preliminary question represents a new and important episode in the European debate on the protection of human rights through the instrument of criminal law, since the criminalisation of NGOs or other non-state actors carrying out search and rescue operations would constitute a violation of international law.

While waiting for the ruling, the new Directive proposed by the Commission on 28 November 2023[11] specifies that member States are obliged to criminalise intentional assistance to the entry, transit, and stay of irregular migrants, for profit and where there is a high risk of causing serious harm to the person (Article 3, par. 1), while there continues to be no reference to an exclusion of liability for humanitarian activities, this highlights that any real signs of reform in this area remain unclear.

The lack of regulation of the recovery and rescue activities of those defined as the main actors in sea rescue, i.e., NGOs, who often intervene to rescue people in distress, also affects the dynamics of rescues.

As is well known, NGO vessels differ from public vessels of States in that they have the aim of rescue as their exclusive purpose, do not enjoy the rights provided by the law of the sea for State vessels, and the consent of the coastal State to the landing of rescued persons is required.

Since they are private entities, NGOs do not have legal status. Therefore, the private individuals who make up these NGOs will be personally liable for violations of international law in cases of omissions and actions, in accordance with the rules of individual criminal responsibility.

11 Directive of the European Parliament and of the Council Brussels, 28.11.2023 COM (2023) 755 final.

Obligations imposed on the captain by the U.N.C.L.O.S., S.O.L.A.S. and S.A.R. conventions extend to captains of NGOs who are regularly contacted by state search and rescue centres replacing state rescue equipment.

NGOs are said to have taken over a state public function, dispossessing States of their sovereign rights in a situation of institutional absence.

The current situation is, in fact, quite different from the one descripted by ordinary and supranational laws that identify States and not private third parties as the main actors, revealing, in fact, a regulatory gap concerning competences and responsibilities.

Within this framework, the Italian codes of conduct signified a normative experiment in rules with the declared intent of regulating the work of NGOs.

The first document, titled the Voluntary Code of Conduct for Search and Rescue Operations Undertaken by Non-Governmental Civil Society Organizations in the Mediterranean Sea, drafted in 2017 by some NGOs on a voluntary basis, was followed by one prepared by the Italian government, also in 2017, leading up to the most recent decree-law No. 1 of 2 January 2023, containing urgent provisions for the management of migration flows, which was converted into law with amendments on 24 February 20233, No. 15, so-called «Piantedosi Decree» or also, improperly, the NGO Code of Conduct.

In the first text «there is no mention (except for a footnote) of rules of the law of the sea and maritime law that also regulate navigation and rescue at sea. Since it is not the product of the processes of creating norms of international law, its content is not binding per se (...)» (Papanicolopulu 2017: 23).

The second document drafted by the Government is presented as a normative text of unilateral regulation of the NGOs' activities, having not found a legislative development in agreement with the organisations.

We exclude (Martens 2002; Marchesi 2006; Ciciriello 2008; Mussi 2017) the relevance of the code of conduct as a legal instrument of international law or European Union law, as it is more of a domestic law instrument.

Furthermore, it does not have the formal characteristics of ordinary laws or similar law acts, nor does it include coercive measures or sanctions in the event of non-compliance with the conduct outlined therein.

Similarly, the possibility of qualifying the code of conduct adopted by the Italian authorities among the sources of secondary law, with regula-

tory nature, seems also to have to be ruled out, lacking an express competence recognised by ordinary law.

The codes of conduct testify to the international community's awareness of the need to clarify the regulatory regime applicable to NGO rescue cases, especially regarding crucial aspects.

Lastly, in its ruling of 1 August 2022, the Grand Chamber of the Court of Justice of European Union, about a question referred for a preliminary ruling by the Sicilian Regional Administrative Court on two detention orders for Sea Watch 3 and Sea Watch 4 by Italian port authorities, extended the application of Directive 2009/16/EC to port State controls to be carried out on vessels flying a flag other than its own, to vessels used by humanitarian organisations.

In international law, the activities carried out by a ship at sea are subject to different jurisdictional regimes, involving the establishment of distinct obligations and faculties in the hands of different States involved: first, the regime of the flag State, which is responsible for the control of all technical and administrative matters of the ship, and that of the port State, which grants powers to verify the substantive correspondence between the safety certificates held by the vessel and its actual condition.

The Luxembourg Court held that the port State may not require proof that such ships have certificates other than those issued by the flag State or that they comply with all the requirements applicable to a different classification, notwithstanding the possibility of taking any corrective action it deems necessary, appropriate and proportionate if the inspection reveals deficiencies. The port State cannot then make the lifting of a ship's detention conditional on that ship having certificates other than those issued by the flag State.

The Court establishes a kind of hierarchy of laws, where it recalls that the implementation of the maritime distress obligation also produces consequences with regard to the control of safety regulations at sea, holding that the exceptional and extraordinary situation of distress at sea and the related obligation to provide rescue takes precedence over all existing safety obligations, «which remain partially suspended to the extent that this is necessary to enable rescue operations» (Papanicolopulu, Losi 2023: 17).

Although the Court has been very convinced in emphasizing that the rules concerning sea rescue operations the most relevant within the international legal framework, it is nonetheless necessary to adopt specific European and international regulations that, in accordance with the content

of Recommendation (EU) No. 2020/1365 of the European Commission, about cooperation among member States regarding operations conducted by privately owned or operated vessels for the purpose of search and rescue activities, uniformly establish safety standards and certificates for private vessels that are routinely used and intended for search and rescue operations at sea for people.

The Piantedosi Decree of 2023 (Pisconti 2023; Masera 2023) established that ships engaging in systematic search and rescue at sea must operate «in accordance with and be maintained in compliance with the certifications and documents issued by the flag State for the purpose of navigational safety, pollution prevention, certification and training of maritime personnel as well as living and working conditions on board», almost as if to introduce a burdensome regime for obtaining authorization and specific safety requirements for NGOs, because of, for the first time, an explicit reference to private vessels permanently dedicated to maritime rescue of people at sea.

However, until uniform European and international regulations are established regarding safety standards and certifications for private vessels engaged in search and rescue operations at sea, the provisions of the new decree apply solely to ships flying the flags of individual states that, within their respective legal systems, provide for the issuance of appropriate certifications and documentation for carrying out these maritime search and rescue activities

4. SEA RESCUE AS AN INDIVIDUAL GUARANTEE POSITION OF THE SHIP'S CAPTAIN AFTER THE "RACKETE" RULING. CONCLUSIONS

The discussion on the multilevel system of sea rescue law leads to final considerations on the individual guaranteed position of the captain during search and rescue operations.

The establishment of a state's obligation to conduct sea rescue operations only gains significance if it strengthens the individual duty of rescue for the ship's captain, whether the vessel is public or private. Therefore, if international law places the obligation on States to require the captain to fulfil the duty of rescue, individuals themselves have an authentic duty of enforcement of that very obligation.

The recognition of the pre-existence of the captain's right not to be hindered either by private individuals or by States for his activities is explained by reason of a moral argument, certainly - «since that of rescue is, first and foremost, a moral duty that is imposed before and independently of any rule of positive law» (Starita 2019: 39) - and legal.

In the best-known cases of criminalization of the conduct of captains involving the Italian State, such as Iuventa and Open Arms (Barberini 2017; Masera 2018; De Vittor 2018), case law has attempted to qualify the captains' autonomous choices about disembarkation, disregarding the authorities' instructions to halt operations, as conduct of Article 12 of the Consolidated Act on Immigration (Legislative Decree of 25 July 1998, No. 286), so as a hypothesis of aiding and abetting immigration, regarding the transportation of illegal migrants into territorial waters.

In the notorious Rackete case[12], it was clarified that the duty to rescue does not end with the act of removing shipwrecked people from the danger of being lost at sea but entails a secondary and consequential obligation on the captain to land them in a safe place.

The rescue duty cannot be considered fulfilled by rescuing the shipwrecked people on the ship and keeping them on it, as this would undermine the right to apply for international protection, which certainly cannot be done on the ship.

In the context of rescue operations, «the Rackete case thus marks both the peak and the end of a period of bitter and explicit conflict between humanitarian workers and the institutional system, which is unprecedented in the history of our country» (Masera 2022), as it recognises that the ship's captain cannot be prevented from disembarking and that his conduct is expressive of the fulfilment of the duty to rescue under Article 51 of the Italian Criminal Code

The application of Article 51 of the Italian Criminal Code is imposed by that particular antinomian situation of conflict of duties that occurs whenever two legal norms of a prescriptive nature, one of command - in this case, that relating to the obligation to rescue - and the other of prohibition - referring to the criminal offenses charged against NGO members for aiding and abetting illegal entry, or private violence, or resisting a public official or other special crimes in navigation - characterise the conduct in opposing terms.

12 Italian Supreme Court of Criminal Cassation, III Criminal Div., Judgment No. 6626 of 20 February 2020.

The rescue obligation cannot be terminated because of ministerial directives or administrative orders prohibiting transit, stopping or entry, because the hierarchical international law of the sea, which recognises and requires the ship's captain to disembark shipwrecked persons in safe harbour, cannot support criminalisation as consequence of acts performed as a necessary condition imposed by national and international norms.

Placing, by Italian case law, the dimension of rescue at sea within in the dimension of so-called «antigiuridicità» of crime, under the guarantee of so called «scriminante» of Article 51 of the Italian Criminal Code, means to have recognised that the criminal court has performed two operations:

> «has identified a conflict between norms, specifically the incriminating norm and the one attributing a duty, and resolved the conflict in favour of the latter, not on the basis of classical criteria but on the basis of the use of an hierarchical criterion with an axiological nature, which prioritises a fundamental duty imposed by an international norm, reflecting a supreme principle of solidarity at sea and involving an assessment of the values at stake, in line with the hierarchical nature of the duty that also has constitutional protection under Article 10, first paragraph of Italian Constitution» (Pisconti 2022: 174).

The implications of an international regulation, that does not allow for the clear and definitive identification of the State obliged to permit disembarkation, do not affect the duties of the captain, who is required to ensure the prompt disembarkation of passengers at the port he deems safest or is justified in contravening any state directives that prevent docking, based on a margin of discretionary assessment identified by the effective protection of the fundamental rights of the individuals entrusted to his care.

All of this is in keeping with a correct interpretation of rescue regulations, whereby the rights of people rescued at sea should take precedence over the legitimate interest of States in controlling their borders.

The transposition of international obligations onto the captain in the Italian legal system has occurred in the provisions of Articles 498 of the Italian Navigation Code (Royal Decree No. 327 of 20 March 1942) with reference to the duty of assistance, which presupposes a situation of objective danger of loss of the ship or aircraft at sea or in inland waters, or 490 of the Navigation Code, according to which the captain of the ship or aircraft, in the event of inability to manoeuvre or resume flight, due to a dangerous situation, must attempt the rescue of persons on board or lost at sea.

Also relevant is Article 1113 of the Navigation Code, which punishes the failure to fulfil the duty of cooperation between public institutions and private entities in carrying out the rescue, in case the authority exercises the ordering power of the provision of any means and crew deemed necessary or, again, Article 1155 of the Navigation Code, which punishes the conduct of the captain who arbitrarily disembarks a crew member or passenger or abandons them and prevents their return on board[13].

Thus, the ship's captain, as a «subject» holder of prerogatives and duties, is also the holder of a right «versus other private parties and, above all, States» to ensure that the performance of those duties incumbent upon him is not obstructed; this is «*ius ad officium*, or a right to the full exercise of the function attributed to them by international law» (Starita 2019: 40).

Admittedly, judges do not have the necessary expertise for the purpose of identifying a P.O.S., but the issue of safe disembarkation will be relevant into case law when discussing the consequences of regulatory gaps and decision-making gaps of States on the rights of abandoned persons in danger of their lives.

The captain's right to duty to international law is a right that is functional to the fulfilment of the duty of rescue itself, so if international law places an obligation on States to require the captain to fulfil the right of rescue in its entirety, it is obvious that he expects States themselves not to hinder its fulfilment.

The indeterminacy of laws, characterizing the multi-level system of sea rescue, contributes to increase the disparity between the general and abstract norms and the specific cases to which it is applied. This often requires a legal resolution to be found in a temporal and social context that is entirely different from the one in which law was developed, leaving a degree of interpretative discretion that seems impossible to eliminate.

It is precisely on the exact identification of the place of safety that the violation of the principle of *non-refoulement* by the governments of the European Union has been noted on several occasions, starting precisely

13 The case of the Asso 28 ship involves an Italian vessel that, on 30 July 2018, returned 101 migrants to Tripoli after rescuing them in the Mediterranean Sea, resulting in an offense that had never previously involved a national maritime vessel. After detecting the presence of an inflatable boat with 101 migrants on board, the captain allowed the individuals to be transferred to the boat, which then made its way to the Libyan coast. They were subsequently transferred onto a Libyan patrol boat, leading to significant harm due to their collective rejection, an action prohibited by international conventions. The Italian Supreme Court (Italian Supreme Court of Criminal Cassation No. 4557 of 17 February 2024) upheld the captain's conviction.

with the signing of the Memorandum of Understanding of 2 February 2017 between the Italian and Libyan governments, which led to the creation of a Libyan coast guard, committed to bringing refugees back to Libyan territory, or the establishment of a vast S.A.R zone under Libyan jurisdiction, within which to coordinate all search and rescue events, that would result in the arrival of shipwrecked individuals at a Libyan port:

> «here is another emblematic example of how the darker side of the law can overshadow even established rules, such as those developed to define a POS, which doctrine has tended to interpret clearly, but which certain case law, as a result of practices as novel as they are specific, is now beginning to question or struggle to handle» (Sciurba 2021: 9).

Still, today S.A.R. zones are invoked by States themselves as a limit beyond which they abdicate responsibility, for the luck of shipwrecked people, the rescue responsibilities, the assignment of a safe port of disembarkation, and the recognition of a Libyan S.A.R. zone in which the founding principles of international human rights law can be violated.

In the face of the ambiguities of the norms, the risk of making prevail to the generic defence of national borders over clearly identified rights, which correspond to institutional duties, creates a struggle in the central Mediterranean for the precise assertion of legal positions and obligations.

The need to consolidate and guarantee such positions in the matter of relief could be, in the context of the principles that to this day still underlie international law, a valid hermeneutical criterion to be considered in ascertaining violations of law and consequent responsibilities that are repeatedly hided by attempts to criminalise civil aid.

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DEEP WATERS

Prolegomena of a penal system of the sea[1]

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> *«Ocean gönn' uns dein ewiges Walten. / Wenn du nicht Wolken sendetest, /Nicht reiche Bäche spendetest, /Hin und her nicht Flüsse wendetest, /Die Ströme nicht vollendetest, /Was wären Gebirge, was Ebnen und Welt?»*[2]

> *«Das Meer erlöst uns von der unmittelbaren Gegebenheit und bloß relativen Quantität des Lebens durch die überwältigende Dynamik, die das Leben mittels seiner eigenen Formen über sich hinausführt. Die Erlösung von dem Leben als einem Zufälligen und Drückenden, einem»*[3].

> *«Es ist merkwürdig, daß der Mensch, wenn er an einer Küste steht, natürlicherweise vom Lande aufs Meer hinaus schaut und nicht umgekehrt vom Meer ins Land»*[4].

1. METHODOLOGICAL PREMISE

Seen from space, the sea is nothing more than a piece of the Earth. In spite of the planet's name, the area covered by water is not only the largest portion of the planet, but also the distinctive one[5]. It exists, therefore,

1 The paper represents a development of the report at the meeting *Le leggi penali del mare: diritto liquido o hard case?*, Università degli Studi di Urbino Carlo Bo, Urbino, 24 May 2024; a peer-reviewed preview in Italian has been published as «Deep waters: *prolegomena* di un sistema penale del mare», in *Archivio penale*, 2024, 3, p. 1 ff.

2 von Goethe 1832: 176 ff.

3 Simmel 1912: 137 ff.

4 Schmitt 1942: 9.

5 The topic is widely discussed in evaluations of the possibility of other forms of life in the universe, and nothing similar has been observed in the space explored so far, although subglacial expanses and evidence compatible with the hypothesis of past oceanic worlds have been found even in exosolar systems: cfr. Shematovich 2018; Hand *et al.* 2020; De Sanctis *et al.* 2020; Lingam, Loeb

an ontology of the sea as a physical place, which conveys with unceasing rhythms its *naturalistic complexity*: because it is mobile in its boundaries, because it is changeable at its different depths, because in its systemic life it is hyperrelated.

Within the endless naturalistic complexity of the sea, the very rich *detail* of its *anthropic complexity* unfolds. The earthling human species exists as a terrestrial one, that is, because it inhabits that specific planet whose surface is precipously covered by the great waters. Nevertheless, the cultural impact of the sea on human history does not seem much inferior to its biological one[6]. It is not limited to the many resources that the marine environment offers for the purposes of a wide variety of human activities, nor to its capacity for ancestral or pioneering suggestions: its contribution consists, first and foremost, in mediating *relationships between humans*.

Publications and multimedia materials related to the naturalistic and anthropic complexity of the sea fill entire libraries; not even a summary of them can be attempted here[7]. However, the *legal complexity* of the sea can only be read within its naturalistic and anthropic complexity. This is the only methodological premise required by the subject of the sea: *looking at the immeasurable* is a condition for research.

2020; Pham, Kaltenegger 2022; Chakrabarty, Mulders 2024; Sparrman, Bladh, Way 2024; Joseph 2023.

6 Miyazaki, Adeel, Ohwada 2005; Beatley 2014; National Academies of Sciences, Engineering, and Medicine 2022; Kołodziej-Durnaś, Sowa, Grasmeier 2022.

7 By way of example, there are Libraries of the Sea in Palermo, Taranto and Naples, but also in Pesaro, Bagnoli, Giovinazzo and Sestri Levante, where the reading experience is offered close to the beach. Dedicated thematic sections can be found in the libraries of La Maddalena and Santa Teresa di Gallura, while in San Teodoro there is the library of the Istituto della Civiltà del Mare. At the port of Venice there is a library dedicated to the harbour world. In Sgonico, in the province of Trieste, there is the library of the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale. To the CNR belong the libraries of the ISMAR in Bologna, the BSA and the Istituto di Biologia del Mare in Venice, as well as the Istituto di Ingegneria del Mare in Rome, where there are also the libraries of ISPRA, the Ministry of the Environment and the Ministry of Transport and Navigation, as well as the Lega Navale Italiana, with a branch in Naples. The headquarters of the Marina Militare library is La Spezia, that of the Accademia Navale Livorno, that of the Istituto idrografico della Marina Genova. Naval museums with annexed libraries are located in La Spezia, Milan, Genoa and the Tricase port-museum. We must not forget the university libraries of the institutes of maritime law, maritime engineering or marine science: in Genoa, Padua, Trieste, Rome, Naples, Palermo. There are also libraries in the Istituti di istruzione superiore Tommaso di Savoia in Trieste, Cappellini in Livorno, Luigi di Savoia in Naples. Finally, there are some private or linked to shops collections, such as the Libreria del Mare in Milan and the Mare International Bookshop in Rome, which boast respectively thirty thousand and ten thousand catalogued objects, including books and other items. Also these institutions, such as Anna Iltnere's Sea Library in Jūrmala, Latvia, a family collection that is gaining worldwide fame, attest to the widespread interest in the study of the sea.

2. RECONNAISSANCE OF THE AREAS OF CRIMINAL RELEVANCE OF THE SEA

Why should criminal law scholars care about the sea? The *simple answer* is: because even with water, in the water and underwater, *there is delinquency*. Without falling into the stereotype of the *sea as an outlaw place*[8], it can be said that this is a certainty.

One could also advance a *stronger* response: criminal lawyers must deal with the sea because *sea crime* is special, it is a *special case*. But this is only a hypothesis. The certainty of the *simple answer* already uncloses a rather significant variety of criminological areas[9].

It should be kept in mind from the outset that, looking at the aspects of criminal relevance of the sea, one should not see only a *list of offences*, moreover of such breadth as to overflow the body of law known to the average jurist and verge on all-encompassing, with respect to the system as a whole. Rather, what can be gathered is a range of ways in which criminal law can relate to a territory, each of which provide the scholar with different insights.

For this reason, among the many possible options – only by way of example: historical period of onset of the criminal phenomenon, nature of the protected legal asset, type of victim, seriousness of the offence, location of the law source, prosecuting authority – we chose to structure the survey into three lines of inquiry characterised by different *modes of interaction between norm and place.*

(A) THE SEA AS AN OBJECT OF PROTECTION

In the *first line of inquiry*, the sea can be studied as an *object of protection*: more precisely, in criminal law terms, as a *legal asset deserving of protection* and, potentially, of *criminal* protection. The ecosystem dimension stands out in this area of research[10]. *Man's* crimes *against the sea*

8 Cody 2024; see alsoLangewiesche 2004.

9 By way of example, for some topics of *potential* criminal relevance, Braverman 2023; Caron, Scheiber 2004; Gómez, Köpsel 2022; Jacques, Tréguer, Mercier H. 2020; Ribeiro, Bastos, Henriksen 2020; Scheiber 2021; Smith 2004; Strati, Gavoueli, Skourtos 2006.

10 *Ex plurimis*, Committee on the Evaluation, Design, and Monitoring of Marine Reserves and Protected Areas in the United States Ocean Studies Board. Commission on Geosciences, Environment, and Resources National Research Council 2001; Feitosa Ventura 2020; Frank 2007; Marr 2005; Sage-Fuller 2013; Platjouw, Pozdnakova 2023; Portman 2016; Schwerdtner Máñez, Poulsen

are heinous. Assaults are perpetrated routinely, with increasingly offensive consequences: the rise of ocean dumping is one example. In other cases, such as the hunting of large cetaceans and the indiscriminate fishing of other endangered marine species, perceptions of conduct vary significantly from culture to culture, but do not remain confined to their home territories. Whaling ships ply the world's seas to reach the pods, and environmental activists do likewise in an effort to thwart their capture. Different sensitivities *meet at sea*, throwing down the challenge of a unified response to the problem.

On the other hand, offences against the sea are also carried out through widespread behaviour, such as the dissemination of microplastics. Contrasting such conduct with criminal instruments would imply very extensive options of criminalisation, or at least the setting of conventional thresholds, which, to a more or less conspicuous degree, are always contestable in cases where the conduct is distributed substantially in an unbroken *continuum* of intensity with respect to a harm that can be perceived only in cumulative form. The sea *collects*.

Moreover, even if a single offender damaged a marine environment in unquestionably significant terms, their conduct would likely involve a plurality of legal systems, with regulatory approaches that are unlikely to coincide and responses to the offence that are not necessarily compatible. International protection of the sea is being invoked from many quarters, even calling for the introduction of the crime of ecocide: an option that, moreover, various jurisdictions have adopted[11]. Even recognising the sea as a common, as is also increasingly affirmed in the treaties, could lead to options for criminalisation, especially where the slippery slope of considering the commons as legal assets *automatically* deserving (more correctly, *in need*) of criminal protection is deemed to be followed[12].

Furthermore, it does not seem unusual that in approaching the sea as an *object* of protection, some would propose to consider it a genuine *victim*, that is, to attribute to it, by means of some legal artifice, a kind of legal personality. The idea would certainly be no more specious in this area than in others where it has also been put forward, such as with regard to language

2016; Leary 2007. In Italian legal writing, Rizzo Minelli 2023; Mazza 2021; Onnis Cugia 2021.

11 On the subject, Valbonesi 2024; Galanti 2023; Chiaramonte 2023; Poggi d'Angelo 2023; Brizioli 2022; Chiarini 2022; Molteni 2021; Rizzo 2021; Vallini 2021; Fronza 2021; White 2019; Warner 2009; Short, Crook 2022.

12 Critical remarks in Perini 2018; Rotolo 2023; reference may also be made to Palavera 2020.

or culture[13]. However, beyond the ethically and technically non-marginal issue of the power that would thus be granted to the law to constitute, graduate, and consequently also reduce, suspend, or revoke legal personality, it seems doubtful that such an approach could prove functional for an inclusive and effectively participatory management of governance of the sea or penal policy strategies aimed at its protection.

Rather, a realist criminological approach that engages in the enhancement of what basic sciences and Humanities teach about the sea would reveal *crowds of human interlocutors* to question and an equally wide and varied *plurality of victims*, with the sea serving as connector fabric for their more or less consciously relational network. For that matter, if this implication cannot escape a careful eye already in cases where the sea is the *direct* object of protection, it appears quite evident with reference to the broad areas of legislation where the sea constitutes the final object of *indirect* protection, as can be said of protection of waters, or which assume the sea as the intermediate object of *mediated* protection: in its environmental dimension, in many respects global, or even "merely" landscape with respect to coastal areas, as well as in its anthropic dimension, as a multifaceted *resource for humans*, involved in the rights to food, movement, and economic initiative of entire communities, if not of the global community itself; or, again, as a space inhabited by humans, as witnessed, even in their communicative and intergenerational dimensions, by the underwater cultural heritages[14]. On closer inspection, in the immeasurable wealth of interactions in the marine ecosystem, it seems difficult to always be able to distinguish between scenarios in which the sea is the *tool* and those in which the sea is the *target* of protection: the inextricable relationship between the oceans and global warming teaches this[15].

(B) THE SEA AS A RISK FACTOR

Precisely in this synchronous and diachronic cyclicality in which *tout se tient* the *second line of inquiry* is grafted: the sea as a *risk factor*, ancestral, powerful, and yet still largely unknown in its origins and evolutionary

13 Teubner 2006: 499 ff.

14 See Bailey, Harff, Sakellariou 2017; Caporaso 2017; Ford 2011; Dromgoole 2013; Browne, Raff 2023; Perez-Alvaro 2019; Sharfman-Parthesius 2020; Bulut, Yüceer 2023.

15 See Harris 2019; Griffies 2018; Abate 2014; Vallis 2012; Schofield, Warner 2012; Bigg 2003; Siedler, Church, Gould 2001.

dynamics. The first image that comes to mind is that of the *man at sea*: an iconic representation of human vulnerability, but also an example of how it can generate normativity that is sharply structured and characterised, at least in their more traditional expressions, by a rate of customary consensus perhaps unmatched in other branches of law. Normativity that is supportive and yet not oblivious to the pillars of self-responsibility: normativity from which the law of the terra firma should not exclude drawing inspiration. This is the ever-controversial realm of crime by omission: the *simple case* of someone coming across a shipwreck now holds a complex web of responsibilities and obligations to protect by individuals as well as States, all interwoven, though not always consistently, with the experiential *nomos* of the sailing man[16].

The sea as a risk factor, however, goes much further, to the point of jeopardising the very possibility of life on land, awakening entirely new instances of cooperation. The paradigmatic example here is *tsunamis,* about which European populations seem to have achieved widespread awareness only as a result of the events that have affected them as a result of another *way of the sea relating to humans*, namely tourism. And which they can no longer disregard today, even in the face of the expanding of areas of possible outbreaks of the phenomenon, at least in part likely to be linked to the degradation of the global environment, and the realisation that only coordinated monitoring on a very large scale can achieve adequate real-time knowledge, if not yet satisfactory predictability, of the course of their manifestations[17].

Here we are still in the realm of offences (often, but not always, and still broadly speaking) by omission. An area whose origin, barring remote etiological contributions, is purely naturalistic, and with respect to which law can nonetheless only design anthropocentric approaches, which, given a nature *blamelessly deaf* to the fears and dramas of those who populate the shores, *must* turn its attention to the orientation of human conduct[18]. Not surprisingly, with obvious dissimilarity, none of the proponents of the *victimised ocean* puts forward the proposal of assigning legal personality to the *victimising sea* in order to attribute to it legal liability of any kind.

16 V. *infra*, § 3.

17 Valbonesi 2022.

18 With Irti 2013: 1, the law «immediately presents itself as something made by men for other men. The predicate - today rejected or controversial by some - of *positivity* is to reveal the *humanity* of law, which is not given to us by others, but, precisely, "placed" by us for ourselves».

Moreover, also in this front of investigation, the dangers represented by the sea as a *force of nature* are accompanied by those linked to dimensions that are already originally anthropogenic, whereby dangers *originating* from the sea, but constituted or generated by purely human conduct, can come to undermine the economy, health, and security of the communities of coastal states. Furthermore, as technologies advance and the *Earth becomes small*, the sea may find itself transformed by humans into a base of attack toward the landmasses, even without any physical crossing of coastlines. We refer not only to the projection of force, logistical and informational advantage that can result from a naval presence in time of declared conflict and that can result in war crimes where it is deliberately directed against the civilian population. Indeed, when looking at the potential targets of hostile albeit non-belligerent parties or openly terrorist groups, the context of greatest concern today is that of the security of submarine cables and their strategic significance in terms of energy supply, international digital connectivity, and the potential environmental consequences of an attack[19]: an all-too-contemporary confirmation of the long-standing intuition about the sea as *total warfare*[20].

Under the latter assumptions, the sea presents itself as a risk factor only to the extent that it represents a point of vulnerability for the land or infrastructure system. This is reflected, moreover, in the peculiar complexity, from the organisational standpoint of security in the strict sense, of harbour areas, which are geographically *land-based*. In the end, it is still a matter of *protection of the sea* or *from the sea*; in that what perhaps until recently could be regarded as the *sea as a border* and which today, more fragmentarily and unsteadily, must be regarded as the sea that *hosts borders*, in a kaleidoscopic multiplication of lines of potential conflict, but also still of dialogue.

19 On the subject Guilfoyle, Paige, McLaughlin 2022; Hernandez 2023; McGeachy 2022; Pandey, Bhushan 2023; Raha-Raju 2021.

20 Thus Schmitt 1942: 88, «At the heart of sea warfare is the idea that the enemy's trade and economy must be affected. The enemy is, in such a war, not only the combatant adversary but every citizen of the enemy state and even the neutral state that trades with the enemy and has economic relations with him. Land warfare tends towards an open, decisive, pitched battle. In sea warfare one can of course also go as far as naval battle, but its typical methods and means are the bombardment and naval blockade of the enemy's coastline and the seizure, according to the right of prey, of enemy and neutral trading vessels. In the essence of these typical instruments of sea warfare lies the explanation that they are directed against combatants as well as non-combatants. A supply blockade, in particular, affects indifferently the inhabitants of the entire territory subjected to the blockade, soldiers and civilian population, men and women, old men and children».

(C) THE SEA AS A "MERE" PLACE OF CRIME

In the *third line of inquiry*, the sea can be studied as a mere *crime scene*. This is a residual characterisation, since even in the areas reviewed so far, the criminally relevant conduct, harm or danger take place at least in part at sea. Grouped here are those hypotheses which, although related to the sea due to the aspects just outlined, do not see it either as an injured legal asset or as the source of the detrimental event. The sea, in these cases, is simply the *place*, but better said also the *context*, in which the relevant events, at least in part, "simply" *happen*.

Sometimes such a context is implied as necessary to the commission of the offence because of the presence of special "maritime" elements in the provision. Some of these offences are so ingrained in our imagination relating to the sea that it is virtually impossible to imagine their commission on land: this is the case with the crime of piracy, although the parallel with armed robbery has been noted by scholars[21]. In other cases, however, including so-called nautical homicide, the need for special provision has been subject of controversy[22].

Then there are cases which, even in the absence of special elements, reveal the legal peculiarities of their commission at sea only in light of an overall reconstruction of the applicable legislation. In Italy, for example, in the case of a charge of manslaughter with violation of the rules for the prevention of accidents at work, Legislative Decree 81/2008 applies as much to underwater activities as it does to maritime workers, embarked on board a ship, employed in harbour areas or belonging to the fishing industry. Implementing decrees for maritime workers, however, have never been issued. Thus, the previous regulations remained in force, cumulating with the mentioned decree and other sources, including European ones, that followed, and thereby creating a separate *corpus* of provisions, as well as also contentwise distinct from the common one[23].

21 Koutrakos, Skordas 2014; Kraska 2011; Larsen 2023; Mejia, Kojima, Sawyer 2013; Murphy 2008 and 2013; Bohle 2018; Salomon 2016; Brake 2015. In Italian legal writing, De Jorio 2019; Marini 2016; Del Chicca 2016; Vuosi 2014; Scuccimarra 2023; Bartoli 2018; Staiano 2019; Corleto 2022; Noto 2015; Primon 2014; Bevilacqua 2014; Tondini 2013; Romano 2013; Cocco 2012.

22 Piccioni 2023; Demuro 2023 and 2022.

23 Such as, for example, Legislative Decree No. 271 of 27 July 1999, Legislative Decree No. 272 of 27 July 1999, and Legislative Decree No. 298 of 17 August 1999, as well as amendments to the International Convention for the Safety of Life at Sea (SOLAS); Legislative Decree No. 71 of 12 May 2015, implementing Directive 2012/35/EU, amending Directive 2008/106/EC. On the subject, Margiotta 2000; Rizzo 2011; Bencini 2015; Cataldi 2023.

Finally, for some criminal phenomena, an identical regulatory provision is applied to events that occurred at sea and those that occurred on land. The patterns of their occurrence, however, are often drastically different. The migrant affair in the Mediterranean is a macroscopic case. It stands out among many others because of the vivid tragic nature of the intertwining of human actions and environmental determining factors, as well as the reversal of the icon of the sea as a source of life and a way for people to meet. But also because it is a paradigmatic example of the clash between the age-old, shared wisdom of the customary normativity of the sea with the size, speed and complexity of criminal phenomena in the contemporary world and the uncoordinated pervasiveness of criminal law in the legal biographies of individuals (not just migrants). We will return to this shortly. What needs to be emphasised, as the last piece of this reconnaissance, is that the intersections between the three lines of inquiry are not limited to the presence of cross-cutting dogmatic critical issues, but also concern the concrete occurrence of different forms of crime, whose operational synergies can only be facilitated by the lack of unified approaches of contrast.

3. THE INEXTRICABLE CONNECTION OF AREAS OF CRIMINAL RELEVANCE AND THE NEED FOR A THEMATICALLY UNIFIED APPROACH

In many of the respects mentioned so far, the tragedy of migrants by sea deserves a brief review. First, because of its human dimension. But also because of its ability to "bring to the surface" the legal complexity of the maritime context and the extent, which is difficult to map in its entirety, of the effects that the choice of each option, within that context, entails. This complexity, which still does not seem to generate awareness of the need for integrated approaches, turns into uncertainty for those who operate at sea, inefficiency for those involved in security, and, for national and supranational public decision makers, margins of discretion that are not functional in achieving effective and shared policies. With a daily cost in human lives[24], but not only that.

24 The central Mediterranean route is confirmed as the deadliest with 1121 deaths and missing persons in the first months of 2024, followed by 807 on the West African-Atlantic route (data taken from the IOM Displacement Tracking Matrix, *dtm.iom.int/europe/dead-and-missing*, and updated on 23 September 2024).

In the affair of irregular migration on the Mediterranean routes there are very different critical issues and also all of potential criminal relevance. From the project already open to the unlawfulness of travel to its far more serious exploitation, all the way to methods of trafficking. From the *continuum* of assaults, robberies, rapes, extortion and malfeasance that punctuate the journey to embarkation (and sometimes beyond) to decisions to withhold rescue by ships encountered during the crossing or, conversely, to rescue in ways that do not ensure the admissibility of those transported upon arrival. From negligent situations for failure to identify drifting vessels, underestimation of their dangerous conditions, or tardiness of rescue operations, not infrequently with fatal outcomes, to charges of deliberate refusal (because aimed at rejection) of official acts and kidnapping. From criminal organisations ready, in case of disembarkation not intercepted by State activities, to recruit migrants upon their arrival, acting on their vulnerability to involve them in networks of illegal hiring, drug dealing and exploitation of prostitution, to groups dedicated to supporting terrorist activities or arms and drug trafficking that tread the same routes and rely on the same relational networks: large-scale threats that, while not personally involving migrants, who are often indeed unaware, further burden the practices of managing their pathways[25].

Such variety of problems, in relation to which the intervention of criminal law is widely invoked and which include, as is evident, conduct that is very contiguous to legality or at any rate not unlawful because it is justified, as well as some of the major criminal phenomena of the present time[26], are interwoven for the migrant into a single experience of victimisation, while the natural environment of the crossing, already potentially dangerous in itself, contributes to relational conditions capable of exponentially increasing the traumatic impact.

Furthermore, it should not be left unsaid that many of the traumatising components of the migration experience arise from *regulatory* factors, physiological or deviant, of the different legal systems with which the migrant must deal: they feed, episode after episode, into their plural legal biography and, inevitably, will go on to affect his or her decision-making

25 Achilli, Sanchez 2021; Achilli, Tinti 2022.

26 For the most relevant aspects, Pressacco 2021; di Martino 2023; Bevilacqua 2020; with a more general scope Pisconti 2022; Curi *et al.* 2020; De Vittor 2023; Zirulia 2023; Coppetta 2023; Pitea, Zirulia 2020; Fonti, Valentini 2020; Abukar Hayo 2022; Masera 2022 and 2024; Papanicolopulu 2022; see also, for the traditional approach, Coniglio 1924.

architectures in the face of subsequent choices to adhere to the law or transgress it.

It goes without saying that the concentration of management of landings in the few countries of first landing[27], in the absence of an interstate redistribution of the burden of rescue, in addition to making the provision of adequate reception illogically critical in all respects, risks inducing in significant portions of the population a perception of danger, non-dignity or even just quantitative *surplus* of the *entire* allochthonous population, even where this is instead numerically contained or, at any rate, less represented in percentage terms than in some non-coastal countries[28]. Resulting, thus, in an oppositional and hostile environment that is not conducive to the goal of integration, already fundamental in terms of the rights of the individual, but equally decisive for the security of the community as a whole.

To consider as established the inextricable web of connections between the phenomena for which criminal intervention is invoked, one believes that so much is enough (nor would it be hard to find other examples: think of the well-known links between modern piracy and terrorism or the abovementioned multi-offensive consequences in the case of an attack on submarine cables[29]). These are dynamics that are capable of dramatic pervasiveness and influence on society as *a whole*, even in ways whose interactions do not immediately emerge clearly. The apparent *uniqueness* of phenomena of such great impact, however, should not distract attention from the search for their *repeatable* features, albeit on a different scale, and the resulting paradigmatic potential, which makes the sea, as will be seen, an elective context for the identification of grids for analysis, critique and readjustment (also) of criminal policies pursued so far.

27 In the first months of 2024, Italy alone, whose population accounts for just over 13% of Europe's, with a GDP per capita below the average (EUROSTAT, 2024. *Key figures on Europe. 2024 edition*, Kirchberg: European Union, p. 10), dealt with more than a third of irregular entries throughout the EU (data from the IOM's *Displacement Tracking Matrix*, *dtm.iom.int/europe/arrivals*, and updated at 23 September 2024; see also UNICEF, 'Refugees and Migrants in Europe', 13 September 2024, *unicef.it*).

28 The European country with the highest percentage of foreign residents is Luxembourg, but also Germany and Sweden outnumber Italy by several percentage points (OECD, 2023. *International Migration Outlook 2023*, Paris: OECD, pag. 20). Furthemore, it is well-known that either due to the prospect of greater employment opportunities or due to the presence of groups of relatives or compatriots, these northern countries represent the "final destinations" targeted by migrants who decide to cross, representing the landing on southern European shores as a mere "stage" in the migration project.

29 Other emerging themes include self-driving marine vehicles, IT applications and new technologies; see Guo, Gao, Zhang 2022; Johansson *et al.* 2023; National Research Council (U.S.). Committee on Autonomous Vehicles in Support of Naval Operations 2005; Soyer, Tettenborn 2021; Yun, Bliault 2012; Kraska, Park 2022; Lind *et al.* 2021; Artikis, Zissis 2021, Breen 2024.

It is necessary in this regard to clear up misunderstanding. The security approach to the *criminal law of places* generally focuses its analysis on the number of offences committed there, their heinousness or simply the social alarm they arouse[30]. This certainly makes sense, in the economy of a research study, from the selective standpoint of *relevance*: in order to avoid the scattering of reflections toward hypotheses of trifling transgressions, numerically insignificant in their occurrence or such that they do not arouse any social alarm in any case. This, in the present case, can certainly be ruled out. We trust that it has emerged from this cursory review that the *special case* nature, if any, of the marine context does not lie in the phenomenology of the crimes committed, but rather in the interaction that with regard to them is triggered between law and territory, in all its naturalistic and *relational* nuances. From crime, therefore, we need to shift our gaze to *law*.

Moreover, in light of the organisational connections between the different forms of crime, the frequent coinciding of resources that can be involved in combating them, the non-occasional unity of the victimisation experience, as well as the coordination necessary even to design a serious prevention intervention in the territory, this *law* – the criminal law of the sea – can only be studied as a *unitary system*. With respect to this the three areas identified so far – with the various critical issues noted and the sectorially tested solutions in interstate collaboration efforts, to which not even a mention can be devoted here – pose themselves as experiential capitals to be drawn upon in developing common strategies. However, in this very respect, research seems to be languishing in a state of heavy backwardness.

4. THE CURRENT STATE OF RESEARCH: CENTRALITY OF THE TAXONOMIC APPROACH AND ITS INADEQUACY

Despite the obvious criminal relevance of the sea, there are no unitary treatises containing a synoptic picture of it, even at a summary or illustrative level. A very small number of cases have been discussed in specific essays or monographs, while some areas of applicable criminal law are arranged in chapters in manuals of international criminal law or navigation law[31].

30 Be allowed to refer to Palavera 2024a: 4 ff.

31 In Italian criminal law writing, Rossi 2020; Corrieri 2015; De Vincentiis 1961; Spasiano 1958. See also Anand 1982; Baatz 2018; Chandrasekhara Rao, Gautier 2006; Del Vecchio, Virzo 2019;

Blue criminology[32] has so far been understood simply as a part of *green criminology*[33], while further suggestions of criminal policy can be found in texts devoted to maritime security[34] and so-called *governance* of the sea[35].

What seems to be absent in the landscape of penal or criminological scientific literature is an interpretation of the deep weaving of the *nomos* of the sea in its dimension as a complex legal context, within which entire categories of professionals must move and make their decisions, not excluding those specifically concerned with security in its various declinations. Operators who, be they shipowners, captains, officers or other personnel on board in any capacity, entrepreneurs, scientists, coast guards, fishermen, like their "colleagues" on land, are increasingly *concerned* about the criminal aspects (the *crime risk*) of their daily activities, as well as naturally interested in the goal of making the sea as safe a place as possible. Concerns that are, moreover, almost *due*, at least to the extent that they are held by entities obliged to prepare organisation and management models, including for the purposes of safety of workplasces and the administrative liability of entities[36].

The paradigmatic scope of a unitary reading of this normative universe, however, goes far beyond the possibility of an albeit valuable contribution to the resolution of practical issues and the pursuit of *certainty of punitive law*. Rather, its study requires us to consider not only whether and how criminal law can deal with the sea, but also to what extent the legal

Fink 2018; Kittichaisaree 2021; Klein 2004; Walker 2012; Wendel 2007; Myburgh 2019; Nordquist, Koh, Moore 2009.

32 Not to be confused with the well-known and identical expression used, however, with reference to UN crime-fighting actions, in Redo 2012.

33 See *supra*, § 2 (a).

34 Evans, Galani 2011; Klein, Mossop, Rothwell 2010; Kraska, Pedrozo 2013; Nordquist *et al* 2008; Bruns, Petretti, Petrovic 2013; Jopp 2014.

35 Monaco, Prouzet 2015; Partelow, Hadjimichael, Hornidge 2023; Roe 2013; Rothwell, VanderZwaag 2017; Wilson, Sherwood 2000; Nordquist *et al.* 2007.

36 On the subject, Baffa-Cecchini 2018; Fidelbo 2011; Tripodi 2019; Di Vetta 2021a, 2021b and 2023. Needless to mention that the system of administrative liability of entities has its own criteria for assigning territorial jurisdiction and includes among the predicate offences various offences that could be committed at sea: see Legislative Decree 231/01, Article 4 - Offences committed abroad, as well as Articles 25 *bis*.1 - Crimes against industry and commerce; 25 *quater* - Crimes for the purpose of terrorism or subversion of the democratic order; 25 *quinquies* - Crimes against the individual; 25 *septies* - Manslaughter or serious or very serious injuries committed in violation of the rules on the protection of health and safety at work; 25 *undecies* - Environmental offences 25 *quaterdecies* - Fraud in sporting competitions, unlawful gaming or betting and gambling by means of prohibited devices; 25 quinquiesdecies - Tax offences; 25 *sex decies* - Smuggling; 25 *septies decies* - Crimes against the cultural heritage; 25 *duodevicies* - Laundering of cultural assets and devastation and looting of cultural and landscape assets.

experience of the sea can contribute to the *understanding* of criminal law systems, their integration and, possibly, their improvement.

At the state of the art, the research seems to place all hope on some progress in refining the criteria for jurisdiction allocation: «*terra mare et contra mare terras terminat omnis*»[37]. Although, as is evident, the analysis of the criminal law of the sea is far from being exhausted by such issues, it therefore seems appropriate to start precisely from those[38]. To note at once how, read on the fly, the picture presents an authentic Schmittian *Seenahme*: if «every fundamental ordering is a spatial ordering»[39], then the *nomos* of the sea can only be the *nomos* of its *appropriation*[40]. By reasoning in this way, after all, the *legal cartography of the sea* would merely follow the history of the entire marine cartography, in which the shift toward the narrative, inclusive and participatory dimension is still largely to be achieved. For the purpose of resolving even only from the standpoint of competence the problems enumerated above, a taxonomic management of the sea so understood would be really very unpromising.

Even at first glance, however, a *different regulatory complexity* of the sea, in all its declinations, emerges. Just as in some historical periods the freedom of the seas has been little more than a scholarly argument to support the possibility of their dominance[41], so concepts of a purely economic nature have since been enriched with entirely different protection purposes and relational implications. It is therefore worthwhile to retrace the traditional partitions of the sea with the criminal lawyer's eye, because each of them constitutes a snapshot of the relationship between geography and *terrible law*, between State and territory, between sailing individual and *nomos*.

(A) TERRITORIAL SEA AND ARCHIPELAGIC WATERS

Looking at the Italian legal system, the criminal taxonomy of the sea is all in two folds of the code. The former, in Art. 3 of the Criminal Code: the criminal law binds *all those who are in the territory of* the State – subject to

37 Titus Lucretius Carus, *De rerum natura*, I, 1000.

38 *Ex plurimis*, Blake 1987; Blake 1994; Jagota 1985; Kwiatkowska 2006; Lagoni, Vignes 2006; Prescott, Schofield 2005; Zaucha, Gee 2019.

39 Schmitt 1942: 71.

40 On the different declinations of nomos in Schmitt, Schmitt 1950: 36 ff.

41 Grotius 1609.

exceptions and immunities – and likewise those who are abroad, but limited to the cases provided for[42]. The second, in Art. 4 of the Criminal Code: for the purposes of criminal law, *the territory of the State is the territory of the Republic* and *any other place subject to the sovereignty of the State*. This is followed by provisions for ships, to which we will return[43]. Here is created the perfect storm. When can a territory be said to be *subject to sovereignty*? The last apparently safe bulwark, for a criminal lawyer, seems to be Art. 2 of the Navigation Code: the territorial sea *is subject to state sovereignty*[44]. In fact, already in this area sovereignty is beginning to be eroded: you can start to feel the sea air.

The territorial sea consists of the strip of sea immediately adjacent to the emerged territory of a state. In general, its legal regime is traced back to the Montego Bay Convention[45], but it has formed over time as customary law and as such is at least partially recognised even by some states that have not ratified the convention, including the United States of America. Under the background of these premises, it can thus roughly be said that the territorial sea, its bed and its subsoil are subject to the sovereignty of the coastal State to which they relate, but it is subject to certain limitations, the main one being the right of *innocent passage* by ships flying the flag of another state[46]. During this transition, the coastal State's criminal jurisdiction endures preponderant limitations, its exercise remaining exceptional and subject to specific methods of intervention[47].

The legal status of ships in transit is thus outlined by at least three different sources: international law, which defines the conditions under which this passage is granted or may be revoked, how it can be used and the scenarios in which it may evolve into a right of anchorage, as well as the situations and modalities in which the coastal State's criminal jurisdiction may instead be exercised; the legislation of the coastal State, both with regard to obligations relating to the areas of protection provided by international law, including those relating to the safety of navigation and

42 It can be said immediately that one of the cases referred to is 'maritime' and concerns the prosecution of the offence committed by a person who is abroad but in the service of a ship flying the Italian flag (Article 1080 of the Navigation Code).

43 See *infra*, § 3 (c).

44 Romano, Grasso 2004: 97; Dodaro 2024b.

45 United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982 (hereinafter referred to as UNCLOS).

46 UNCLOS, art. 17 ff.

47 UNCLOS, art. 27 ff.

the environment, and with regard to the situations in which criminal jurisdiction may be exercised; the legislation of the flag state, which certainly not residually regulates all the activities that take place on board. When the authority of the coastal State has well-founded suspicion that a ship has violated its laws or regulations, if the ship or *one of its boats* is still in territorial waters, it may pursue it, and the pursuit may continue even as far as the high seas, provided it continues uninterrupted[48].

The breadth of the territorial sea is set by the coastal State. For a domestic criminal lawyer, as seen, the reference is to Art. 2 of the Navigation Code, and it is only seemingly simple. The so-called baseline, from which this breadth is calculated, is partly determined by the state, which can choose between the natural boundary of the waters and, under certain conditions, straight lines drawn between the outer points of possibly jagged stretches of a coastline. The water line is identified with reference to the time of low tide, but islands are only considered as such, thus contributing to the identification of the territorial sea, only if they remain emerged during the time of high tide. For the identification of low tide lines, reference should be made to those shown on large-scale nautical charts *officially recognised by the coastal State.* Reefs are also taken into account, but not low-tide elevations, unless lighthouses or other installations permanently above sea level are built there. Finally, bays, historic bays, harbours and roadsteads, as well as highly unstable shorelines, such as those occupied by a river delta, are regulated[49]. Special provisions are made for archipelagic states, sets of islands cohesive by nature *or* history, with the effect of allowing the establishment of an area of *archipelagic waters* endowed with a regime that is substantially similar, but not identical, to that of territorial waters[50].

Beyond the historical and geographical complexities, what may not be immediately apparent is that the *outcome* of the delimitation work may be uncertain and, more importantly, result in an area of non-exclusive sovereignty, since, as one criminal lawyer observed, «*each state proceeds as it sees fit*».[51] To better understand the reasons for this *disorder*, we should mention that the regulatory evolution of territorial sea has some specific

48 UNCLOS, art. 111.

49 UNCLOS, art. 3 ff.; See Gioia 1990; Symmons 2008. For new forms of shoreline instability, Blitza 2019; Purcell 2019.

50 UNCLOS, art. 46 ff.

51 Romano, Grasso 2004; 97.

characteristics that deserve a mention. First of all, its premise is not simply the *possibility of appropriating the sea*, but of doing so in a "muscular" way: originally, the extent of territorial waters was determined by the range of concretely existing coastal artillery posts and, later, by the maximum range recognised to those that could potentially be installed, even if concretely there were no posts on the coast[52].

Moreover, although first this conventional abstraction and later the advent of intercontinental ballistic resulted in the complete overcoming of the *cannon shot* criterion, no agreement on the breadth of the territorial sea could never be reached[53]. For the signatories to the first Geneva Convention[54] and subsequently to the Montego Bay Convention, the establishment of the breadth of the territorial sea meets the limits recognised *therein*, albeit implicitly: twelve nautical miles or the median line for States with opposite or adjacent coasts, or even those arising from other *historical titles* or *special circumstances*[55]. Within those limits, each State is free to set its own territorial sea[56]. These limits are obviously not taken into account by States that have not ratified the conventions and sometimes do not even share the delimitation criteria recognised therein, such as the State of Israel[57]. It is debated whether these States should still respect spatial determinations that other States have made in accordance with conventional limits as they are attributable to customary law[58].

Finally, because of the specific characteristics mentioned above, neither public domestic law nor the ubiquitous international law consider territorial sea as a part of the territory in the strict sense (whose boundaries

52 Galiani 1782: 422: «the distance of three miles from land, which is surely the greatest distance where, with the force of the powder known to date, a ball or a bomb can be propelled». This is the *armorum vis* referred to Romano, Grasso 2004: 97.

53 In fact, these very differences led to the failure of the Hague Agreements in 1930 and the Second Geneva Conference in 1960: See Scovazzi 1994: § 2; Caffio 2020: 46.

54 Convention on the Territorial Sea and Contiguous Zone, Geneva, 19 April 1958 (hereinafter referred to as Geneva I), art. 24.

55 UNCLOS, art. 3 and 15.

56 Italy, whose navigation code provided for a six nautical mile limit, extended it to twelve nautical miles: see Article 2 of the Navigation Code, as amended by Law 359/74, Article 1. The case of the self-proclaimed Republic of Rose Island is well-known: it was an artificial island, unsuitable to constitute independent territory, but nevertheless located, at the time, in a non-territorial sea. A summary, with conclusions, however, of uncertainty regarding this unsuitability and references to the topicality of the issue, in Buccarella 2021.

57 For an exploration of critical issues, Spanier, Shefler, Rettig 2021. For an overview also Teff-Seker, Eiran, Rubin 2018.

58 Per l'esempio della Turchia rispetto alla zona contigua italiana, Caffio 2020: 200 ff.

coincide with the coastline regardless of the baseline adopted for the identification of territorial sea), but rather a *dependence* of it[59]: they determine, therefore, a divergence between territory in the strict sense and the spatial scope of sovereignty, which is exercised in them in a *gradual* form, so to speak, by virtue of a series of more or less internationally recognised acts of *appropriation*. This in itself already goes to break the hendiadys on which the Criminal Code approach rests. Potentially *disturbing* as it may be, however, even beyond the "calm waters" of the territorial sea, the graduation of sovereignty continues or, rather, develops its further *functional declinations*[60]: with what consequences for criminal lawyers, is all to be discovered.

(B) CONTIGUOUS ZONES AND OTHER HYPOTHESES OF FUNCTIONAL SOVEREIGNTY EXERCISABLE BY COASTAL STATES

Beyond the territorial sea, in the waters immediately adjacent to its outer limit and no more than twenty-four nautical miles from the baseline, the coastal State may establish a *contiguous zone*. The boundary of the median line between frontiersmen, which was provided for in the Geneva Conventions[61], was not taken up by the Montego Bay Convention[62], and therefore it is not ruled out that currently the contiguous zones of two States may overlap. In the contiguous zone, the coastal State may exercise powers of control over vessels to prevent or punish violations of laws and regulations in its territory or territorial sea, in customs, tax, health or immigration matters. Within the same limits of the contiguous zone and provided that the contiguous zone has been formally established, one or more archaeological zones may be established in which the coastal State may prohibit the removal of relics and objects of historical value from the seabed.

A contiguous zone exists only when proclaimed and operates only in relation to those violations that the coastal State has identified upon its establishment. The right of hot pursuit initiated in the territorial waters continues in the contiguous zone, but may begin in the contiguous zone only in connection with violations of the rights for which it was established. Of course, the question should be asked whether, once the contiguous zone is

59 Gioia 1999: § 1.

60 On the subject, Gavouneli 2007; Vrancken 2023.

61 Ginevra I, art. 24 c. 3.

62 UNCLOS, art. 33.

established, the State has not only the power to control it, but also the *duty* to exercise it. And this emerges rather vividly when one considers that the reasons for establishment may include those of a sanitary nature, an area in which an omission could be a major contribution to causing offenses to the legal assets for whose protection the contiguous zone is established. Looking forward, moreover, the same problem could arise where, in relation to such assets, a duty of protection, for example at the EU level, regarding compliance with customs, tax or migration regulations is imposed.

However, contiguous areas cannot always be ascertained by the trivial finding of the founding document. The Italian legislature, for example, has mentioned the contiguous zone in connection with the contrast of illegal immigration[63] but has never identified its limit or formally established it, and therefore its operability is controversial[64]. A further reference is contained in the Code of Cultural Heritage[65], with regard to the protection of archaeological and historical objects found in the relevant seabed in accordance with the UNESCO Convention on the Protection of Underwater Cultural Heritage[66]: in this case the limit is identified by the legislation as twelve nautical miles from the outer limit of the territorial sea, although the act of ratification of the Paris Convention provides, in case of overlaps and unless otherwise agreed, for the respect of the median line[67]. It does not seem very clear, therefore, whether there is an Italian archaeological zone that is reduced compared to the contiguous zone. In any case, this is not merely a theoretical issue; in some stretches of sea, the 24-nautical-mile limit from the Italian baseline overlaps with that of the contiguous areas of Albania and Tunisia, both of which are signatories with Italy to continental shelf delimitation agreements, which are not exhaustive of possible jurisdictional issues[68].

63 La zona contigua è menzionata nel d.lgs. 286/98, art. 12 c. *9bis*, come inserito dalla L. 189/02, art. 11 c.1, a proposito del diritto di ispezione e sequestro in ipotesi di trasporto illecito di migranti, art. 24 c. 3.

64 Auspica l'adozione dei provvedimenti di formalizzazione Caffio 2020: 201.

65 D.lgs. 42/04, art. 94.

66 UNESCO Convention on the Protection of the Underwater Cultural Heritage, Paris, 2 November 2001.

67 L. 157/09, art. 3.

68 Respectively, the Agreement between the Italian Republic and the Republic of Albania for the determination of the continental shelf of each of the two countries, Tirana, 18 December 1992, and the Agreement between the Government of the Republic of Tunisia and the Government of the Italian Republic concerning the Delimitation of the Continental Shelf between the Two Countries, Tunis, 20 August 1971.

Outside the contiguous zone, within two hundred nautical miles of the baseline, States may establish "exclusive economic zones". Should a coastal State decide to establish one in its seabed, its subsoil and overlying waters, it enjoys sovereign rights for the purposes of exploration, conservation and exploitation of natural, biological or nonbiological resources, including energy derived from water, currents and winds. It also has jurisdiction within the limits granted by international law in the area of marine scientific research and protection and conservation of the marine environment, as well as exclusive jurisdiction over artificial islands, installations and structures, which no other State can build in the area.

Again, the State establishing the zone becomes the holder of rights and *duties*: for example, it must give notice of the installations, as well as remove them upon their decommissioning, so as to ensure the safety of navigation and respect for the environment[69]. It must also preserve biological resources from overexploitation[70]. For these purposes it adopts laws and regulations, for compliance with which it may resort to boarding, inspection, and detention, but the penalties *provided therein* for violation may not, unless otherwise agreed between the States concerned, include restriction of personal freedom or any other form of physical punishment[71].

Over time, States have established different types of extraterritorial sea partitions within two hundred nautical miles: common fishing zones, reserved fishing zones, protected fishing zones, and ecological protection zones. Upon the introduction of exclusive economic zones, these varied designations were generally traced back to the right of establishment of these zones, even if they referred to areas established at an earlier time. Nonetheless, it is not entirely clear whether qualifying an area established for a specific and delimited purpose as an exclusive economic zone entails the assumption of all the duties associated with it, additional to the original purpose, nor how these duties are apportioned in common areas, whose founding agreements usually regulate the apportionment of rights but not always of duties, nor what happens to the responsibilities assumed when the agreement ends for any reason[72].

69 UNCLOS, art. 60.

70 UNCLOS, art. 61 ff.: highly migratory species, anadromous and catadromous reefs, and marine mammals, among others, are covered; the interests of other States, including developing, landlocked and geographically disadvantaged States, are also balanced, at least with regard to the share of resources that can be drawn and that exceed the exploitation of the coastal State.

71 UNCLOS, art. 73.

72 One example is the common fishing area established by the Exchange of Letters between Italy

A further case in which a State enjoys sovereign rights *as a coastal State*, even beyond the two-hundred nautical mile limit, is the continental shelf, which is the extension of the land territory in its submerged portion, comprising the seabed and the subsoil of the rise, slope and shelf, to its outer continental margin. The coastal State exercises sovereignty over it in relation to exploration and exploitation of natural resources, as well as drilling and any artificial islands, installations and structures located on the shelf. The natural resources to which exploitation refers are those that are mineral or otherwise non-living, as well as sedentary living species that live in continuous contact with the seabed or subsoil. This sovereignty is exclusive, does not require proclamation, and is not lost in case of non-exploitation[73].

Finally, the Hamburg Convention provides that signatory States with shorelines have a *duty* to establish *areas of responsibility* for their search and rescue services[74]. Although the text encourages cooperation among States and numerous agreements have been signed to this effect, including establishing areas of joint responsibility, the extent of one's area of responsibility can be set unilaterally by each State, with no limit on distance from the coast. In such areas, as, moreover, already generically provided in previous treaties[75], coastal States have a duty to provide a search and rescue service, whose legal framework is an essential element[76], and some States have established very broad search and rescue areas, which they claim to be exclusive and in which they believe their own regulatory options should be applied, for example with respect to identifying the port to which to accompany any persons collected[77]. Thus, we have a somewhat

and Yugoslavia concerning the establishment of a fishing area in the Gulf of Trieste, Rome, 18 February 1983 (ratified by Law 107/87), but then no longer signed by the States created as a result of the Yugoslav wars.

73 UNCLOS, art. 76 ff.

74 *International Convention on Maritime Search and Rescue*, Hamburg, 27 April 1979 (hereafter Hamburg), *Annex 2.1.9.*

75 Pursuant to the *Convention Internationale pour l'unification de certaines règles en matière d'assistance et de sauvetage maritimes*, Brussels, 23 September 1910, Art. 11 ff., the obligation to rescue rests solely with the captains of the ships, and the signatory states merely undertook to introduce rules to repress the breach of this obligation. In this sense also the *International Convention On Salvage*, London, 28 April 1989, Art. 10. *The International Convention for the Safety of Life at Sea*, London, 20 January 1914, instead, with the introduction of subsequent amendments, up to the London version, 1 November 1974, reg. 15, provides on coastal states for a duty to provide search and rescue services. This direct state duty is also provided for in UNCLOS, Art. 98 c. 2.

76 Hamburg, *Annex* 2.1.2.1.

77 In particular, regarding the identification of ports to which rescued vessels should be taken: for

opposite scenario compared to the types of areas observed so far, in the sense that while in those the establishment of rights entails the arising of duties, here the acceptance of areas of the extension of a *duty* – moreover already generically contemplated, regardless of its spatial reference – Is understood as establishing rights for the declaring State.

Overlapping legal frameworks are thus created where multiple search and rescue zones exist in the same area, established regardless of multilateral agreements, while where such agreements are reached but provide for areas of *shared* responsibility, the criteria for allocating it are not always made explicit. Moreover, also exclusive economic zones, whatever they are called, and continental shelves – with their functional jurisdictions – may also *overlap*. In reality, taking into account the maximum extensions generally envisaged, there is no stretch of the Mediterranean coast from which this cannot take place[78] and nevertheless, after initial reluctance, coastal States have begun to establish such zones, sometimes containing them in the median line or other agreed limit and sometimes, instead, actually generating overlaps.

It is worth noting that all of the foundational thematic areas of the zones reviewed – the environment, cultural heritage, economic interests, public health, border security, and human rights – are of potential criminal relevance. It follows that the various portions of the sea pertaining to them (moreover, with all the uncertainties that have arisen regarding the extent and reasons for establishing the individual zones) should be considered *subject to forms of sovereignty that are limited*, *ratione materiae*, and potentially unrecognised or otherwise overlapping with that of other States, thus constituting "*in a limited manner territory*" and "*non-exclusive territory*" for the purposes of criminal law as well.

The complexity, however, is by no means finished: in fact, in any portion of the sea on the planet, the *functional* sovereignties of coastal States related to the different areas established coexist with portions of sovereignty related to the international nature of the waters and the different activities that States, including non-coastal States, carry out there. The archetypal site of these intersections is the *high seas.*

the well-known case of Malta, whose search and rescue area extends to overlap Italian territorial waters, Jiménez García-Carriazo 2019; Klepp 2011; van Berckel Smit 2020; Trevisanut 2010; Caffio 2020: 150.

78 See Caffio 2020. 86.

(C) "FLOATING TERRITORY" AND OTHER HYPOTHESES OF FUNCTIONAL SOVEREIGNTY EXERCISABLE BY THE STATE, INCLUDING NON-COASTAL STATE

The high seas, understood as the portion of international waters not affected by the partitions mentioned so far, has traditionally been the space of *freedom*. There both coastal and land-locked States enjoy freedom of navigation, fishing, and scientific research. To this end, land-locked States have the right of transit to access the sea and from the sea[79]. There is, in this sense, a genuine *universal right to the sea.* In the high seas, moreover, each State may construct installations and artificial islands, which however do not constitute portions of its national territory, as well as lay submarine cables and pipelines[80]. Currently, most of the energy and data traffic on which Europe depends passes under the sea. Under treaty law, States may punish as crimes the malicious or negligent damage to cables carried out by *their nationals* or *over whom they otherwise have jurisdiction*, and may provide rules for compensation if the damage is caused by the owner of other cables[81]: this, of course, does not preclude the use of *other arguments* to ground the prosecution of such conduct, such as, for example, the event of damage (in theory, the interruption of public service) having occurred at least in part in the territory, i.e. on land. Typically, moreover, not of only one State. The sea *connects*.

The use of the high seas is reserved for peaceful purposes and any claim to sovereignty over it is considered unlawful[82]. Nevertheless, *even on the high seas*, States exercise their sovereignty on various occasions. The freedom of navigation of States, in effect, is expressed in the freedom of navigation of ships *flying their flag*, exclusively and according to the rules that each State has for that purpose. Traditionally, only the flag State exercises its sovereignty and criminal jurisdiction over such ships[83] and so

79 UNCLOS, art. 125.

80 The issue, after an initial moment of interest in the 1970s, has become topical again with the construction of numerous islands in the Persian Gulf and off the coast of China, but also because of the possibility of using this option to counter rising sea levels. It is thus universally invoked to overcome the current regulatory uncertainty: see again Buccarella 2021; but already Walker 1972; Heijmans 1974; Papadakis 1975 and 1977; more recently Zohourian 2018; Saunders 2019; Persada, Setyawanta, Kusriyah 2024.

81 UNCLOS, Art. 112 ff. The State shall also provide rules guaranteeing indemnity to a person who has lost an anchor, net or other fishing equipment in order to avoid damage to a pipeline or submarine cable.

82 UNCLOS, art. 86 ff.

83 The reference, for the Italian legal system, is to Article 4(2) of the Italian Criminal Code: Italian

it is, with some exceptions, even when they transit the territorial waters of another State[84].

The assertion of jurisdiction, which is established by granting the flag, entails a bundle of rights and *duties* to be borne by the State, including the keeping of a register of vessels flying its flag and any measures to ensure the safety of navigation, having regard, for example, to the periodic inspection of the state of maintenance of vessels and equipment, as well as the technical and *regulatory* competence of the masters, officers and crew on board. The State also has a *duty to* exercise its *flag* jurisdiction in a number of activities that such jurisdiction in effect entails: *opening investigations* in case of accidents, *requiring* the commander to rescue at sea, *preventing* and *suppressing* the transport of slaves, *cooperating* in countering piracy and drug trafficking, *acting* in its own right with regulations for its own citizens and ships flying its flag, and *cooperating* in the remaining cases in the conservation of the biological resources of the high seas[85]. As can be easily noted, these are duties with an eminently *regulatory* content. Specific powers are related to some of them. A warship on the high seas, for example, enjoys *right of visit*, that is, it can board, verify and possibly inspect another ship that flies its own flag, is unflagged or is reasonably suspected of engaging in piracy, slave trade or, under certain conditions, unauthorised transmissions[86].

With reference to all these *required* activities, a large part of which, as seen, is normative activity in the strict sense (or presupposes it), we again speak of *functional sovereignty*: intending by this to exclude that flag vessels constitute *territory*, even though it is clear that the exercise of jurisdiction *depends* on their being physically in a *specific place*, namely the high seas, and that they themselves make themselves the perimeter of a spatial dimension of sovereignty.

In order to conclude the "geo-juridical" partition of the sea, however, it is necessary to carry out – it really had to be said – further *in depth ex-*

ships and aircraft are State territory, wherever they are, unless they are subject, under international law, to a foreign territorial law. This is echoed in Article 4 of the Navigation Code: Italian ships on the high seas and Italian aircraft in a place or space not subject to the sovereignty of any State are deemed to be Italian territory.

84 UNCLOS, Art. 27 and 97. The coastal State may exercise jurisdiction over ships in transit through territorial waters if the consequences of the offence for which it intends to prosecute extend to it or if it disturbs its peace or good order in the territorial sea, if intervention is requested by the ship's master or the ship's flag State, or in the case of illicit traffic in narcotic drugs or psychotropic substances.

85 UNCLOS, art. 90 ff.

86 UNCLOS, art. 110.

ploration. The sea floor, ocean floor and related subsoil, beyond the limits of national jurisdiction, constitute the *area*[87].

The Montego Bay Convention declares that the *area* and its resources are common heritage of mankind and cannot be claimed by any State[88]. For the benefit of all mankind, therefore, scientific research, exploration and exploitation of natural resources, preservation or disposal of archaeological assets should be conducted[89]: to this end, the area is governed by the International Seabed Authority[90]. Contracting States must ensure compliance with the rules governing the area and if they are in breach they are liable for damages caused by their own activities or those of their nationals or those under their control[91].

Of course, each system provides autonomously on the entitlement to act – even criminally – In defence of a global common, and the enforceability against non-contracting States of the immunities and exceptions the Authority enjoys, or the legitimacy of its concessions, for example, of exploitation of the area's resources, does not seem easy to understand. Moreover, it tends to be the case that the law is not deemed constitutive of the *commons*, but is limited, *even retroactively*, to recognising them. Here, then, the area territory comes to constitute a new paradigm, which can be extended to various other portions of the marine environment.

Something is already moving in this direction: the principle of the common heritage of mankind is extended in the High Seas Treaty[92] to all waters not affected by the partitions seen above. Although only a tiny fraction of the signatory States has also ratified the treaty, it would certainly constitute a useful argument by those jurisdictions that, even on their own, would see fit to affirm the nature of the high seas as a common, deciding to

87 UNCLOS, art. 1.

88 UNCLOS, art. 136 ff.

89 UNCLOS, art. 140 ff.

90 UNCLOS, Art. 136 ff. The Authority is the organisation through which States Parties, on the basis of the principle of sovereign equality, organise and control activities in the area, in accordance with the provisions of the Convention and with the powers and functions conferred by it: see Article 157 therein. Activities in the area shall be organised, conducted and controlled by the Authority *on behalf of all mankind*: see Article 153.

91 UNCLOS, art. 139.

92 Intergovernmental conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, *Draft agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction*, New York, 19-20 June 2023.

"take it on", as the courts are doing with the atmosphere in several cases[93].

To the wide range of scenarios illustrated thus far, finally, we must add those in which an event or part of the conduct amounting to an offence with all the rest committed at sea has taken place in the territory of a State (including the floating territory)[94]; those relating to the criminal jurisdiction *ratione personae* that can be exercised against those who serve for a flagged ship, regardless of their nationality, where they are and where the offence has been committed[95], as well as the other cases pertaining to universal jurisdiction, to which to some extent some of the cases reviewed can be traced, but which just as well may concern cases (albeit of particular gravity, in every other respect) that are entirely *common*, in the sense that they are not characterised by any specific *territorial* aspects[96]. Even in all these cases, criminal jurisdiction may be exercised over marine areas, whether they are on the high seas or fall within one of the aforementioned gradations of a State's territory, according to rules recognised in treaties or customary international law, but also only unilaterally affirmed in individual jurisdictions.

5. THE INEXTRICABLE OVERLAP OF CASES OF FUNCTIONAL SOVEREIGNTY AND THE NEED FOR A TERRITORIALLY UNIFIED APPROACH

At the end of this review, the images seem to shatter against each other like the breakup of a wreck on the waves. However, «*In this fluid world without turf or ground, we cannot walk, but we can swim*»[97]. Indeed, the sense one gets from it is no longer the map of a simple Schmittian *Seenhame*, but rather the possibility of observing *in vivo* a complex regulatory environment, within which every decision about the legal, though possibly *appropriative* in its initial intentions or *potestative* in its unrelated assertion, is

93 On the hypothesis of the introduction of climate offences, with ubiquitous commission, Ruppel, Roschmann, Ruppel-Schlichting 2013; Frisch 2015; Nieto Martín 2019; Satzger 2020 and 2021; Satzger, von Maltiz 2021, 2023 and 2024; Nieto Martín 2022; Krell 2023; Burchard, Schmidt 2023; Hellwege, Wolff 2024; Zirulia, Sandrini, Pitea 2024. For critical remarks and further references, be allowed to refer to Palavera 2024b.

94 For Italy, *ex* art. 6 c.p.

95 See *supra*, § 4 (a).

96 See Dodaro 2024a: 26; Dean 1963; recently Micheletti 2009; di Martino 2006.

97 White 1985b: 696 and 1985a: 40. I thank the inexhaustibly valuable Maria Paola Mittica for pointing out this passage.

inevitably transformed into a network of *legal relations* and, consequently, into a *bundle of rights and duties*. Something, in short, much more like Robert Cover's *nomos* [98] than Carl Schmitt's one. These rights and duties are descended from a genuine *ocean* of different legal systems and traditions: they are *plural* in the very conceptions of the basis of normativity and at the same time *enveloped* by a common normative life.

This *impression of unity*, however, requires some reminder of the *state of thinking* on the relationship between territory, plurality and law. First, the dangers of a shortcut that is very fashionable today must be averted. It would be dangerous to think, *atroce calembour*, that the criminal law of the sea could be a *liquid* system. That is, since there is a plurality of legal systems dealing with it, it *progresses* "*case by case*", according to the changing attitudes of the field *forces*, without ever con-*solidating* definite and stable boundaries of what is criminally relevant and what is not[99].

Likewise, credit cannot be given, with outcomes of the same *liquidity*, to the assumption that flag ships are self-propelled particles of territory in the strict sense, such that any State with even only a civilian fleet would have a global territorial extent, with a spotty profile and ceaselessly changing borders. At one time it was said that the vessels constituted the *territoire flottant* of a Nation[100]. Ever since Schmitt this idea of the "floating piece of land" is dismissed as an *evident naivety*[101].

Imagining the intersection of international routes in the horizon of *hypermobile* postmodernity, it would be easy to retort that this perhaps naïve but certainly evocative expression has been let fall into disuse by the scholars too soon: it would in fact be highly contemporary, with the sole clarification that today not manufactured portions of a State's physical territory *do float*, as much as the very concepts of territoriality, sovereignty and jurisdiction to which the regulation of those vessels once *anchored*.

98 See *infra*, § 5 (b).

99 See Paliero 2014; Přibáň 2007 and 2015; Messina 2015; di Martino 2021.

100 Expression to which the normative data remain attached: see *supra*, § 4 (a).

101 Schmitt 1955: 542: «It is not about the difference between settled and nomadic peoples, but rather the contrast between land and sea as fundamentally different possibilities for human existence. It is therefore misleading to speak of nomads of ships and name them in the same way as nomads of horses, camels or other lands. This is just one of many erroneous transfers from land to sea. (...) It is already a transfer from cultivated land to the sea to describe the sea as a highway, and it is obvious naivety to describe a ship *territoire flottant*, a floating piece of land, as found in some legal arguments. The horizon of the world seen from a ship emerges different from that seen from built-up land».

The *new paradigms of mobility*[102] also affect objects, *territories* and – why not? – *laws*. Why shouldn't the sea be governed by a *liquid criminal law*?

This last hypothesis can be dismissed in a few lines. The answer is simple (and *rocky*): the *granitic* principles of definiteness, non-retroactivity, culpability *(sub specie* of knowability of precept) preclude it. Principles, all[103] which pertain as much to the aspect of *guarantees* as to that of *effectiveness of rules*. A liquified penal law of the sea simply does not work. The solution, however, is not as easy to identify. Nor is it, as might likely become necessary, to *build*.

Having acknowledged the systematic failure, in terms of legal certainty, of the *zoning* route and having avoided the unhealthy swamps of liquid law, it cannot therefore be merely apodictically asserted that the sea constitutes a unitary territory in its own right. As it would be superficial to say, without further specification, that the criminal law of the sea is simply a *plural* system. For the simple reason that this would allow *bringing together the problems that have arisen*, appreciably inviting an *overall* reflection, but would say *nothing* about how to solve them. Both issues deserve some more attention.

(A) OPTIONS REGARDING THE CONCEPT OF PLURALISM

In more recent studies on nomadism, which highlight its structural dimension and pervasiveness with respect to postmodern society, we come across a curiosity: the expression *floating territory* is not only used to describe the *art of drifting*[104], but also as an example of the path of *dynamic rootedness* that characterises the contemporary man[105].

This observation also applies to law: the individual on the move (in the physical, relational or even just informational sense) *encounters* different legal systems, writing his or her own personal *legal biography*, which in contemporary experience increasingly draws on a plurality of traditions. The case of migrants, already alluded to[106], is only the weightiest example, but the same could to some extent be said of all seafarers and, perhaps, of every man.

102 Sheller, Urry 2006.
103 For more on the aspect of principles, see *infra*, § 6.
104 Maffesoli 1997.
105 Maffesoli 2007.
106 See *supra*, § 3.

Nothing new, after all, if back in the late 1980s Jacques Vanderlinden pointed out that what *really matters* in the analysis of law is the *individual*, «the point of convergence of the multiple regulatory orders that every social network necessarily includes».[107] He adds, «the reference to a dominant (or even exclusive) regulatory order raises the issue of possible mutual conflicts between them, conflicts of which the individual will be the battleground».[108]. This approach, which founds the subjectivist turn in legal pluralism studies[109], postulates the *ontological impossibility* of a plural legal system[110] and seems to respond, more than a decade in advance, to the proposals formulated in the search for an *ordered pluralism* (moreover, still in nubile expectation of their ordering *totem*)[111], reducing them to nothing more than *renewably monolithic* expressions of non-plural legal systems. And this seems difficult to refute, at least where the stated goal is to arrive at an *enforceable* system of rules with respect to a territory or an amalgamation of sovereign territories.

What can be held to be true, if anything, is the plural nature of the actors interacting in the *construction* and *becoming* of different *legal frameworks*, within the dynamics of which (well in advance of the "discovery" of multilevel systems) the model of circular normativity, legal comparison and studies on "first hour" pluralism had already amply attested to the generative, validative and evolutionary role of individual decisions about norms[112]. With *this* rather reduced meaning, it can certainly be said that the

107 Vanderlinden J., 1989. «Return to Legal Pluralism: Twenty Years Later», in *Journal of Legal Pluralism and Unofficial Law*, p. 149 ss., p. 151.

108 Vanderlinden 1989: 151.

109 Vanderlinden 1989: 153: «Let us now consider the problem from the standpoint of the individual. He and he alone finds himself in a situation of legal pluralism. It is his behaviour which is governed by multiple and various regulatory orders (…) It is he who will have to make a choice between these mechanisms in determining his behavior. It is at his level, that which so many political theorists somewhat complacently call the basis, that a possible conflict in socio-legal regulation will acquire its full meaning. Thus instead of looking at the legal pyramid from the top, from the centres of decision, from the standpoint of power, one is brought to contemplate it at the level of ordinary men
in their daily activities».

110 Vanderlinden 1989: 154: «the idea of a pluralistic legal system is impossible. What we (...) have hitherto considered as "plural" or "pluralistic" legal systems are in fact unitary systems which "recognize" special rules for specific persons and/or purposes (...). This was the typical colonial situation (...). Retaining the idea of a "pluralistic" system can only be a source of confusion».

111 Thus Paliero 2014: 1106. The reference is to the "ordering" logic presented in Delmas-Marty 1982 and 2008. For a critique on the human rights route as an ordering category, Bartoli 2012; Meccarelli, Palchetti, Sotis 2014.

112 And even before that Carnelutti 1957: 7 and 1951: 201.

criminal system of the sea, *like any other legal* system, is a *plural* system. Just as it can be said that the *man overboard* is in a *subjective* condition of *criminal pluralism*, in the sense that it is disputed, and disputed is the judgment on his conduct, among various jurisdictions: some of which might provide for such conduct as an offence. As can be seen, the concluding picture that would be drawn from this approach is rather far from the one sketched by Cover just over a decade earlier[113].

Assuming what has been summarised above as the "received vision", however, reflection on the sea generates a number of further questions. First of all, the postulate of the impossibility of plural legal systems does not seem incontrovertible where *several* (albeit perhaps different) sovereign jurisdictions or *no* sovereign jurisdictions (i.e. in the cases of *overlapping* jurisdictions and *lack of jurisdiction*) exist simultaneously on a territory[114].

Moreover, on the assumption that nation-states and supra-state bodies also make *decisions about law in* such cases, it is not quite clear whether their normative actions can be read in terms quite similar to those posited in Vanderlinden's "non-plural" systems, that is, essentially in a dichotomous scheme, in which institutional actors pose as normative agents (if not necessarily superordinate[115], at least) unitarily *"receiving"* with respect to multiple "tributary" normativities.

Finally, the implications of such peculiarities not only on *observed* processes of normogenesis, but also on *potential* ones (i.e. on reflection, as it were, *de iure condendo*) remain unfathomed. The three questions are all about the relationship between criminal law and territory, which must therefore be considered.

(B) OPTIONS REGARDING THE CONCEPT OF TERRITORY

Some older stereotypes inferred from the desire for non-appropriation with respect to the physical territory a poor sense of community, identity and belonging: the kind of stigma by which, to remain in the nautical sphere, the ancient Romans intended to mark distance from the *piratae*[116]. Such views

113 See *supra*, § 5, e *infra*, § 5 (b).

114 This is, in a nutshell, the definition of *complex territory* that is assumed for the purposes of this paper.

115 On the persistence of hierarchical structures in so-called 'horizontal' legal models, let us refer to Palavera 2018: 132 ff.

116 Chadwick 2018. See also Franchella 2012: 159 ff.

can be said to be entirely outdated: on closer inspection, indeed, belied by many historical or present examples of undoubted communal and identity strength, early Jewish law and its development in the Diaspora, the legal traditions of Roma, Sinti and Caminanti, the tribal systems of the nomads of the Sahara. In addition, sedentary peoples can be found who also exhibit a relationship with the land that is not strictly traceable to paradigms of *possession* and *sovereignty*: some Arctic peoples, Native Americans and other sedentary groups, although sometimes more directly influenced by contiguity and economic relations with nomadic societies. Without belabouring the point, then, there is no doubt that law can exist without a territory in which to assert itself, just as it can assert itself in a territory without a prior claim to *dominion* over it[117]. In this extended horizon, any spatial area to which a specific normativity refers can be said to be a territory in the legal sense.

Reflection on the sea, however, involves a further step. There are, as we have seen, normativities that do not depend on a territory. Do there also exist, then, conversely, authentically *territorial nomoi*, that is, which a specific territory has generated or at least whose development it has significantly determined by being its host?

The question, suggestive in itself, reverses the approaches usually taken by *Critical Legal Geography* and the other strands of scholarship inaugurated with the advent of the *spatial turn* in legal research[118], which remain devoted, in almost all cases, to investigating the ways in which *law* affects the conformation of *space* and only much more rarely the reverse interferences.

It would be misleading, however, to consider the two categories of *nomoi* – those enfranchised from territory and those that are territorial "in the strong sense" – as antithetical. Both, in fact, disregard the *assertion of dominance* of law over space. For this very reason, it is not surprising that a hypothetical reconstruction of criminal law of the sea as a territorially connoted law might benefit from the observations on *nomos* by Robert Cover, who, combining his experience as a *common law* jurist with his Jewish heritage, treats with absolute familiarity the idea of legal systems *that do not possess a land*.

117 For a global and contemporary reflection on the relationship between territory and domination, Irti 2006.

118 *Ex plurimis*, Raustiala 2005; Blank-Rosen-Zvi 2010; Delaney 2010; McMillan 2016; Zumbansen 2023; for the integration of time aspects, Farmer 2010; Pecile 2023.

In his thought, as is well known, each individual lives in a *nomos*, «a normative universe»[119]: the «varied and complex materials» that compose it «establish paradigms for dedication, acquiescence, contradiction, and resistance» and are not just «bodies of rules or doctrine», but «worlds to be inhabited»[120]. Up to this point, the proposed model seems to be in line with the already mentioned idea of *legal biography* as a source of an individual's *decision-making architectures* about norms, but also with the Vanderlindenian image of a person as a *battlefield*, contested in a plurality of conflicting regulatory systems[121]. Cover's perspective, however, has two significant differences from the subjectivist pluralism approach.

First of all, every *nomos* is inherently *shared*, even the unrepeatable *nomos* of a single individual, but Cover's *nomos* accommodates not only individuals but also legal systems, determining a value dimension for them: «a great legal civilization is marked by the richness of the nomos in which it is located and which it helps to constitute»[122]. Moreover, Cover shows that he is acutely aware of the oppositional dynamics that fuel the selection of norms in systems and describes them, especially with reference to the case-law sphere, as *violent* forms of *nomos suppression*. However, he believes that this hypothesis is only *one* of the possible evolutionary options of *nomos* and, precisely, a *pathological* drift of it: to use his words, it's *juspathic*[123]. The *evolutionary mode* typical to *nomos*, on the contrary, is underpinned by a *unitive tension*: its foundation is not domination, but *belonging*; its driving force is not fear, but the *sharing of a telos*[124].

What consequences for the idea of territory? In Vanderlinden's approach, a territory could be defined as the perimeter within which the individual is subject to one or more of the conflicting legal systems. It constitutes a contingent factor in the individual's experience of pluralism, in the sense that an individual can escape a legal systems by physically abandon-

119 Cover 1983: 4.

120 Cover 1983: 6.

121 See *supra*, § 5 (a).

122 Cover 1983: 6.

123 Very explicitly, it is stated that case-law reduces the richness of the nomos, since it is pronounced by «people of violence» and, «because of the violence they command, judges characteristically do not create law, but kill it»: in front of the «luxuriant growth of a hundred legal traditions», they «assert that this one is law and destroy or try to destroy the rest» (Cover 1983: 53). See also Post 2005: 11, for which Cover describes a situation in which judges «do not create nomos», «they do not call into being a narrative world of right and wrong», but, «instead use the force of the state to crush the competing nomoi».

124 Goldoni 2008: 10. See also Cover 1983: 16, for the description of paideia as «an etude on the theme of unity», whose «primary psychological motif is attachment».

ing a territory or by affecting the legal premises of his or her subjection to a jurisdiction abstractly applicable in a given place. Although it can certainly not be said that the territory thus understood constitutes an irrelevant variable with respect to the legal status of the subject, it is difficult to recognise it, even if only in power, as playing an active role in the processes of origin of the law, of which it represents, if anything, an acted component.

In Cover's perspective, on the contrary, a territory is the space – perhaps not necessarily physical and certainly not physically determined by a *domain* – In which the materials for the building of a *nomos* converge. In this view, *territorial* legal systems "in a strong sense" can well be imagined. Without in any way seeking to artificially attribute a legal subjectivity to the territory or to postulate some other form of normogenetic agentivity, it is rather easy to note that the characteristics of a space certainly play an active role in the construction of that *nomos* which in it is posited as the *normative abode* of the individuals and civilisations that inhabit it.

Where it is a physical environment, its very naturalistic peculiarities will exert a significant influence on *nomos* from the earliest moments of its development, propitiating and reinforcing in the target communities both a sense of belonging and an awareness of shared *teloi*. This interaction of the land with human (including legal) workings then determines its anthropc characteristics, which also contribute to an environment conducive to the complexity of construction of law. And it is precisely under this dual profile, anthropic and naturalistic, that the sea has been seen to be a candidate as the setting for a *nomos* of unparalleled richness and cohesive power[125].

(C) THE CRIMINAL LAW OF THE SEA AS A TERRITORIAL SYSTEM "IN THE STRONG SENSE"

The normogenetic drive exerted by the marine environment is enhanced by multiple factors. For example, the dual connotation of the sea as a place of danger and as a source of life for humans is certainly remarkable. Technological progress and advances in scientific knowledge have only confirmed and sharpened the awareness, on the one hand, of the need to preserve this essential resource for humankind and, on the other, of the necessity of the supportive communion of information and means to manage its risks.

125 Traits of *normogenetic peculiarities* of the marine environment are found in Harrison 2011; Braverman, Johnson 2020; Hestermeyer *et al.* 2010; Klein 2022; Matz-Lück, Jensen, Johansen 2023; Andreone 2017.

The historical and cultural arguments, after all, are superabundant. Despite the millennia-long history of naval raids and wars, a certain entrenchment of the idea of the sea as a territory not entirely amenable to appropriation has fostered the establishment of practices of negotiating normativity that are prodromal to a legal culture of dialogue. After all, borrowings from maritime law, such as Roman borrowings from the *lex Rhodia de iactu* or *fenus nauticum*, of Greek origin, are well attested historically[126]. Also not to be underestimated is the finding, almost ubiquitous in the cultures of all coastal peoples, of a genuine sense of belonging of seafarers to the sea, often prevailing over citizenship itself, peculiarly accompanied by a convinced profession of freedom and nonetheless characterised by a strong *commitment* to the *rules of the sea,* which each one explains according to rationalisations that are also quite different from each other (from the will of the gods to international customs, from the teachings of the fathers to the ISO 9650 standard), but with outcomes of identical perception of the cogency of the rules, widespread blame for transgression and substantial spontaneity of compliance. To all appearances curiously, then, Hobbes would have chosen for the image of unity in law not the *behemoth*, but the *sea* beast of Leviathan, turning the members of the social contract into scales so still glistening with water that it comes naturally to anyone to imagine that actually terricolous ruler the vigorous fins barely hidden beneath the frontispiece[127]. And it seems no coincidence that from the adventures of Wolf Larsen to those of Billy Budd and Captain Ahab, nautical-themed works are favoured in *Law & Humanities* studies[128], as if they were able, better than others, to convey the heart of that approach to the theme of justice: the capacity of the imagination to bring out the *possible common* from the plurality of the human.

It seems, in short, that the sea more than any other territory has the ability to induce peoples to *share* their *nomos*. What is most striking, however, is the *richness* and *variety of* constituent materials that the maritime *nomoi* bring together. Even confined to the coastal overlooks of Europe, this abundance is evident.

Looking east and south, legal traditions of Latin origin meet those of Maghreb, as well as Near and Middle Eastern ones, including religiously

126 Chowdharay-Best 1976; Pontoriero 2021; Aubert 2007; Ignjatović 2019; Candy, Ferrándiz 2022; for influences on subsequent law, Zalewski 2016; Ferrándiz 2017; Addobbati 2023.

127 Hobbes 1651.

128 Harris 20064; Rognoni 2014; Visconti 2014.

derived legal systems with extensive legacies from Islamic and Jewish law. The northern marine space, in the landscape and geopolitical uniqueness of the polar areas, involves, along with the legal culture of the Euro-communitarian north, the subject of increasing attention among scholars, the legal systems of the Asian and former Soviet area, the major *common law* regimes, and the traditional normativities of the Arctic peoples not organised into States. Toward the Atlantic, then, the cultural breadth becomes truly oceanic and touches on the not always irenic variety of West African rights, as well as the most classic North American pragmatic and ideological approaches, heavily oriented to trade and security aspects, and all the way to the contributions of indigenous cultures to South American environmental constitutionalism.

In this sense, the sea really becomes a *paradigm* of complex spaces: virtual places[129], polar regions[130], atmosphere[131], *outer space*[132]. Humans have dealt with them by experimenting with very different normative approaches, but none of those territories has been as capable as the sea of *putting itself at the service* of human normativity by *bringing nomoi together.* Therefore, it can stand as a candidate for a *leading case* in territorial criminal law research. Without fear of being accused of radical pluralism[133], Robert Cover places a recommendation as seal of his most famous writing: «We ought to stop circumscribing the *nomos*; we ought to invite new worlds»[134]. Well, no territory more than the sea has demonstrated the ability to respond to this call.

129 The literature is endless. For more pertinence to the subject of territoriality, the following should be noted Završnik 2010; Koops 2012; Hildebrandt 2013; Schmitt-Vihul 2016; Bantekas 2017; Tsaugourias 2017; Münkler 2018; Terentyeva 2022; Burchardt 2023; Willmer 2023; Zumbansen 2023.

130 The topic, certainly not new and still largely unresolved, is gaining topicality with increased navigability, geopolitical centrality and the opening of new routes. Among many McKitterick 1939; Bilder 1966 and 1980; Auburn 1973 and 2002; Wilkes 1973; Hook 1978; Cosslett 1983; Machowski 1992; Oude Elferink-Rothwell 2001; Chatham 2010; Rothwell 2012; Bertovsky-Klebanov 2019; Molenaar-Elferink-Rothwell 2013; Kaymer 2020; Myhrer 2020; Joyner 2021.

131 See *supra*, n. 92.

132 See. Gorove 1972; Ratner 1999; Seshagiri 2005; De Roos 2006; Hermida 2006; Oduntan 2011; Chatzipanagiotis 2016; Ireland-Piper-Freeland 2020; White 2021; Mehta 2023; Soroka 2023; Sachdeva 2023.

133 Goldoni 2008: 3.

134 Cover 1989: 68.

6. SOME NOTES FOR RESEARCH AND INCLUSIVE DEVELOPMENT OF THE CRIMINAL NOMOS OF THE SEA

Summing up, what does it entail to consider the sea as a *unitary, territorial criminal system in a strong sense*? And take its *nomic richness* seriously? First, it is necessary to note that at present the hypothesis of a unitary criminal system of the sea remains far from uncontroversial. On the other hand, if it is difficult to avoid noting the failure of the taxonomic model, moving to a unitary model would imply a paradigm reversal.

In the taxonomic model, it seems impossible to rule out overlaps between the different sovereignties that can be exercised, and the problem is basically figuring out *who has the right to intervene*. Although the entire system of zoning is geared toward propitiating policies of prevention and protection, as well as every act constituting a territorial partition in that system is generative *of bundles of rights and duties*, even in the hands of States, constituting authentic *nomoi*, its enforcement is actually concentrated at the moment of enforcement, like all "*living*" law.

Thus, o*rdering* the pluralism of the sea, from this perspective, means prioritising one legal system among many, according to the various criteria available. Which, on the one hand, are not always universally agreed upon and, on the other, tend to favour the system that has provided a criminal (or at least punitive) option and is inclined to apply it. In some cases, the concrete solution could be made to depend on the speed of activation of one legal system over another, or the extent to which a State has reserved the right to exercise its sovereignty. Generally, in short, *criminal law first*. Is this approach justified? Can it be said with certainty that the system that *punishes* (that *punishes the most*) is always the *most advanced*?[135]

Considering the sea as a unitary criminal system entails respecting the *extrema ratio* with reference to, precisely, *that* territorial system. If stating that «without criminal policy there can be no criminal law»[136] encourages the pursuit of common criminal policies, the circumstance that a people, a tradition or simply a legal system, after receiving all the necessary information, nevertheless decides *not* to come to incrimination options should be held in the highest regard. One should, in other words, avert the risk that *leaps forward* for penalty, already truly uncommendable where enacted by a State within its own border perimeter, go on to reenact in com-

135 For everyone, Eusebi 2016b: 287 ff.

136 Eusebi 2015.

mon and complex territories the old *cannonball cast* with which the era of sovereignty over the sea was inaugurated.

Moreover, it is interesting to reflect on the rule that one should not «introduce an incriminating case (nor change it in *malam partem*, including in terms of sanctions) if first – in order to pursue the preventive objectives one would like to entrust to it – a reliable criminal policy strategy has not been prepared, involving the other sectors of the legal system».[137]. When applied to a complex territory in which several States operate simultaneously, this requirement of *prior activation* can only be deployed at the systemic level. A State wishing to arrogate to itself the right of "muscular" intervention in a common territory would have to demonstrate that it has put in place pre-penal preventive policies on *that* territory: which likely also implies providing economic, logistical, technological and informational support to those States that have expressed interest in a common preventive policy but lack the resources to implement it.

Turning then to the time when a crime is to be ascertained and liability is to be attributed, considering the sea as a unitary criminal system may offer some useful hermeneutical pointers. For example, needs of *overall* consistency of the *nomos* certainly speaks for a universal value of justification causes, regardless of their recognition in the system that is actually proceeding[138]. Of course, asking questions of general consistency brings to the surface critical issues that are *uncomfortable* and yet *salubri*ous to cope with. For example, regardless of what types of *model seafarers* the interpreter may create, and regardless of how many laudable efforts a legal system may undertake to make related protection duties *knowable* in advance with regard to the entire marine territory, it seems clear that there are concepts of *consented nautical risk* that do not take such provisions into account at all. In addition to the problem of the disconnect between *standards* of care accepted in the communities of reference and what they consider really *unacceptable* from the point of view of criminal relevance – a reflection that should be made for many areas of *land-based* negligent liability – we find in the criminal system of the sea the profound divergences from distant legal cultures in the very concept of risk: in its perception, in the activation of practices for its reduction, in the social validation of

137 Eusebi 2016a: 1682.

138 The subject was dealt with for the supranational source hypothesis of the permissive rule: See Marinucci 2011; Palazzo 2011 and 2009; Donini 2009. It reconstructs supranational principles as *limits* to the exculpatory effect of the permissive rule Viganò 2009.

judgments of acceptability, and in the reactive experience of adverse events that might occur.

In any case, in order to engage in serious reflection on these issues, the question to be asked should not be *who has jurisdiction*, but rather *what is the most appropriate path* to construct, relating to the facts, at least *shared narratives*[139]. So that the oppositional environment, which is already usually unsuitable to creating the best *chance* of bringing the truth to light, does not find itself further exacerbated, for example, by the mere lesser or greater familiarity of party lawyers with the judging system. Or the outcome of the judgment is not found to be pronounced already under the conflicting stigma of a non-inclusive identification about *which sole* authority had the *right* to proceed.

This is all the more true, of course, when the sea itself is the injured legal asset. *Ocean victim!* How many communities need to be involved for it to be considered truly represented? And in what ways? Reflection on the sea might ask criminal law, in the global dialogue, to find *new models*[140]. Within which to engage in a dialogue not only with respect to the offender's reprehensible conduct, but to the possible co-liability of the broader parts of the community that can be involved, including liability for not having made sufficiently clear, shared and compliant the regulatory content then transgressed. The dimension of *commitment* that Cover ascribes to the hermeneutic moment[141] and, at the same time, the vulnerary potential of the process as a collective experience of *nomos* regeneration would then emerge clearly.

The construction of the criminal *nomos* of the sea, moreover, can only continue along these lines also for the next phase of *response to the crime*, that is, the instruments aimed at contributing to the goal, as far as possible, of victim compensation and offender reintegration. Suffice it to think of the coexistence of different approaches even within the *universal* framework of intent of pacification[142]: think of value-neutral conduct, such as the monetisation of damage through compulsory insurance, or of exquisitely interior elements, of *moral* depth as it were, such as *repentance*, with respect to the evaluation (or the very admissibility) where individual

139 *Ex plurimis*, Eusebi 2010; Visconti 2016; Mazzucato; Mannozzi, Lodigiani 2017.

140 Boin Aguiar, Salm, Roncada 2020; Hamilton 2021; Almassi 2020; Hall 2013; Marotta 2023; Aa.Vv., 2016.

141 Cover 1989: 7 ff.

142 Mazzucato 1999.

legal systems can manifest even significant differences[143]. Wherever, on the contrary, any endeavour that is designed in close correlation with the *ontological* dimension, in the dual *material* (in some cases one might even say *naturalistic*) and *value* aspects, of the offence concretely perpetrated would be likely to show itself capable of channelling the appreciation of the most disparate legal sensibilities, responding to that shared *telos* which alone can legitimise the response to the offence[144].

Again, the vocation of criminal law to «drive out every speaker»[145] opens itself to options that can best represent *all* the legal traditions that the sea *gathers*, while unitarily respecting their plurality. This, at the methodological level, might require incorporating into research practice the evaluation of an unusual parameter for criminal systems: the degree of their *inclusiveness*,with regard not so much to victims or offenders, but rather their *nomoi*, the legal traditions of which each is the bearer within a community. Because «*quando o viajante se sentou na areia da praia e disse: "Não há mais que ver", sabia que não era assim*»[146].

143 For everyone Eusebi 2013.

144 Osserva Siracusa 2023: 13: «law approaches justice when it is oriented towards a strong core of rationality, capable of transcending the particularism of legal systems».

145 Forti 2007: 307 ff.

146 Saramago 1985: 233.

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GIFT FROM A PHILOSOPHER

MY SEA

Luigi Lombardi Vallauri

The sea – like the desert, like the sky – is one of the fundamental landscapes of the soul, and thus for me one of the dimensions of universal secular mystique. I refer to the eight transmissions on "L'anima di paesaggio" collected in my *Meditare in Occidente. Corso di mistica laica* (Le Lettere, Firenze 2015/2024).

In the boundless inventory of evocations of the sea – ancient/modern, western/eastern, literary/scientific/pictorial/musical/spiritual – I quote arbitrarily, autobiographically from four poems that I recite to myself, which *enchantment* me: from *Le cimetière marin* by Valéry, *Undulna* by D'Annunzio, from *Aspasia* by Leopardi, from *I pastori* by D'Annunzio's again[1]. I do not quote Montale, because '"Mediterraneo" in *Ossi di seppia* would exhaust all my space alone.

CIMETIÈRE MARIN

Midi le juste y compose de feux	Impartial noon patterns the sea in flame
la mer, la mer, toujours recommencée	That sea forever starting and re-starting.

UNDULNA

(Undulna, as the name implies, is the nymph who writes with delicate waves on the sand of the shore the music of the sea).

Ai piedi ho quattro ali d'alcèdine,	Four halcyon-wings are on my feet,
ne ho due per mallèolo, azzurre	a pair upon each ankle-bone,
e verdi, che per la salsèdine	blue and green, and they guide my flight
curvi sanno errori dedurre.	curving erroneous on the brine.

1 The choice of the English editions from which the excerpts are drawn is the responsibility of the translator, as follows: Valery P. [Day Lewis C.], 1946. *The Graveyard by the Sea*, London: Martin Secker & Warburg; d'Annunzio G. [Nichols J.G.], 1988. *Halcyon*, New York: Routledge; Leopardi G. [Towsend F.], 1887. *The poems of Giacomo Leopardi*, New York, London: G. P. Putnam's Sons.

…
Io l’onda in misura conduco
perché su la riva si spanda
con l’alga con l’ulva e col fuco
che fànnole amara ghirlanda.
Io règolo il segno lucente
che lascian le spume degli orli:
l’antico il men novo e il recente
io so con bell’arte comporli.
I musici umani hanno modi
lor varii, dal dorico al frigio:
divine infinite melodi
io creo nell’esiguo vestigio.
…
O sabbia mia melodiosa,
…
brilli innumerevole e immense
alla mia lunata scrittura;

e l’acqua che bevi t’addensa,

lo sterile sale t’indura.
Il rilievo t’è tanto sottile,
dedotto con arte sì parca,
che men gracile in puerile
fronte sopracciglio s’inarca.
A quando a quando orma trisulca
il lineamento intercide;
pesta umana, se ti conculca,
s’impregna di luce e sorride.
…
Io trascorro; e il grande concento
in me taciturna s’adempie,
dall’unghie de’ miei piè d’argento
alle vene delle mie tempie.
Scerno con orecchia tranquilla
i toni dell’onda che viene,
indago con chiara pupilla
più oltre ogni segno più lene;
così che la musica traccia
m’è suono, e ne’ righi leggeri,
mentre oggi odo ansar la bonaccia,
leggo la tempesta di ieri.
…
Il molle Settembre, il tibìcine
dei pomarii, che ha violetti
gli occhi come il fiore del glycine
tra i riccioli suoi giovinetti,

…
I conduct the waves in perfect measure
and make them spread along this shore
alga, sea-lettuce make a bitter
tangle-entangled garland for.
I regulate the lines of foam
left shining at the water’s edge:
from the oldest to the one just come
I arrange them in a fine collage.
Human musicians use various modes,
Doric to Phrygian, in their works:
infinite tunes for the endless gods
are what I make from the faintest of marks.
…
O sand, my sheet of melody,
…
You shine, sand, in your countless grains
on my script that is shaped like the sickle moon;
while the water you drink makes you more dense,
and barren salt makes you more firm.
These signs are in a relief so low,
and traced with such care and sober art,
that even a child’s arching brow
seems not so fine and delicate.
A three-furrowed track now and again
cuts right across the wavy line;
a human print, when it presses down,
is filled with light and seems to smile.
…
I travel across like the wind; this great
concert is mine who make no sound
from the nails upon my silver feet
to where my forehead’s lightly veined.
With an easy ear I can make out
the tones of the wave as it comes to me,
and clear-eyed I investigate
the slightest sign that is far away;
so that the musical traces are full
of sound for me where now today,
sensing the calm is panting still,
I read the storm of yesterday.
…
Mildest September, the Flute-player
moving through orchards of our land,
eyes violet like wistaria,
youthful of face, curls all around,

fa tanta chiarìa con due ossi
di gru modulando un partènio
mentre sotto l’ombra dei rossi
corbézzoli indulge al suo genio.
Respira securo il mar dolce
qual pargolo in grembo materno.
La pace alcionia lo molce
quasi aureo latte, anzi il verno.
Onda non si leva; non s’ode
risucchio, non s’ode sciacquìo.
Di luce beata si gode
la riva su mare d’oblìo.
La sabbia scintilla infinita,
quasi in ogni granello gioisca.
Lùccica la valva polita,
la morta medusa, la lisca.
In ogni sostanza si tace
la luce e il silenzio risplende.
La Pania di marmi ferace
alza in gloria le arci stupende.
Tra il Serchio e la Magra, su l’ozio
del mare deserto di vele,
sospeso è l’incanto. Equinozio
d’autunno, già sento il tuo miele.
…
Silenzio di morte divina
per le chiarità solitarie!
Trapassa l’Estate, supina
nel grande oro della cesarie.
…
Bianche si dilungan le rive,
tra l’acque e le sabbie dilegua
la zona che l’arte mia scrive
fugace. Sorrido alla tregua.
A’ miei piedi il segno d’un’onda
gravato di nero tritume
s’incurva, una màcera fronda
di rovere sta tra due piume,
un’arida pigna dischiusa
che pesò nel pino sonoro
sta tra l’orbe d’una medusa
dispersa e una bacca d’alloro.
Vengono farfalle di neve
tremolando a coppie ed a sciami:
nella luce assemprano lieve
spuma fatta alata che ami.
Azzurre son l’ombre sul mare
come sparti fiori d’acònito.

scatters his brightness far and wide,
sounding through two bones of a crane -
stretched in the shadow of the red
fruits of the arbutus - his tune.
The sea breathes gently like a child
held in his mother’s lap and calm.
Halcyon days make the sea mild,
gold milk against the wintertime.
No wave gets up; there’s not the slightest
wash or ripple heard or seen.
The lucky shore enjoys the light
by the ocean of oblivion.
The sand is endlessly glitterful,
rejoicing in each smallest grain.
Such sparkle from the polished shell,
the dead medusa, the fish-bone.
No slightest sound’s made anywhere
by the light, the silence beams in candour.
Well-marbled Pania raises her
stupendous rocks in all their splendour.
Between Magra and Serchio
the sea is charmed. There are not any
sails. O mid-autumn, I feel as though
I am about to taste your honey!
…
A silence like that of death throughout
the sea and sky now both are clear!
Summer is passing away, stretched out
in the golden glory of her hair.
…
The shores are white and stretching, while
between water and sand the zone
on which I write with fleeting skill
disappears. I smile upon the calm.
Now at my feet the billow’s mark,
burdened with black of scraps and tatters,
warps, a wet branch of a leafy oak
is lying between two little feathers,
and a dry fir-cone now opened wide,
which hung in a sounding pine once heavy,
lies by a round medusa spread
out and a single laurel-berry.
There butterflies like snowflakes come
trembling in couples and huge flights;
and in the light they look like foam
drifting about in loving rites.
Their shadows are azure on the sea
like scattered flowers of the aconite,

Il lor tremolìo fa tremare
l'Infinito al mio sguardo attonito.

flickering so that it seems to me
the trembling expanse is infinite.

ASPASIA

(The ex-enamoured celebrates with exultation his sapiential liberation from the immeasurable ardour for the real woman rather than for the woman «daughter of the mind, the amorous idea». Now that the «long and bitter servitude» is vanquished, that is «broken and on the ground scattered the yoke» of enchantment, that the amorous «long rambling» is dead, Giacomo can say to himself «contented embrace / judgement with freedom»).

…
E conforto e vendetta è che su l'erba
Qui neghittoso e immobile giacendo,
Il mar la terra e il ciel miro e sorrido.

Yet some revenge , some comfort can I find
… here upon the grass,
Outstretched in indolence I lie, and gaze
Upon the earth and sea and sky, and smile.

I PASTORI

Settembre, andiamo. E' tempo di migrare.
Ora in terra d'Abruzzi i miei pastori
lascian gli stazzi e vanno verso il mare:
scendono all'Adriatico selvaggio
che verde è come i pascoli dei monti.
…
E vanno pel tratturo antico al piano,
quasi per un erbal fiume silente,
…
O voce di colui che primamente
conosce il tremolar della marina!
Ora lungh'esso il litoral cammina
la greggia. Senza mutamento è l'aria.
…
Isciacquìo, calpestìo, dolci romori.
Ah perché non son io co' miei pastori?

September, it's time we went. Time for migration
Now shepherds in my land of the Abruzzi
forsake the folds and travel to the ocean
which is for them the savage Adriatic
as green as are the pastures on the mountains.
…
Taking the ancient drovepath to the plain,
as if upon a silent grassy river,
…
Now hear his voice, the first to catch the shiver
and quiver of the coastal waves once more!
And now the flock are walking by the shore.
In changeless air without a breath of wind.
…
A wash, a trample, noises that are precious.
And why, I ask, am I not with my shepherds?

I PERMIT MYSELF A FEW LOUISIAN ADDITIONS

The sea, the sky, the desert
are icons of the infinite,
are icons of the bottom of the soul
which is the pure field-of-consciousness, the *ātman*,

the immense-emptiness, *śunyatā*,
the living support of all contoured mental appearing.
The sea is a landscape of obedience.
The sea is sky on earth.

The sea has the *soul appeal* of going further and further seaward, of going again and again without arriving, without returning, it has the *appeal* of suicide by exaltation.

The sea has been for millions of millennia, much longer than the earth, the exclusive environment of life. For millions of millennia, there has been nothing but ocean life.

The sea has been the immense, unknown horizon of supreme heroism; and it can become the propitious environment of agile, delightful pleasures, of uninventoryable Nureyevian tumbles in the enveloping yielding. Horizon, partner. Or, as Montale says to the twentyish Esterina, «*Esiti a sommo del tremulo asse, / poi ridi, e come spiccata da un vento / t'abbatti fra le braccia / del tuo divino amico che t'afferra*».

The sea is the total friend of the stars: it covers but a single degree of the 180 of the sky. What a rapture!

The sea makes you release your grasps. It is not an object; you don't seize it. It is the antithesis of shopping. It is not an id, a "that", it is if anything a Buberian You.

In a logic of complementarity, the great void (sky, sea, desert) and the manifold fullnesses of life are co-principles, necessary to each other. The East has as its sapiential announcement, perhaps supreme, the identity of *saṃsāra* (the totality of life's small and great fullnesses) and *nirvāṇa* (a boundless vibrant emptiness, the one on which, as Montale says, things «encamp» «for the usual deceit»). Certainly, the final word belongs to nirvāṇa: not to the shores, whatever they are, but to the sea. Descriptions, speeches, must ultimately flow into the «superhuman silences», into the «profound stillness» of which, precisely for Leopardi, the sea is icon. To claim to dominate, to acquire, enlightenment with concepts is - says Śaṅkara - to want to «roll up the sky like a skin». You cannot roll up the sky, the sea, the soul like a skin.

Again, after the sea-meditation, telegraphically some interaction between my body and the sea-partner: the *rocciamare* (alternating climbing of stacks and diving), the rowing around entire small islands, the swim against the light without a mask (so as to see, with naked eyes, not sharp

objects but lights), the swim hundreds of metres from the shore creating a horizontal liquid mountain peak with a view “from above” of kilometres.

But of course the culmination of the hymn to the sea is the hymn to Water, first logically possible molecule at the beginning of billions of years, system of impressive extensional prevalence on the surface of planet Earth, intrinsic mother of life... I can but refer to the chapter “Acqua” of *Meditare in Occidente*.

I terminate (of course I do not conclude) with a minimal, factual-poetic evocation of what a human body feels ‘bathing’ on a shore not plagued by too many human bathers.

SUMMER, NUDITY

No human hand caresses like the wind
No human embrace envelops like the sea
No human mouth kisses like the sun.

IEP

INCONTRI
E PERCORSI

N.06

An interdisciplinary volume, including studies and notes collected following the meeting Penal Systems of the Sea: 'Liquid Law' or Hard Case?, held at the University of Urbino Carlo Bo, Urbino, Italy, May 24th, 2024. The papers offer a glimpse of the complexity of the topic, while underlining from different disciplinary perspectives the concrete need for integrated normative approaches.

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