An Exploration of "Down by the Water"
As a Conceptual Framework of Place

Veronica Walker Vadillo, Emilia Mataix Ferrándiz and Elisabeth Holmqvist

University of Helsinki

*"I draw them all along, and flow
to join the brimming river,
for men may come and men may go,
but I go on forever."*

— Lord Tennyson, The Brook (1886)

The book you are now reading is the result of an ongoing conversation that was started by the editors along with Olesya Khanina, who is also credited with taking part in the editorial process for the initial stages of the volume. It is worth explaining the genesis of such discussions, since it provides the reader with an idea of why this book came to be, and why we think it will become a useful tool for scholars researching maritime cultures. In 2018, the four of us found ourselves as Core Fellows of the Helsinki Collegium for Advanced Studies, one of those rare gems where researchers are left to follow our own academic interests surrounded by colleagues from many different disciplines and from all stages of our careers. The aim of these interdisciplinary spaces is to entice us to explore other fields, and nurture collaborations that may lead to unusual partnerships. While sometimes these initiatives may prove barren, it was not too difficult for us, a maritime archaeologist, a Roman Law expert, a scientific archaeologist, and a linguist, to find common ground down by the water.

Through the application of concepts like the Maritime Cultural Landscape (Westerdahl 1992), Walker Vadillo was studying the impact of semi-nomadic fishing communities in state development along the Mekong River basin in Southeast Asia (Walker Vadillo 2017), Mataix Ferrándiz was examining legal pluralism and its impact in maritime spaces and commercial practices in the Roman era using legal sources and material culture (Mataix Ferrándiz 2022), while Holmqvist was seeking evidence for artefact circulation on the Finnish Baltic Sea coast in the Viking Age using advanced scientific methods (Holmqvist et al. 2018; Holmqvist et al. 2019; Holmqvist et al. 2020; Holmqvist 2021). Khanina likely had the most divergent topic in appearance, as she was examining multilingualism among nomadic-Siberian communities by conducting ethnographic fieldwork as well as archival research. Interestingly for the reader, especially those doing maritime- or riverine-related topics, Khanina's work showed not only how multilingualism worked among these arctic communities, but also highlighted the role played by rivers in the historical development of Siberian languages; from acting as points of contact between communities, to becoming a main vector for the spread of Russian language during the Soviet era and the subsequent imposition of this language amongst these arctic communities (see Khanina & Meyerhoff 2018).

For those used to applying the concept of the Maritime Cultural Landscape (henceforth MCL), the use of linguistics –through, for example, toponyms– is not unfamiliar. Westerdahl's MCL theoretical framework compels the maritime archaeologist to examine every available dataset that can help the researcher to piece together what he called the maritime cultural landscape. The approach is, from its very conception, interdisciplinary, but while maritime archaeologists often incorporate data from other fields, like iconography, history, ethnography, and toponymy, Khanina's work really highlighted for us, maritime archaeologists, that one can unexpectedly stumble upon the role played by rivers when studying things like linguistic dispersal (see also for example Ranacher et al. 2021).

Now engaged in full academic exchange, the editors and Khanina pondered on the way past societies met down by the water, and how these points of encounter acted as vectors for societal transformation via the exchange of ideas, goods, and relationships. If one could unintendedly describe aspects of the maritime cultural landscape while conducting research on linguistics, we wondered, what could other disciplines be uncovering that could nuance our understanding of the past? Thus, "Down by the Water: interdisciplinary symposium on the role of water

transit points in past societies" came to be. Funded by the Helsinki Collegium for Advanced Studies, the three-day event gathered 28 speakers from Finland, Australia, United States, India, Lebanon, Spain, China, Russia, Colombia, Switzerland, Italy, Germany, Japan, France, and the Czech Republic. The fields of research were just as varied, with representatives from the fields of Geography, History, Art History, Archaeology, Palaeopathology, Linguistics, all represented by a wealth of sub-disciplines that ranged from GIS analysis to syntax analysis to historical linguistics, and so on. Our research was intersected by water as a place for human action, a key physical location that we call "down by the water". The event was very fruitful, as we were able to explore the many ways through which one can come to understand maritime, lake, and river communities.

With this book we wanted to capture the essence of the discussion and expand the debate by curating a publication that provides the reader with a rich sample of the ways in which different academic fields study past communities and the impact of water transit points on their existence. Some of the presentations were part of the original Down by the Water symposium, whereas others were carefully selected to complete the book in the direction we wanted. The aim of these papers is to spark further conversations between fields and subfields, and between different theoretical approaches, in the hope of encouraging researchers to incorporate new perspectives to their research design. The book is thus focused on how the interaction with watery spaces (down by the water) affected past communities without looking at specific regions nor historical periods. In what follows we will conceptualise "down by the water" as a physical place of cultural meaning to define the common ground of departure for the articles contained here, followed by a description of the layout of the book that will place the contributors' work within this framework.

Water as Place: A Theoretical Approach

It is not an exaggeration to say that our existence is dependent on water; this precious liquid is fundamental to human survival (see Falkenmark 2020). We need water to keep our bodies functioning; we need water to ensure the survival of our domesticated animals, and to irrigate the fields and orchards we depend on for food. Water is also needed by the ecosystems upon which we rely, where we exist. Beyond consumption, human societies rely on water to move around the landscape, and to transport goods and people. Even today, the vast majority of trade goods are transported on water. Below the surface, countless marine, lake and river resources have been exploited by humans since the dawn of time; their existence, too, sustained by water. Our reliance on water is so profound that it is recognised in countless cosmogonic tales around the world. From the Nile to the Mekong River basins, numerous societies trace the origin of their existence to primordial waters, with connections made to the hydrological cycles of flooded plains and retreating waters.

With water intersecting at so many levels of human life, it is unsurprising that societies gathered down by the water, transforming a far-reaching, ever-flowing element into a physical place of action, of encounter, of meaning-making, and a place of tangible and intangible exchanges. It is worth thus exploring the ways in which the physicality of water provides a spatial location for the embodied, material existence of human societies, and how through a relational sense of place (see Baldwin 2012, 208–9), water has come to be an inescapable epistemological tool to analyse human ecodynamics in watery spaces.

An exploration of the physical world of our "down by the water" requires us to take a dive into the field of geography, where Massey's seminal paper "*A global sense of place*" (1991) defined place as process-relational, a location that gains cultural meaning through dynamic social interactions at multiple levels in an open-ended process. It is also boundless, in as much as a place is not only defined by itself, but also its relation to what surrounds the place, and exists in a state of internal conflict that reflects the ever-present process of becoming. The uniqueness of place, Massey argues, is continually reproduced, and transformed through "a distinct mixture of wider and more local social relations" (Massey 1991, 8). This sense of entanglement, which Massey attributes to the making of place, is also found in theories both in anthropology and archaeology. For the former, it is worth discussing Ingold's approach to entanglement, which he sees more as "a meshwork of interwoven lines of growth and movement" (Ingold 2010, 3) and not as a network of connected elements as proposed by the Actor Network Theory. Writing from the perspective of Archaeology and relying heavily on Ingold's work, Hodder argues that these entanglements between human and things (in which we locate the many different elements that make up the environment) do not just relate to each other but are interdependent "in ways that are entrapping and asymmetrical" (Hodder 2016, 9). He contends that an entanglement approach adds a new layer of complexity by positing that the ongoing interaction between people and things results in directional change (Ibid.).

Once we allow ourselves to explore the nature of place through a meshwork perspective, it becomes apparent that the many factors that contribute to give meaning to place demand an interdisciplinary or multidisciplinary approach. This, as the reader will have guessed, is not unlike the way Westerdahl proposed to study past maritime cultural landscapes. Published around the same time as Massey's essay on the relational ontology of place, Westerdahl's highly influential paper contended that remnants of people's "maritime culture" could be found in many forms, from place names, to shipwrecks, to land remains, to folklore stories, to art and more. The idea set forth in his approach is that any possible clue as to how people developed specific ways of living in and around watery spaces needs to be explored if we are to obtain a nuanced view of how maritime communities lived in the past. The concept has been credited with creating a paradigm shift (Flatman 2011), and a few volumes have

focused on incorporating MCL into their analyses (see for example Ford 2011; Cooney 2004). While a first step has been to find ways of incorporating the MCL framework to the analysis of maritime cultural heritage and associated material remains, Westerdahl's theory, like this book proposes, need not be bound by the discipline of maritime archaeology, in the same way that it should not limit itself to the sea and coastal maritime communities.

MCL may have first been applied to coastal communities exploiting the sea, but its meaning has been expanded to recognise the boundless nature of water and the seamless way in which people move between rivers, lakes, and seas (see for example Westerdahl 2003b; Ford 2017; Walker Vadillo 2019). Waterways, including rivers and lakes, have been key factors in the development of societies from prehistoric times to nowadays, particularly due to their role as vectors for cultural interactions, material exchange, and transmission of knowledge. The fluidity of these waterways of transport and communications is linked to the presence of transit points "down by the water": places with unique geographical characteristics that acted as nodal points between different communities (see Westerdahl 2011: 749). Transit points can thus be defined as places of intense social contacts, putting objects of physical geography into the domain of social sciences and humanities. They are also key locations because of their environmental attributes, which inevitably draws us into socio-environmental approaches like the World System and Earth System (Hornborg and Crumley 2006), historical ecology (Crumley 1994; Szabo 2015; Crumley et al. 2017), or Human Ecodynamics (Fitzhugh et al. 2019).

The entanglement between humans and the watery spaces that create this place called "down by the water" more often than not shows that this is a physical place as much as it is a conceptual space, marked by its liminal nature sitting between land and water. If we take Massey's relational understanding of place, we find ourselves submerged in a world between elements, where humans encroach around the liquid matter to satisfy their terrestrial needs, from ships, to jetties, floating homes, pile dwellings and bridges. Sometimes this "in between" is reflected in local beliefs where objects and animals that can bridge the intangible gap are sacralised because of their ability to inhabit the threshold of netherworlds (see for example Dolias 2012; Widodo 2018; Walker Vadillo 2020). These works underline how water appears as an intermediary space between the tangible world of the living, and the divine realm of the gods or the dead, evoking an aura of mystery and uncertainty. From this perspective, crossing any waterway illustrates physiological transformations on individuals, a leap of faith from the part of the human intruder who risks their life by challenging the water. In addition, individuals who brave the water place themselves as trespassers in a world beyond their own, confronting a realm inhabited by numinous forces, placing it beyond human domination (see Beaulieu 2016 for the Greeks and the sea). Beyond water as a space for human-divine exchange, we find water as a point of convergence for

survival. Oceans may provide humans with fast tracks to move across the landscape, but salt water cannot be drunk and therefore potable water becomes the beacon in the landscape where seafarers need to converge. Other times, however, instead of the ocean we have a desert, a "sea" made of sand where people converge around the waters of green oases to survive. These sand dune dwellers, too, meet down by the water.

For the empiricists who require material evidence to understand the past, the presence of water may be unsettling in many ways: while water can help preserve organic material, in many instances activities that happen down by the water seldom leave substantial archaeological traces behind. Actions that take place on board vessels are only visible through secondary sources like iconography, while pile dwellings defy traditional archaeological ways of understanding habitation sites. In some instances, the location where contacts might have taken place are obscured by a lack of remains due to its temporal nature, but the impact of those interactions are visible in other ways, such as nautical technology or language exchanges. Water also has its own time scale and is in perpetual flux; its eroding force destroys material evidence and alters the landscape that we aim to understand. Yet despite the difficult nature of water as a "place", its role in shaping our past is undeniable.

As editors of this book, we contend that knowledge can be assembled in multiple ways, and datasets can be gathered from multiple fields. When we understand "down by the water" as a place engendered through process-relational phenomena, we can begin to weave a meshwork that can bring us closer to understanding the maritime cultures that created them. The difficulty in gaining a holistic understanding is acknowledged, but we argue that by exploring the subject of "down by the water" from different angles we can find new creative ways of interpreting the past. The time is ripe to transcend the MCL and carry the concept beyond its original conception to reflect advancements made in the many fields represented in this volume. Through the chapters of this book the reader will find the wealth and breadth that this perspective brings to the discussion, which we hope may be a source of inspiration in future research.

Part 1.- Water as Place of Encounter and Movement

In this first section we present a series of studies that focus on water as a place of encounter and movement, or as Massey would put it, "*a location of intersections of particular bundles of activity spaces, of connections and interrelations, of influence and movements*" (Massey 1995, 59). Keller (this volume) sees water as a fundamental catalyst of societal development as she explores the construction of water-related structures in Gujarat, India, in the tenth to thirteenth century CE. Using epigraphical sources, Keller proposes to use the theoretical framework called "the spatial fix" to understand the socioeconomics behind the construction of a land road that linked the

Solanki Capital, Anhilvad-Patan, and the Saurashtrian port town and religious centre of Somnath. This theory explores how the process of geographical expansion and development was likely a solution to the crisis of capital over accumulation that the region experienced during this period. Keller's paper demonstrates how the over accumulated capital initially stored in a religious structure (here the Shaivite temple at Somnath) eventually became a threat to its existence; and how the construction of water structures was used as a solution, or "spatial fix", to resolve the crisis, tapping into the need for freshwater. The donation of water spaces such as wells, stepwells and tanks not only absorbed some of the challenging surplus, but it also supported geographical expansion and thus, further economic development ensued. Keller not only highlights the importance of water to sustain travel -both for overseas ships seeking freshwater and for travellers moving inland through a harsh environment-, but also shows how place-making transcends the physical and is reinforced through religious practice when waters are sacralised.

The reader may be surprised that instead of sailing towards the ocean, the next chapter is focused on one of the driest regions in the world: the Taklamakan desert. Reflecting on his work on sand dunes in Oregon (U.S.), ecologist and science fiction writer Frank Herbert recounted in a 1969 interview with Willis E. McNelly how he considered dunes as analogues of ocean waves, moving at a far slower pace but just as devastating as a tidal wave, capable of drowning whole cities. Deserts and oceans share other traits; sand and salt water are just as lethal to us, and thus to survive in these environments people need access to fresh water supplies. Ships and caravans need to stop where freshwater is available, and therefore interdunal valleys become islands of greenery for the thirsty traveller. In his chapter, Hanus takes us on a journey across the desert and into the complex ecological balance that sustained life in the Shan Shan Kingdom. His work taps into sustainability and resilience studies to develop a new approach to understand resilience among past communities, a topic that reminds us once more of Herbert's philosophy in his magnum opus Dune, where he writes: "*The thing the ecologically illiterate don't realise about an ecosystem is that it's a system. A system! A system maintains a certain fluid stability that can be destroyed by a misstep in just one niche. A system has order, flowing from point to point. If something dams that flow, order collapses. The untrained might miss that collapse until it was too late. That's why the highest function of ecology is the understanding of consequences.*" (Herbert 1965, Appendix I: on the ecology of Dune). Using approaches developed to explore present-day system resilience, Hanus opens an unusual research path that explores how understanding the consequences of the hydrological system's fragility led to the implementation of a hierarchical and conservative socio-political organisation. He contends that the people of the Shan Shan Kingdom implemented a water management system without which life in the oases could not take place. Examining marks of repairs and reorganisation, Hanus studies the robustness of the system to conclude that the

consequences of leaving damages unattended would have resulted in the deterioration of the system beyond repair. He therefore contends that the need to act quickly brought about a strong top-bottom managerial structure that defined these societies. Strong control, he argues, was the most likely solution found by the ancient Shan Shan Kingdom to safeguard such a fragile system. We see then a different way of understanding water as place; the need for water may have attracted people to meet down by the water, but the conditions required to preserve its availability had an impact on societal organisation among these "sandports".

We move then from water as a precious resource around which people gather, to water as a highly ritualised landscape. V. Walker Vadillo and M.A. Walker Vadillo tap into iconography to provide us a visual account of the types of events that took place down by the water during the Angkor era (ninth to fifteenth c. CE) in present-day Cambodia. The authors (and sisters) combine their expertise in maritime archaeology and art history to provide the reader with a theoretical and methodological approach to interpret nautical iconography, before applying their approach to a case study from Angkor. The use of nautical iconography is sometimes the only data left of events and activities that took place down by the water, but as the authors point out, the lack of systematic approach to this type of data has limited its contribution to our knowledge of the past. Art theory and visual culture theories are blended to present the reader with a ground-breaking and exciting method for the study and interpretation of iconographic datasets, an approach that aims to be universal in its application.

Examining things like hierarchy of figures, gaze direction, and visual composition, and then contextualising this within Angkorian culture, V. Walker Vadillo and M.A. Walker Vadillo open a window into a long-forgotten water world where boats take centre stage. The use of royal barges with other-than-human agency by the elite transforms a pilgrimage to a shrine in a mountain into a watery event, as noblemen choose to travel across a man-made reservoir by boat. Common men, on the other hand, are left to travel on foot, codifying hierarchies in the landscape. The event, the authors argue, could be linked to the hydrological cycle of the river in what appears to be a male-only event. The authors explain how societal hierarchies are played out not just within the boat, but also within the parade made up by three boats and within the landscape. The wealth of data obtained through the analysis of a single image shows the potential of this type of datasets to understand the kind of activities that took place down by the water, especially since many of these events leave few traces in the archaeological record, and textual sources may not be as forthcoming.

These examples show "down by the water" as a place of convergence; however, water also flows, and with it flow people and ideas. This change from static to dynamic transforms our "down by the water" from place to space, that is, from a physical location where things take place to

a boundless realm of action (see Balwin 2012, 207) where constant movement prompts cultural fluidity, variety, and richness. In her chapter, Ray analyses to what extent the unique environment of deltaic Bengal defined coastal communities in the past, taking a cue from Westerdahl's maritime cultural landscape. Ray studies the distinctive environment of Bengal´s fluvial system through its coastal communities, temple architecture and watercrafts, and explores how this environment was represented in colonial cartography from the nineteenth century. The author underlines the important role of temples in shaping the cultural identity of mobile communities of the delta region and their understanding of the ever-changing environment. Ray reminds us that religious centres were not only places of worship and devotion, but places of learning for all members of society; the myriad of rivers and channels served as the space upon which deltaic mobile communities travelled, while shrines likely served as places of convergence. Importantly, she notes how eighteenth-century colonial understandings of the complex waterscape that is the Sundarbans greatly differed from local experience. Where colonial eyes tried to quantify the landscape to settle ownership rights, Ray, quoting Bhattacharyya (2018, 72–4) explains how locals understood that water and land shared a more symbiotic relationship, each "moving and shaping the other slowly and catastrophically." With shrines as beacons in the landscape, and water as the conduit for action, the ancient peoples of the Sundarbans constructed a symbiotic identity with their watery environment.

Ray's gaze on this deltaic region is followed by Salomon's study of riverine exchanges in the Central Alps using linguistics and archaeology as her point of departure. Her contribution explores the question of what the location, distribution and nature of Raetic inscriptions can tell us about the ways in which the tribes who inhabited the Central Alps interacted with the cultures of Italy along rivers. From her study, it is evident that Raetic inscription finds occur predominantly along river valleys, which constitute two major transalpine trade routes, and the lack of written documents in the Alpine Rhine valleys may indicate the presence of speakers of non-Celtic languages, which formed a barrier for the northward spread of the Lepontic alphabet. If this population was in fact Raetic-speaking, as suggested by the ancient accounts, this separation between a literate East Raetic and a non-literate West Raetic area demonstrates the importance of the north-south transit routes as factors of cultural adhesion. The abundance of inscriptions in the Val di Non, which appear abundantly in sanctuaries, underlines the strong cultic function of these inscriptions, and attests to trade contacts between the populations occupying these areas, which even had an impact in their alphabets. Like in Khakina's work in Siberia, Salomon's work shows how rivers in the Alps appear here as vectors for language dispersal. The subject is also being explored by Rik van Gijn in his ERC-funded project SAPPHIRE (South American Population History Revisited: Multidisciplinary Perspectives on the Upper Amazon, 2019–2024), where he investigates population dynamics in western South America on the basis of traces in the geographical, genetic, archaeological, ethnological, and linguistic record. These are just samples of multidisciplinary research where waterways play a crucial role, but the driving discipline is linguistics.

Part 2.- Water as Liminal Place of Human-Nature Entanglements

In the second section of the volume, we examine "down by the water" as a liminal place where earth and human systems become tightly intertwined. To understand this type of entanglement, two of our authors apply radically different environmental approaches that prove this to be a path worth exploring. Mauro's paper studies harbour facilities in the Eastern Mediterranean between the 15th and 6th centuries BCE to examine the way maritime communities transformed their coastal environment to accommodate their ships' needs within the dynamic nature of water. Our knowledge of harbour facilities in this region has been reliant on textual sources, which seem to suggest harbour facilities were first established in the sixth century BCE. However, Mauro contends that modifications to the shoreline may be traced up to the 2nd millennium BCE. Examining the entanglement between ships' needs and meteo-maritime dynamics, she reviews the archaeological material to find evidence of landscape modifications designed to improve protection for ships, to create mooring capabilities, to facilitate hauling manoeuvres, and to increase the visibility of harbours. Mauro notes that there is continuity between the Bronze and Iron Age harbours and ponders on the possibility that increased intervention on harbours to improve their capabilities for shipping may have been the result of intensive interactions through maritime networks in the region, or perhaps the result of continuous use by the same groups. However, as Mauro rightly points out, it is not possible to discard that different populations developed similar solutions to similar problems. In Mauro's work, down by the water becomes a process-relational place that results from the constant dialogue between the nature of water, with its dynamic and eroding power, and humans; the evolution of harbour infrastructures is the result of this ongoing conversation.

Improved shipping infrastructure comes hand in hand with increased mobility, not only of goods and cargo, but also of unintended stowaways. This is the case presented by Flemming and Smith in their chapter, tapping into palaeopathology to study the connectivities between British and continental European ports in the late mediaeval period. Archaeological science methods can offer indisputable aid for evidencing inter-communal and inter-regional communications. Tracking past movements and interactions, whether human mobility, material transport, or knowledge transfer, can be challenging in any context, but interdisciplinary approaches can be particularly useful when examining aquatic passages.

Flammer and Smith's paper exemplifies how interdisciplinary efforts, namely molecular biology and

inorganic chemistry methods, can be applied to approach archaeological research questions dealing with transit point communications, inter-communal mobility, and links between aquatic and over-land contact and trade networks. In their contribution, Flammer and Smith demonstrate how molecular archaeo-parasitological approach and genetic profiling of parasitic worm findings from archaeological deposits can be applied to model transmission patterns of diseases, human mobility and transport of goods between locations. They provide fascinating evidence how variations in parasite aDNA can inform archaeologists about past events, and especially, provide evidence of mobility and various other human activities and interactions at watery places, serving as points of encounters. This kind of analytical data, providing detailed information on dietary and hygiene practices, aids us to understand the nature of these locations as biophysical spaces, and how these points serve inter-communal connectivity and transport via water and land-based networks. The connection between the spread of parasites or viruses and human mobility is taking maning forms and advancing at great pace. For example, Yue, Lee and Wu (2017) tested the relation between the spread of the plague and maritime routes by georeferencing more than 6,000 documented cases of outbreaks in Europe. Their research indicates that major plague outbreak hotspots were directly connected to major trade routes, while navigable rivers affected the geographic pattern of sporadic plague cases (Yue, Lee & Wu 2017). Using a different scientific approach, Raijmakers (2018) has been able to map past migrations in Oceania matching Plasmodium vivax (malaria) mitochondrial genome phylogeny and population genetics with modern human mitochondrial genome data, human and hominid archaeological data, archaeological data from human commensal species and phylogenetic data from human associated diseases. Across the Asia-Pacific region both new and already established patterns of likely historic human connections were observed. The work by Raijmakers, like that of Flammer and Smith, highlights how interdisciplinary studies using multiple forms of data can aid in both a broader as well as a more in-depth understanding of several fields of study.

While these may have been unconventional approaches a few years ago, the Covid-19 pandemic and the spread of the SARS-CoV-2 virus through major traffic routes, including seaports, will undoubtedly put the spotlight on our relationship with the micro-world of parasites and viruses in years to come, and trigger further studies on the spread of these micro-organisms along maritime routes and its connection to migrations. With their contribution in this volume, Flammer and Smith continue opening new doors to this human-nature debate through the application of scientific methods and new technologies for data analysis and making them available for the study of the past.

Part 3.- Water as Mental Landscape

We have discussed "down by the water" as a physical place anchored in the geography and defined by the entanglement between human and nature, but there is more to water than its physicality. Down by the water also exists as an imaginary cultural construct, from legal conceptualisations to religious imaginations. In this section, we explore people's perception of water in three different instances and with three different approaches.

First, we have Dan Margolies, who explores the historical evolution of submerged lands in the legal jurisdiction of the United States. Waterways have always been polyglot and plural legal domains, sites of alternative constructions of sovereignty, where sailors, merchants and other actors resisted diverse efforts to impose hegemonic control (see for example Steinberg 2012). It is also a feature that has been used to divide people into two different categories: Others and Us. Philosophers and jurists came to view that dichotomy not solely in spatial terms but also as historical, geopolitical and civilizational ones (Mawani 2018). A necessary truism to be said here is that law is a social phenomenon. Since antiquity, societies have operated on multiple categories of dominion and law, concepts that influenced not only how they understood these categories but also how their environment came to be interpreted. Therefore, it is not rare to find legally defined spaces that have direct cultural significance (see Westerdahl 2003a). In that sense, it can be said that legal dispositions describing waterways are not so much a map of the physical archaeology of their landscapes, but a map of the social conceptions from which their maritime cultural landscape has been constructed.

Given these historical contexts over state regulation, international governance, and struggles for freedom, waterways offer a particularly illuminating window into the development of a legal order that began in the water, on ships, in ports and anchorages, and is still developing today through these three elements (Khalili 2020, 87–91). These legal frameworks can be understood to portray a reflection of the people interacting with these places, giving us a unique insight as to how societies conceived place and space. The subject is challenging, because it demonstrates that space is no longer a neutral concept and cannot be considered independent from that which it contains, and therefore neither can it be considered immune to historical, political, legal, and aesthetic changes. Ideas about the reciprocal causal relationship between subjects and their environments have been common currency in spatially oriented disciplines (e.g., archaeology, geography, history, urban studies). However, other areas of study - and especially the ones focused on the study of antiquity through textual evidence - have not stressed the importance of spatial concerns in shaping human conceptualisations and their social and material practices.

We should therefore consider that legal conceptualisations of water spaces are no more than extensions or reflections of the broader culture that interacts within them and are integral rather than isolated economic or social elements.

The greater the reliance that a particular population may have on water spaces to live and develop economic activities, the more it can be elucidated by analysis and understanding of its maritime component (see Hunter 1994, 62). Therefore, the emphasis of studies on the interaction between humans and water spaces must go beyond the material and refocus on people and their entanglements with all that surrounds them. Taking all this into account, an interdisciplinary perspective with a focus on human-environment interactions is necessary.

The paper by Margolies is an example of how this entanglement can be studied and analysed from a legal perspective. Margolies reframes United States imperial and legal history through the issue of jurisdiction over submerged lands beneath navigable waters. The author explores submerged lands as historically contingent spatial regimes and jurisdictional articulations developed to further the nation's control and governance in their formative nineteenth century era. Through the analysis of historical legal texts, Margolies brings forth a compelling narrative of jurisdictional transformation of submerged spaces that serves here as an example of how space is defined and redefined by political entities with culture as the only arbiter.

His work explores how a well-established legal framework for U.S. submerged lands was disrupted by the emergent spaces of the state defined jurisdictionally in newly conceptualised offshore-submerged lands, which indeed underlines the importance given by states to their surrounding water spaces, classifying and characterising these to fit their own sociocultural mental schemes. We see then that any watery space is made up of multiple features, such as climate and water location, as well as sociocultural and political components, all of which are interrelated and cannot be understood without reference to each other. Therefore, every landscape needs to be contextualised to understand how people made sense of it, and in that way this understanding affected this human-nature dynamics down by the water.

Radically different but equally relevant to understanding how "down by the water" can be transformed into an imaginary place is the paper presented by Gruzdeva, a linguist specialised in Nivkh, a palaeosiberian language spoken in the Amur-Sakhalin region of the Russian Far East. Applying linguistic approaches, Gruzdeva presents a fascinating case of a riverine community whose sense of direction has the river as its point of departure. Among the neighbouring Tungusic and Ainuic languages, Nivkh is the only language of the area that has developed an elaborate system of spatial reference based on orientation towards rivers. The coordinate system is built on the opposition of several spatial vectors located on one vertical and two horizontal axes. The horizontal axes are positioned perpendicularly and in parallel to the river. Each spatial vector lies on a certain axis and has a 'source' and a 'goal', i.e. an initial and a final landmark. Through her analysis, we learn that the people who speak Nivkh conceive

the river as their ground zero, and therefore the spatial conception in their culture emanates from it.

The Nivkh spatial system was apparently formed already in the linguistic homeland of proto-Nivkh speakers in the Sungari-Amur basin and was oriented towards the flow of these rivers (south-north). In the course of the Nivkh expansion towards the estuary of the Amur and further to Sakhalin Island, the system was adapted to the local landscape by extending it from a riverine context to a coastal one and from the Amur environment to Sakhalin. For the maritime archaeologist it is rare to come across this type of information, and yet it provides an enticing perspective of a community that clearly viewed the river as the backbone of their existence to the point of using it as reference point for spatial coordinates. While the linguistic expression of this human-environment relation is unique to Nivhk language, other Siberian cultures, like the Selkups, show similar connections to rivers. In a paper presented at our symposium, Olga Kazakevich explored the way the Selkups also used rivers as orientation markers. Selkups not only had a vertical world structure, but also a more ancient horizontal one, where the river is used as an analogue of the world tree (Prokofieva 1976, 112–3). With major rivers in Siberia flowing toward the north, this northward direction was considered the path to the world of the dead; upstream lies the place of origin of the Selkups, whereas the middle of the river is where the Selkups live. Using linguistics, we see that this worldview, where rivers are understood as the backbone of the world, can be codified in languages. While material culture related to the use of rivers shows socio-economic data on the use of water resources, linguistics opens an unusual and exciting path into the cognitive realm of cultures, and highlights not only their economic reliance on rivers, but also local understanding of the world, and how they came to organize it.

From water as spatial reference, we move towards water as a symbol with real-life consequences by examining iconographic data from pre-Columbian central Mexico. In their article, Hudson and Henderson examine graphic representations of water and its symbolic meaning in Mesoamerica prior to the arrival of the Spanish, finding commonalities in the way water is depicted in various codices that have survived to our days. They argue that water structured the events and processes of history in Mesoamerican thought and explore the way water is intertwined with the myth and history of migration narratives that relate the story of how Azteca villagers transformed into the urban Mexica that dominated the Aztec empire.

Going into semiotics, Hudson and Henderson first analyse the multiplicity of meanings that water had acquired as a symbol; from a marker of topography to features of celestial environments, to warfare, and even calendrics, an indication of the centrality of water to Mesoamerican cultures. The authors tap into this dominant position of water to examine its connection to cosmogonic stories that

revolve around migration and settlement. Having left their ancestral home in Aztlán, Mexica tales of origin describe a sojourn into the Basin of Mexico in search of a mark that was revealed by their patron god to be auspicious: an eagle perched on a cactus growing from a rocky spring. This symbolic association between the eagle, the cactus and the spring became a driving force behind the Mexica migration, until finally settling in Tenochtitlan, a watery environment from which they will eventually exert control over the region. What becomes particularly interesting in Hudson and Henderson's paper is the centrality of water to Mexica existence, and how the symbolic value of water, transformed into a metaphor, is translated into a quest to find a location where to settle down by the water.

Hence, we see in these contributions how water enters the human mind and is transformed into an idea, be that an invisible boundary for jurisdictional aspirations, an imagined "point zero" in the landscape, or an auspicious location marked by the gods. Water thus overflows its physicality to flood the realm of ideas, where it lingers and affects the way people behave in the real world.

Part 4.- Production and Distribution Down by the Water

We conclude the book with a fresh look at the well-known role of water transit points as places of production and distribution of goods and services. Waterborne transport is a cost-effective way of transporting goods for trade -both procurement and distribution-, and up until the twentieth century, being close to the water was necessary for businesses to prosper (see for example Levinson 2016). Central to the success of waterborne networks were the main ports through which major commercial flows were channelled. Ships, people and goods moved along these routes, drawing micro-regions into closer economic relationships with other areas, and creating macro-regions along the way (Keay 2012). In this section, we invite the reader to reconsider this topic, which has a strong tradition in maritime archaeology, under a new light. We begin with Holmqvist, who combines geochemical and archaeological ceramic data to study ceramic manufacture in the Islamic port city of Ayla/Aqaba on the Red Sea.

The study of ceramic material is well established in archaeology, but Holmqvist is able to provide a fresh perspective on the matter by applying energy dispersive X-ray fluorescence spectrometry (ED-XRF). This approach allows her to discriminate ceramics geochemically to determine which of the ceramic forms belong to the repertoire of the local potters and which were acquired from external ceramic suppliers. Ayla's ceramic industry is known for its local amphora-variant, the so-called Ayla-amphorae, used to transport goods by water via Red Sea routes and overland. Ayla was a fulcrum between maritime trade and caravan routes leading to Egypt, Syria and Mecca, and its ceramic corpus is known to become more versatile after Islamic influences and imports reach the local market in the ninth and tenth centuries CE. Through the analysis of primary data from ED-XRF, Holmqvist contends that

although the main products of Ayla's ceramic industry were the made-to-export amphorae, the city also relied on imports from other producers, and was quick to respond to new cultural influences from the Islamic world.

Port connectivity has been analysed from various points of view, such as social network analysis (see for example Leidwanger et al. 2014), but here Holmqvist taps into material analysis and new technologies to contextualize pottery production down by the water. That ports are connected to broader maritime networks is a given, but Holmqvist's work allows us to push beyond this knowledge and unfold a far more complex picture of rapid adaptation to new cultural influences that speaks to the versatility of industries located down by the water, where foreign ideas arrive from near and far.

Similarly located down by the water by necessity are shipwright workshops. It is in these places that shipwrights make boats and ships, or undertake any necessary repairs. Hoces-García, Chaín-Navarro and Sánchez-Baena introduce us to this realm of maritime domain via archaeology, history, and ethnography, examining the art of constructing and repairing wooden boats across time and cultures – albeit with a focus on Spain and the Mediterranean. They provide a detailed review of the characteristics of the boat building craft and its historical evolution from a long-term perspective, topics that have previously received limited scholarly interest and certainly not in this broad overview of the subject. They not only explore the relationship between shipwrights and their environment, but also examine the organisation of labour, and the reasons that have resulted in the abandonment of the trade at different points in history and up to the present. Instead of setting the spotlight on the connection between shipyards and trade, Hoces-García et al. redirect our attention to the importance of fishing industries in sustaining shipbuilding practices, a subject that tends to receive little attention. Making and repairing ships was mutually dependent on fishing practices, so once fishing practices change, so did the shipyards and their masters.

Hoces-García and his co-authors also shed light on the importance of boat building not just for maritime networks and economies, but also for knowledge exchange, cultural interaction and, perhaps more importantly, for oral communication. The authors relate how, in the wake of the European maritime expansion, the shores of the Mediterranean became connected through nautical technology, triggering a somewhat homogenization of shipbuilding traditions. In the chapter's example we see how, as nautical technology became more homogenous on the shoreline across the Mediterranean through knowledge and people exchanges, nautical terminology permeated local languages to enhance communication, which in turn supported the creation of a lingua franca in the process. The phenomenon sees specialized groups of different regions with very different cultures (i.e., the full extension of the Mediterranean in this case) sharing a common language to facilitate communication (see also

Terpstra 2013). Hence, if we change the focus from trade and ports to other activities that take place down by the water, we are presented with other ways in which people interact with each other, and how these exchanges have a real (albeit sometimes intangible) impact on cultures. In their epilogue, the authors draw attention to the ephemeral nature of these spaces, with barely any structures that could be recognised in the archaeological record. Historical accounts and ethnography, they show, become the best allies of the maritime archaeologist.

Taken separately, these contributions may appear to have little in common, but they all sit at the intersection between human societies and their use of watery spaces. This point of encounter between disciplines should be used as a tool to further our knowledge of the past, and better understand the many ways in which water affects our existence. We hope this book will spark conversations in new directions.

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