



# On and Within Water, Crossings of the Al Asi River Between Memory and Local Knowledge

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*The research papers examine how artistic and cultural practices can preserve memory, respond to crises, and strengthen the social, economic, and creative roles of culture. They also explore cultural organisation and collaboration, the relationship between art, archiving and documentation, and comparative experiences of artistic production in Syria and Lebanon.*





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# I. Introduction

Local communities are shaped by the built environment and the shared ecologies that surround it. Over time, local knowledge is formed and expressed through architecture, everyday behavior, and the community's perception of its surroundings. These elements are then woven into collective memory, from which individuals construct their sense of reality and begin to develop a responsibility toward it. As such, the relationship between individuals and their built environment evolves into an open dialogue through which local knowledge is continually generated, reconfigured, and refracted by the forces that define it.

Local Cultures find expression in the situated practices of drawing water for irrigation, crafting modes for transport, and building homes and shelters along riverbanks. These acts and patterns of behavior reveal how individuals relate to water, and gradually shape their perception of the surrounding environment. Practices tied to riverine life serve as living markers of the social and cultural transformations related to place, and reflected in the balance or tensions they produce, and the ongoing dialogue they host along the river's banks. Each system is, in its own way, a discourse with the cultural and ecological makeup of the land, and contributes to a shared cultural map shaped by the river in its broader context. In the Orontes Basin, such practices form part of the region's collective consciousness, shape its natural landscape, and inform how its elements are allocated, experienced, contested, claimed, adapted, and revered.

The cultural map of the Orontes River is central to discussions around the management of cultural resources. It is shaped by the intersection of historical, social, and environmental conditions. Crossing the river, in this context, forms part of its shared cultural life, as individuals continuously adapt and devise new methods for navigating their local waters. Historical accounts from the Orontes Basin suggest that its inhabitants developed diverse array of crossing techniques based on available materials and needs ranging from transportation and fishing to trade or simple discovery. These lived experiences have generated a wide variety of structural forms for navigating the Orontes, some of which may appear familiar, like the stereotypical image of a boating device, yet are in fact far from fixed. These forms continually evolve and adapt to the challenges posed by the river itself, as well as shifting political and economic conditions. In periods of upheaval, even well-

established practices may unravel or transform to accommodate changing circumstances, while maintaining, above all, the community's capacity for movement across the water.

Conflict over water resources is far from new in the history of rivers in the region. Communities along river banks have long coexisted with, and adapted to, the shifts brought on by changing conditions, which are then reflected in their spatial practices over time. To better understand these dynamics, one must turn to the Orontes Basin: a transboundary river shared by the people of Syria and Lebanon. Originating in the Labweh area of Lebanon's Bekaa Valley and flowing into the Mediterranean at the Gulf of al-Suwaydiyah,<sup>1</sup> the Orontes has long served as a lifeline for agriculture and fishing and played a central role in shaping the culture, values, and shared memory of local communities.

Over the years, however, the basin has faced mounting social and urban pressures: floods and drowning, water scarcity, widespread pollution, fragile dams, the redirection of its course, and even its conversion into a sewage conduit in some stretches. As economic and social conditions in the basin worsened, particularly in the early 21st century, the geographical memory that once anchored the region's inhabitants began to fragment. New perceptions have emerged with transformations in material conditions, including the scarcity, erosion, or total disappearance of key resources along various parts of the riverbank. Wars, environmental degradation, and mass displacement events such as the drying up of river segments, have all contributed to the fading of practices once deeply tied to the river's natural landscape. In response, adaptive strategies for ecological management have begun to take shape, rooted in sources of durability communities can still draw upon to navigate their changing surroundings.

The importance of this research stems from the notable decline in the culture of river crossing in recent years. This adaptive practice goes beyond individual behaviors; routes of materialize and vanish as a cultural condition intimately tied to the river, adjusting collectively to the shifting needs of communities. At their core, these practices reflect the dynamic interplay between human needs

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<sup>1</sup> Historically part of the Eastern Mediterranean, Antakya holds particular significance in this context, not only as the last major urban center the Orontes River passes through before reaching the sea, but also as a site of profound political and cultural transformation that reshaped its relationship with the river. Once a Syrian city, Antakya was annexed to the Turkish province of Alexandretta in 1939, becoming a point of convergence - and tension - between geographic and political identities. The city played a key role in river trade and functioned as a river port where diverse ways of life emerged, shaped by both the river's influence and the shifting dynamics of governance and borders.

and environmental conditions that sustains an ongoing reconfiguration of how movement across the Orontes is perceived and experienced.

The study seeks to examine the ways and patterns through which people have crossed the Orontes Basin. It conceives of the river as a social and cultural medium: a space of interaction, communication, and observation across different historical representations. It also considers existing documentation of crossing experiences and the changes and adaptations shaped by necessity. These experiences center on the ways in which individuals and communities inhabit and personalize them, and the deep affective connections they carry. There is, undoubtedly, a longing for the continuity and preservation of these practices, and concern over the impact of their decline or disappearance on collective memory. The research also explores how local communities conceive of mobility as both a resource and a means of livelihood, embedded in overlapping environmental, social, and cultural dimensions.

The research addresses the following central question:

*What are the methods and techniques of mobility employed to cross the Orontes River as part of the shared culture of local communities?*

Building on this core inquiry, the study seeks to answer the following questions:

- 1- How was movement across the Orontes River conceived in past historical experiences?
- 2- What models and methods of river crossing have existed, and how have they evolved over time, socially and technically?

The research also explores and analyzes the techniques and practices that shape the culture of crossing, along with the role of community and memory in forming the emotional resonances elicited by daily encounters with the river. These responses are seen as part of how communities navigate the river's shifting environmental conditions: some driven by climate change, others by industrial development, and many by the war and conflict that have marked Syria over the past decade.

The study adopts a multi-methodological approach, combining archival research with qualitative fieldwork to trace both historical and contemporary forms of river crossing found in the Orontes Basin. The first phase involved reviewing and analyzing archival materials and photographs, alongside written accounts of crossing experiences, travelers' logs, and local narratives. The second phase consisted of conducting semi-structured interviews with local residents and artisans closely tied to the river and its traditional modes of mobility.

The research also draws on tools from cultural geography and visual anthropology to document crossing points and record first-hand testimonies, with particular attention to the sensory and affective dimensions of river life. Oral history methods are used to explore collective memory and to analyze how environmental, social, and political changes have reshaped local communities' relationship with the river.

In approaching river crossing practices, the research is grounded in the concept of cultural resources, explored through three core axes. The first focuses on identifying historical modes of mobility documented along the Orontes River, particularly those tied to transportation and crossing practices and the broader historical shifts that occurred alongside them. Understanding how these practices changed over time was essential to understanding the region's historical development and the evolution of local knowledge. This theme drew on travelogues and archival photographs and illustrations that portrayed crossing practices within the historical landscape of rural Syria. The process involves analyzing historical references and texts that mention crossings within the Orontes Basin, always with attention to the historical and political contexts in which they were written. Through this, the research undertakes a historical tracing of studies related to river crossings in the Syrian rural context. Archival analysis thus enabled a chronological and mnemonic mapping of how materials were used across time, and helped uncover their broader cultural and societal implications.

The second theme, building on the first, investigates the current forms and models of river crossing the Orontes River. It examines how these practices have evolved and how they respond to changing conditions, and lays the foundation for understanding how local communities both shape and are shaped by the memory of river crossings. By analyzing the techniques and processes used to traverse the river, the research sheds light on how these models exist today and what relationships

they reveal between people and their practices. Drawing on a multitude of voices, including oral testimonies and semi-structured interviews, the study captures perspectives on the community's relationship to memory, offering a more comprehensive view of how the historical practice of crossing continues to inform contemporary interactions between people and their natural environment.

The research adopts a methodology that traces the foundational principles of cognitive mapping as a form of cultural resource transmitted not only through its ties to place and material practice, but also through the practitioners and local communities who collect, archive, and remember the history of crossing and the river in their own ways.

## II. Theoretical Framework

“All water has a perfect memory and is forever trying to get back to where it was.”

– Toni Morrison

This study approaches the methods of river crossing through culture in the broadest sense. It does not limit itself to the narrow definition of culture as creative products such as visual and performing arts, literature, and poetry, but adopts a comprehensive understanding that includes all intellectual and creative productions, including local knowledge generated by experienced practitioners. Cultural resources thus contain all intellectual, emotional, spiritual, and physical relationships that arise between people and the material and immaterial elements around them. These relationships - their form, nature, and depth - are what define human culture (Ingold, 2000).

Jean-Jacques Rousseau, in *The Social Contract*, points to the possibility of extending collective responsibility to environmental management, including the stewardship of natural resources such as water. From this perspective, water reflects human relationships, and collective engagement with it is essential (Rousseau, 1762). The research approaches river mobility as a transferable cultural resource that is not confined to its material components, but deeply tied to social dimensions through its connection to artisans and community members, its significance in daily life, and the changing nature of these relationships as the materials involved in crossing practices begin to disappear. Wood, whose availability and function in boat-making practices have changed over time, serves as one such example.

Rousseau also highlights the role of landscapes as both a resource and a medium between local experiences and patterns of use, past and present. This interaction is evident in the social and performative practices, such as specific modes of river navigation observed along the Orontes River. Cultural behaviors shaping the river's landscape, like the collective gathering and sorting of different types of wood for boat-building and transport, are not merely utilitarian responses to need, but complex interactions that extend beyond material dimensions to engage with collective awareness and shared memory. These practices contribute to shaping historical perceptions while also influencing present-day engagements.

The framework places spatial practices along the Syrian stretch of the Orontes within a focused sociocultural lens. Patterns of river mobility are understood as part of a wider network of relations that contribute to the formation of collective memory and cultural identity. For example, the use of wood in river crossing can be analyzed within its social context and takes into account changes arising from material substitutions, often driven by social and economic pressures such as declining living conditions or feelings of insecurity. These shifts give rise to new techniques and unfamiliar modes of movement along the river. Environmental transformations also reflect the fragmentation of human-nature relationships and the erosion of the natural landscape, which is another key cultural and social reference for riverside communities.

Building on this critique, Jan Assmann offers insights into the formation of collective memory through the continuous enactment of practices. He defines behavioral memory as a conscious performance embodied through metaphorical forms and actions carried out by memory-bearers - in this case, the inhabitants of the Orontes Basin - on an ongoing basis (Assmann, 2011). Such performances point to the need for a nuanced understanding of memory within the broader social framework outlined above; as something lived, socially grounded, and in constant negotiation with both past and present conditions.



*Figure 2. Boats in the Ghab Plain area, Water Commons Archives, Al-Asi Repository, 2021.*

This study centers around documentation as the first step in creating a cultural archive, both in the literal and metaphorical sense, of the region. The process extends to include the area's broader cultural resources: anthropological, social, archaeological, genealogical, linguistic, topographical, musical, and botanical. It focuses on this initial stage of documentation as a collective process, aimed at recording and understanding patterns of mobility across the river.

Theodore Schatzki (2002) examines the dynamics between social practices and the local materials found in the environments people inhabit. He highlights the material outputs that emerge from these interactions at points of inflection and sheds light on the dynamic, socially embedded nature of memory (Schatzki, 2002). This framework allows for an investigation into how memory operates to shape human relationships with the natural environment. Nykvist and von Heland (2014) define socio-ecological memory as the accumulated experiences of ecosystem management retained by a society within a socio-ecological system. They consider this memory a source of robustness; something that can be cultivated and drawn upon to engage with, adapt to, and shape the social-ecological system under conditions of uncertainty and disruption.

At a broader level, and through a focused, practice-based perspective, the research aims to contribute to the growing body of knowledge surrounding the Orontes River. By drawing together the perspectives above, it seeks to deepen understanding of crossing as a socio-cultural and spatial phenomenon grounded in the interplay between natural landscapes and social practices shaped by material conditions. This interdisciplinary approach offers concrete insights into how memory absorbs the past, interacts with the present, and sustains local knowledge. Through this, the research contributes to expanding the theoretical framework at the heart of the environmental studies.

### III. The River as a Corridor of Transformations

The Orontes Basin has long been known for its difficulty of crossing, an aspect that shaped how the basin was historically defined and even influenced the naming of the river itself. The name al-Āṣī (the “defiant” or “unruly”) is said to reflect both the river’s unusual course, i.e. running against the flow of other rivers in the Middle East, and its resistance to those who attempted to cross it throughout the ages (al-Hamawi, 1979). Across the river’s layered historical perceptions, which often emphasized the challenges of passage, people continuously sought ways to make crossing its waters more navigable, devising various local means and techniques. The inhabitants of the Orontes Basin, driven by an unconscious impulse to contest the dominant image of the river, created and practiced diverse forms of mobility. In this way, the act of constructing methods for crossing became more than a functional task; it served as a living testament to the effort to overcome the river’s defiance.

This dynamic has given rise to various written accounts describing forms of mobility across the river, whether as lived conditions or as described techniques. Such texts are vivid in detail that invite readers to visualize the river’s many shifting scenes. Among the earliest of these is Herodotus, who in “Histories” documented aspects of the Orontes Basin’s natural landscape, linking its geographical features to human experience. He described the river as difficult to traverse due to its unpredictable flow and natural barriers such as rocks and rapids (Herodotus, Book 7), and pointed to the difficulty of communication between communities on opposite banks at the time. It is believed that Herodotus relied on accounts from travelers and explorers who had experienced the river firsthand. These early descriptions helped shape the enduring stereotype of the Orontes as a river of ‘difficult crossing’, a perception that persisted in the collective memory of the basin’s inhabitants well into the twentieth century and continued to influence their relationship with water, especially as drought began to affect parts of the river.

With the climatic and social changes that have affected the river over time, the inhabitants of the Orontes Basin have continually sought to renew their interaction with its waters. Whether for transportation, fishing, or harvesting reeds, those living along the riverbanks have adapted to shifting conditions and harnessed the force of the river’s flow to meet their needs. The emergence of wood as a primary resource for constructing tools of river mobility, due to its

strength and stability, marked a turning point. Reliance on locally sourced wood along the river's edge not only affirms the community's practical capacity for adaptation, but also reflects a deeper relationship with the river's material ecology. Wood became the preferred material for building crossing models - boats, rafts and canoes - which revealed a mutual interaction between the human and natural elements that shape the river's physical presence.

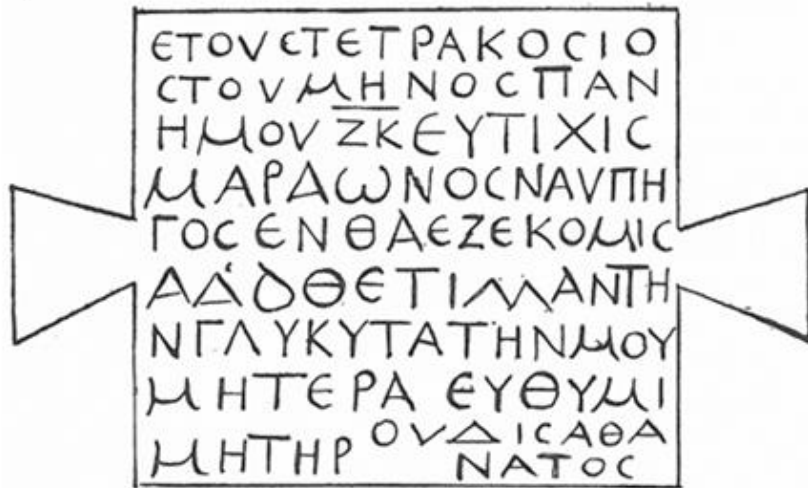
Wood use varied depending on the geography: it served as a key material in forested stretches of the river, while in other areas, wooden components became less prominent depending on location and surrounding disruptions. Despite the historical challenges posed by the Orontes as a contested material resource, it remained a vital source of life and sustenance, as well as a metaphor for turbulent realities particularly for those who depend on it for survival.

In a more detailed historical account of river crossings, Strabo noted in *Geographica* (1932, trans. H.L. Jones) that it was possible to travel the Orontes from its mouth at the Mediterranean to Antioch in a single day. His account draws on various pieces of local knowledge of the river, and acknowledges that, despite its difficulties, there were successful attempts to navigate and cross the basin.

The foundations of these river-crossing skills were shaped by human ingenuity and local knowledge accumulated through lived experience and passed down across generations. The enduring presence of skilled practitioners stands as evidence of the existence, transformation, and evolution of various crossing models over time. One of the most explicit testimonies was found in Darkush,<sup>2</sup> downstream from the Qarqur threshold along the riverbanks (Galbert and Moutradi, 1939): a passage from a boat builder's final homage to his deceased mother, dating back to 400 AD, in which he mentions his practice of boatmaking in bidding her farewell. This points to the presence of the craft at that time and recalls boatbuilding as a longstanding cultural practice along the banks of the Orontes.

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<sup>2</sup> Darkush is a town on the banks of the Orontes River in Idlib Governorate, northwestern Syria. The site holds archaeological and historical significance, with excavations revealing evidence of long-term settlement, particularly in connection to river-based practices such as boatbuilding and water transport. Located just downstream from the Qarqur threshold, Darkush lies in a region marked by watersheds and natural resources that have supported local communities' adaptation to their environment over centuries.



*Figure 3. Greek inscription at Darkush (Jalabert and Mouterde, 1939)*

*“In the year 400, on the twenty-seventh day of the month of Panemos, I, Eutyches son of Maron, boatbuilder, buried here my dear mother, Domitilla. Be brave, mother; no one is immortal.”*

*“In the year 800 BC, they discovered a mosaic panel that they placed in Apamea. It shows the practice in full detail - and that proves the craft is older than the mosaic itself.”*

– 54-year-old woodworker and boatbuilder, Orontes Basin, June 2024

Within the same historical context, various models of river crossing emerged in the Hama region, characterized by a strong artistic dimension. Their structures appear more complex in both composition and design than other documented models. A mosaic discovered in Souran, in the Hama countryside, depicts a boat with a single mast carrying four amphorae.<sup>3</sup> Beyond its artistic and aesthetic value, the mosaic invites the imagination to consider the diversity of practices and the multiplicity of vessel types ranging from flatboats to mast-bearing ships. These representations are generally viewed as reflections of how local inhabitants related to the river, rather than depictions of dominant technical methods. While many researchers interpret such expressions as metaphorical, the question of what types of transportation models were actually used by the river’s

<sup>3</sup> An amphora is a type of ancient ceramic vessel with a narrow body, pointed base, and two side handles, commonly used in Greek and Roman civilizations to store and transport liquids such as oil, wine, and water.

inhabitants remains open and deserves to be examined as a social and cultural resource deeply connected in the life of communities along the Orontes Basin.



*Figure 4. Structure for river crossing depicted in an early Byzantine mosaic from Sourane, preserved at the Apamea Museum. © O. Callot, 2005.*

Julien Ellicott's studies on boats references the mosaic from Souran (Figure 3): *"All known representations have allowed us, above all, to confirm the variety of boats used (flat-bottomed vessels, rigged ships), the modes of propulsion (sail, water-powered systems, and undoubtedly oars and towing), and the types of goods transported (amphorae, bales)... At best, these are perhaps more evocative suggestions than accurate depictions."*

What cultural purpose did these models of crossing serve as material cultural resources at the time? And how were they connected to the development of human societies in this context, as one of the engines for fostering communication between urban communities?

This practice is culturally tied to human activity and to the emergence of urban development, which took shape in the early fourth century BC. The region of Antioch, situated on the banks of the Orontes Basin (Bingöl, 2022), witnessed significant urban expansion following the defeat of the

Persians in 333 BC and the subsequent control of the region by the Macedonian and later Seleucid empires. During this period, major cities, including Antioch, were founded along the river. The city's growth laid the groundwork for documenting modes of human movement across the river. As the city expanded, the concept of river-based mobility evolved in tandem, and the river itself became integral to urban development. The idea of crossing the river emerged as a foundational element in the successive growth of cities surrounding Antioch, aiming to facilitate communication and trade among them. River navigation thus became central to a wider process of urban development across the basin. During this time, the river increasingly came to represent a defining feature of the evolving urban landscape of the Orontes Basin, both shaping and being shaped by it.

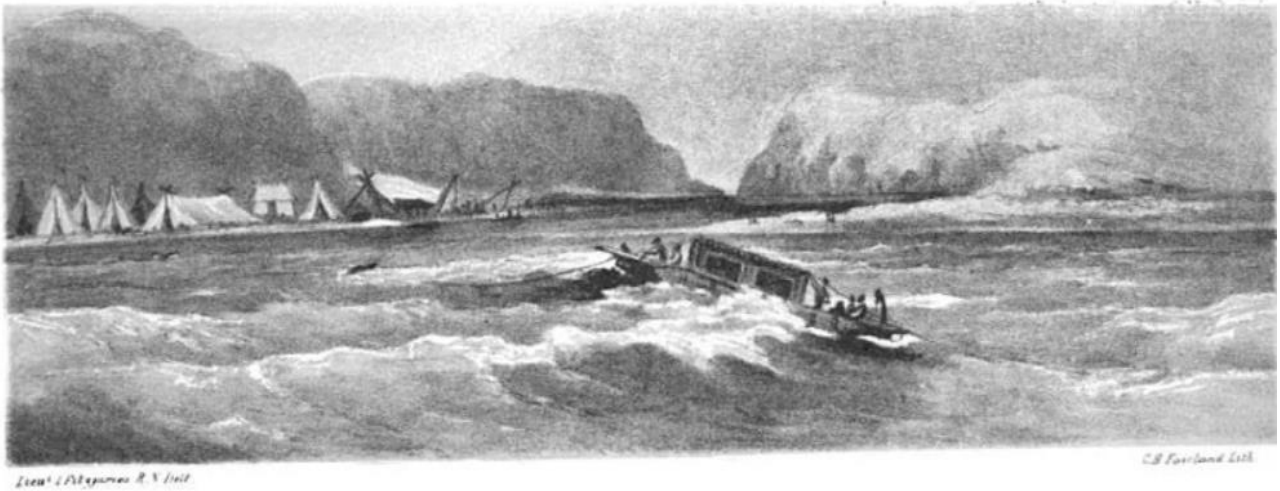
When the Romans assumed control of Syria and established the Roman province of Syria, the Orontes River was administratively divided into two major segments: its lower course was incorporated into Coele-Syria, while the upper section, including Homs, which was among the most prominent urban centers of the time, was annexed to Syria Phoenicia. The Romans invested heavily in the river's surrounding infrastructure, resulting in the construction of several dams along its course, most notably the Roman dam that now forms Lake Qattinah, known also as Lake Homs. In the context of strengthening connectivity among cities along the basin, Roman authorities even considered altering the river's course to facilitate access to various settlements along its banks. These plans included proposals for constructing artificial canals, interventions that reflect a fragmentation of memory associated with reshaping the river's natural path to serve human needs. Redirecting the river through unfamiliar terrain brought with it a host of challenges, foremost among them the redefinition of its flow, and the eventual divergence from its natural course. Over time, such alterations obscured the river's original features, making it increasingly difficult to recognize.

Among these proposals was one attributed to a Roman emperor<sup>4</sup> to divert the river's course by opening a canal that would allow merchant ships to sail from the Mediterranean to Antioch, thus facilitating the transport of materials and goods between cities (Jones, 1918). These early discussions underscore the relevance of the Orontes Basin as a corridor for mobility and laid the groundwork for exploring the river's potential. References to the types of wood found along its

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<sup>4</sup> The specific emperor is not definitively known, though some sources suggest it may have been Tiberius.

banks began to appear in the accounts of both Arab and Western travelers documenting transport across its waters. From this emerged a range of visions that imagined the boats on the Orontes as vessels born out of necessity. In the present, as the river no longer flows in certain stretches, the memory of crossing persists in the minds of its inhabitants, practitioners, and craftspeople, whether motivated by curiosity or functional, personal needs, rather than aesthetic intentions alone.



*Figure 5. The boiler passing the bar of the Orontes, lithograph after a drawing by James Fitzjames, 10 April 1835. In F. R. Chesney, Narrative of the Euphrates Expedition (London: Longmans, Green, 1868).*

### 3.1 River Crossing Methods in the Nineteenth Century

Mobility along the Orontes River changed significantly in the nineteenth century, particularly with the growing interest and expanding influence of Western powers (chiefly France and Britain) under Ottoman rule in the Middle East . Both sought to extend their political and commercial reach in the region, leading to economic and geopolitical interventions, especially in major urban centers like Aleppo and Antioch. This period witnessed a series of travel accounts offering varied descriptions of the Orontes landscape from the perspective of foreign observers. By the nineteenth century, navigating the river became a subject of curiosity and exploration for Western travelers, particularly the British, who were invested in developing water infrastructure to serve their imperial interests and to better connect the Eastern Mediterranean with India.

Numerous accounts documented the experience of river crossings during this time. Among them was Parsons, who during his 1808 travels through the Middle East crossed the Orontes on his route from al-Suwaydiya to Aleppo. He described the river as unusually shallow compared to previous accounts:

*“The river is so shallow that it is no longer navigable, as it was formerly, for boats of any size...”*

– Parsons, 1808

In a more detailed narrative, *The Story of the Euphrates* recounts the 1847 expedition of Francis Rawdon Chesney. Among his crew was James Fitzjames, who documented and mapped their path along the Orontes before the group departed northern Syria toward the Euphrates. One of the descriptions from this journey reads:

*“The small town of Suweidiyah, although only a mile from the ship, is completely hidden in the dense mulberry groves surrounding it.”*

– Madden, 1838

In descriptions of the river scene at the Bay of al-Suwaydiya, reference is made to the sight, and density, of mulberry trees covering the riverbed along which the boat was sailing. These writings, accompanied by Fitzjames’s illustrations, depicted the surrounding landscape and the potential for navigation despite the river’s strong current. They supported earlier claims that the river was “completely unnavigable.” Interestingly, however, Fitzjames’s drawings, scenic and panoramic in nature, did not emphasize the presence or density of mulberry trees, nor did they depict wood as a central feature of the scene. Instead, they portrayed the turbulence of the rushing waters and the difficulty of controlling river navigation. The boat depicted in these drawings appears markedly different from earlier visual representations in terms of structure and composition, and reflected the hardships faced during the journey.

*“At the end of the Suweidiyah Valley, the Orontes River flows between steep, towering mountains, descending over a rocky bed, shallow in places, and completely unnavigable. The view is wild and absolutely beautiful... while the valley is rich in mulberry orchards, which produce in great quantity.”*

– Madden, 1838

Nonetheless, references to river navigation persisted into the early twentieth century as a historical marker, even as the purposes and contexts of such movement evolved.

At the conclusion of Chesney's survey, and based on findings from his second expedition, framed through a distinctly Orientalist lens, he proposed "cleansing" the mouth of the Orontes and opening a 67-mile canal between the closest point of the Orontes to the Euphrates, thereby enabling ships to navigate the river. The aim of this proposed canal was to link the Mediterranean to the Persian Gulf, creating a shorter route to India. In 1850, and despite the Ottoman Empire's rejection of the plan, Chesney - an explorer and officer in the British army - was awarded the Royal Geographical Society's Gold Medal upon the publication of these results. Western expeditions to the Orontes Basin would continue throughout this period, driven either by curiosity or by strategic interests in investment and influence. Urban developments along the riverbanks played a prominent role in shaping the historical narrative of the Ottoman era, and were often foregrounded in records at the expense of local culture and traditional livelihoods. The neglect of the social and economic significance of rural areas, particularly in documentation, further reinforced Orientalist representations of the region.

An example of this perspective appears in the 1836 description by English traveler W. Burckhardt Barker, who wrote of the wooded landscape around the river:



**Figure 6. "Ferry over the Orontes". Engraved by G. W. Lowry after a drawing by W. H. Bartlett, published in *Syria, the Holy Land, Asia Minor &c. illustrated*.**

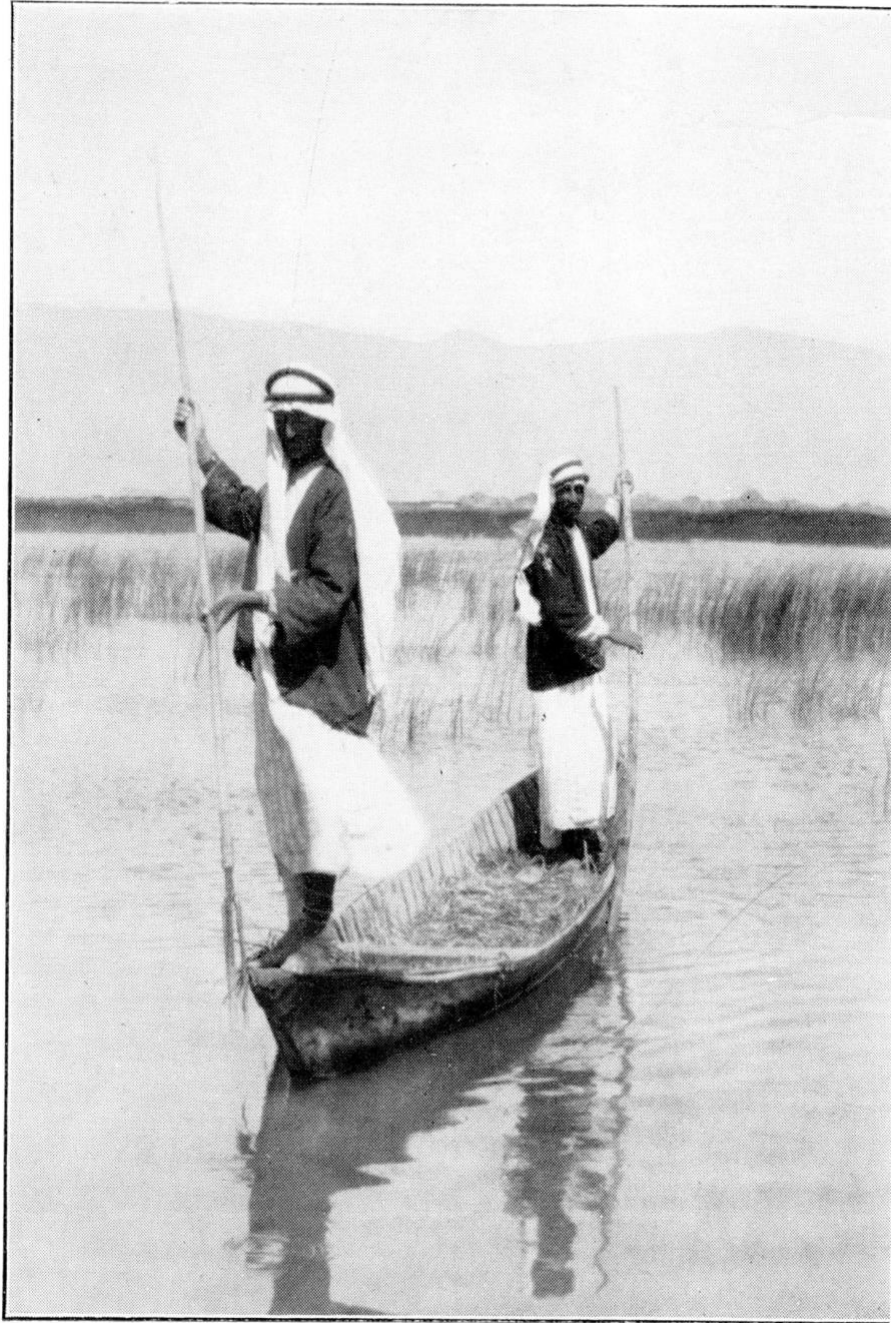
*"The source here springs innocently from a natural basin in the rock, in the shape of a triangle, about fifty paces long, and almost hidden on all sides by trees and bushes, of which chestnut, willow, and dwarf oak are the most common."*

– Barker, 1836

Following Chesney's expedition in 1850, John Carne visited Syria in the late nineteenth century. In his book *Syria, the Holy Land, and Asia Minor*, he offered an account of crossing the Orontes based on the region's urban and infrastructural development. He imagined Antioch as a vibrant hub of commerce and leisure, a vision ultimately dashed by the failure of Chesney's canal project. Carne noted that had Chesney succeeded in opening a canal between the Orontes and the Euphrates, it might have rendered the river navigable from al-Suwaydiya to Antioch. Interestingly, Carne's engraved illustrations include a depiction of a river ferry. Technically simple, the structure consists of two wooden elements secured with ropes on either side of the river, connected to the

body of a boat used for transporting livestock. The technique relied on locally available natural materials, common in the region at the time.

## IV. Orontes River Crossing in the Twenty-First Century



*Figure 7. Al-Ghab Plain before its agrarian development. From Richard Thoumin, "Le Ghab," Revue de Géographie Alpine 24, no. 3 (1936).*

Crossing practices are tied to the collective memory of the communities that lived them, whether through written accounts and records by earlier travelers, or through individuals within the local community whose names are remembered, often as practitioners or skilled experts. With the continued wave of exploratory visits to the Orontes River, the twentieth century saw the emergence of specific figures from within local communities, whose individual presence at the time played a role in shaping collective memory through their crafts and ongoing practices. The community remembers these artisans and the elders of the craft - known as *shuyūkh al-kār* - whose names are often associated with certain places or lineages, and who are frequently linked to other trades that rely on similar raw materials. One such example is 'Abd al-Razzaq Abū Khusrayn, a well-known craftsman in the city of Hama, famous for building wooden *nawā'ir* (waterwheels) in his workshop near the Saraya Bridge.

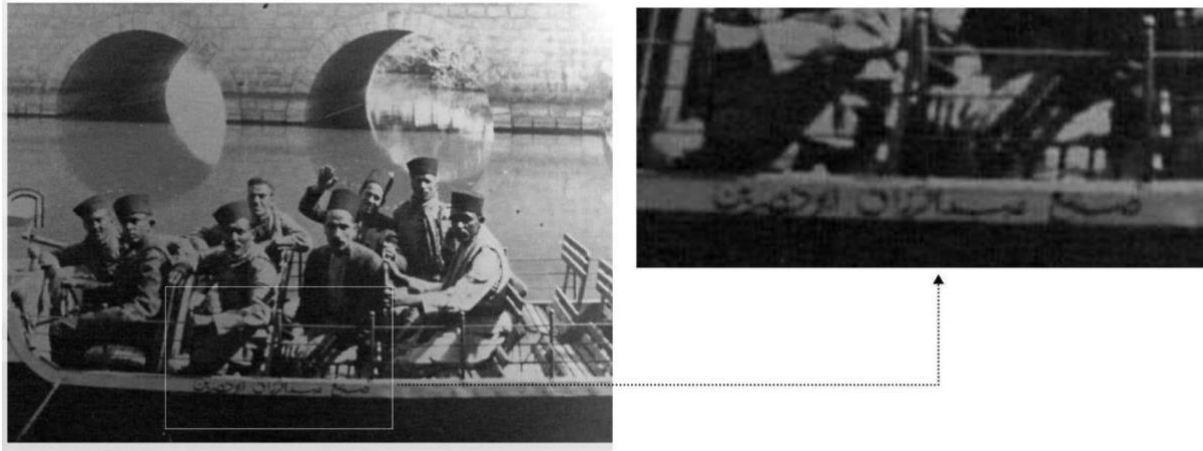
In efforts to recall such practices, they do not appear merely as responses to functional needs within the community, but rather as integral to the community's individual and collective memory, especially when seen in relation to the long history of such practices along the banks of the Orontes.



*Figure 8. In the marshlands of al-Ghab in the early 20th century (Weulersse, 1940).*

*“I never lived in Hama, but my father used to tell me about fishing at early dawn, especially near the Marakeb bridge.”*

– A 20-year-old Damascus resident originally from Hama, July 2024.



*Figure 9. A traditional boat on the Orontes in Hama, carrying eight passengers. The name written on the hull is that of the craftsman, Abdul Razzaq Abu Khusrin, known for his work on Hama's waterwheels.*

*“They used to say the water would come and go. Now, nothing comes. There are dams, and depending on the season, we pump water with electric motors, but still, nothing comes. We even changed our seasonal crops so they wouldn't require much water.”*

– A 45-year-old farmer on the edges of the basin in the Ghab region, June 2024

Radical changes in the surrounding environment have been central to the decline of river crossing as a living practice along the Orontes. From the 1930s until relatively recently, records show that wooden boating structures in the Ghab region were traditionally crafted using long-standing techniques (to be detailed later). These handmade boating structures were once woven into the fabric of daily life and cultural exchange in the Ghab, a landscape shaped by the Orontes and known for its vast marshlands.

One of the most significant changes to the river's course occurred in 1956, when a project was launched to reshape the region's geography. The basalt sill at the lower end of the Ghab was breached, opening a channel that enabled the full drainage of the marshes created by the Orontes

Basin. Between 30,000 and 32,000 hectares of wetland were dried and converted into irrigated farmland (de Miranda, 2007).

In 1969, this newly arable land was redistributed to farmers under the Agrarian Reform Law (Tomin, 1936), with the aim of improving agricultural output and supporting local producers. While this transformation brought economic gains and boosted agricultural productivity, a visit to the river in 2021 revealed the fading of one of the river's traditional subsistence functions - fishing. The gradual disappearance of fisheries naturally contributed to the decline of boatbuilding, a craft that had once been a recurring feature in the region. The drainage of the wetlands and the subsequent redistribution of land marked a dramatic shift in the natural and cultural landscape of the Orontes. Over time, the demand for wooden boats diminished, and the practice began to vanish from the region, leaving only traces of it in the collective memory.

*“There used to be fishing boats on the [Orontes] River back when the water was plentiful. These boats were made specifically for fishing - not like the ones we see now coming from Tartous to transport people. We’re talking about wooden boats. They came in all sizes, starting from the smallest. Back then, the whole vessel was made of wood. Even in the time of Prophet Noah, as the Qur’an tells us, it was built from wooden planks, with dusur as nails. From the time of Noah all the way up to the twentieth century, boats were made of wood. Even now, they still exist. They’ve been replaced when necessary with rubber or metal, but no matter how much we try to move away from it, wood still carries a kind of spiritual weight. It still has meaning. Nothing really compares to wood.”*

– Woodcraft practitioner when speaking about materials, May 2024

*“Sometimes I forget the river even exists... If you hadn’t asked me, I wouldn’t have mentioned it.”*

– 22-year-old resident living on the banks of the Orontes Basin, December 2023.



*Figure 10. Transport in the marshes of the Ghab Plain before the Ghab Project (Weulersse, 1940, Figure 229)*

The shifts in the local community's perception of river crossing arose from necessity and evolved alongside broader contemporary changes. These shifts were accompanied by a kind of amnesia,<sup>5</sup> a loss of memory related to the river, understandable in light of ongoing events and the weakening of the relationship with the river, its material forms, and situated practices.

Today, the Orontes Basin has become largely absent from public discourse among those living along its banks. This is due to the sharp decline in the usability and appeal of its waters which is scarce in some areas and heavily polluted in others. As a result, the river's place in people's living memory is increasingly relegated to the past - not only in spatial or physical terms, but in social and cultural terms as well.

These forms of forgetting can be traced in changes to the practice of crossing. During a conversation with a resident of the al-Ghab region on one of his fishing trips in a metal boat, he

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<sup>5</sup> The word *amnesia* originates from the Ancient Greek *ἀμνησία* (*a-* meaning "without" and *mneme* meaning "memory"), signifying "forgetfulness" or "loss of memory." It entered medical Latin before being adopted into English in the late 18th century.

recalled the wooden boats his father once used, and pointed to the disappearance of boatmaking due to the depletion of forest resources in the area. “There’s no wood like there used to be, it’s a lost craft now, really” His words encapsulate the core reason behind the rapid transformations in spatial practices tied to river mobility and wood usage. This shift pushed fishers and farmers to either use lower-quality wood to build makeshift boats (resulting in accidents and drownings), or to turn to cheaper, more accessible materials such as metal or rubber. Even so, the practice itself has begun to vanish, as water flow continues to decline across much of the basin. River crossing is no longer a familiar aspect of daily life .

The practice of boat building using traditional methods relied heavily on the functional properties of wood as the primary and basic material.

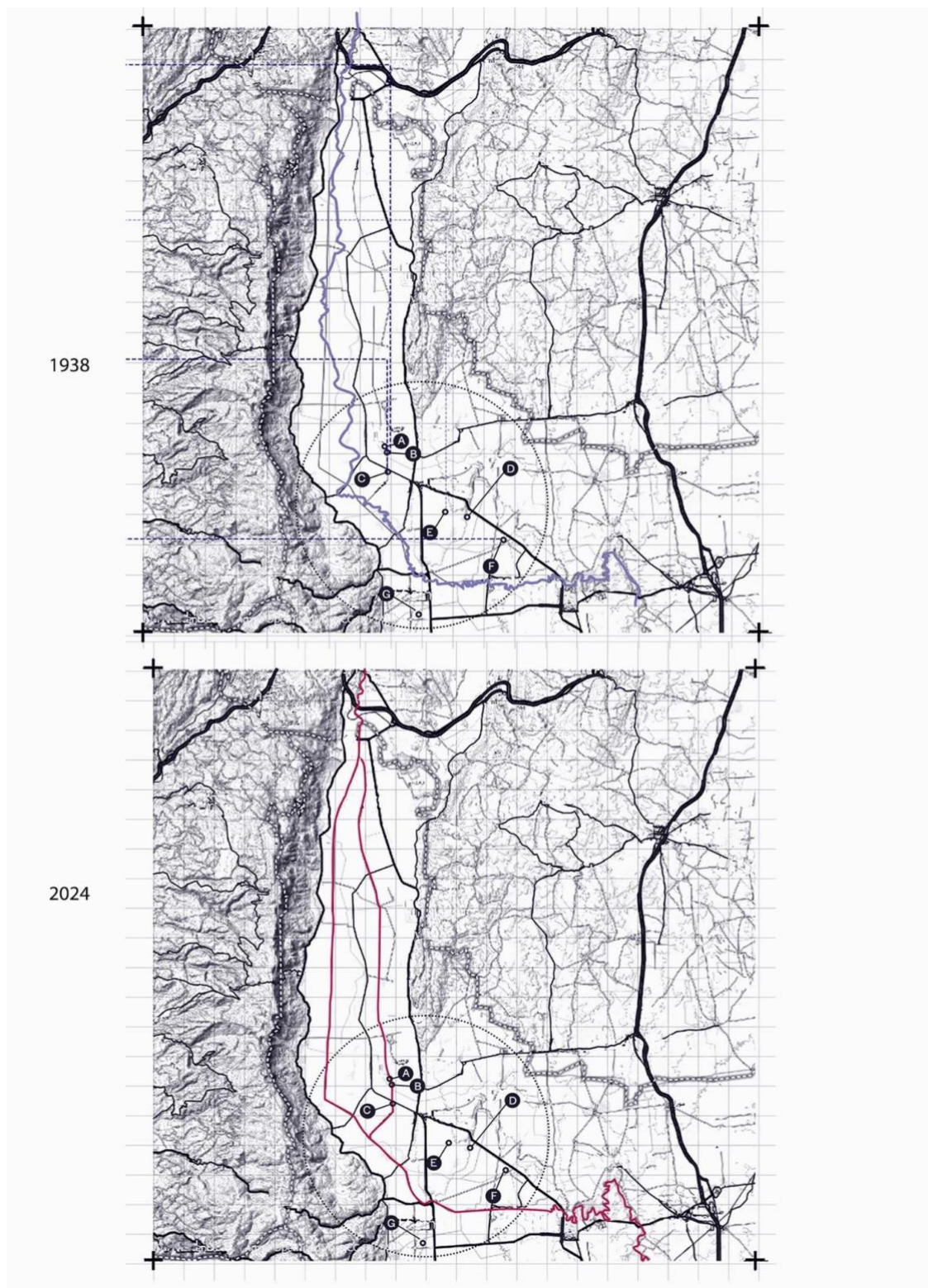


Figure 11. The changing course of the Orontes River after the agricultural reform project - Al-Asi Repository.

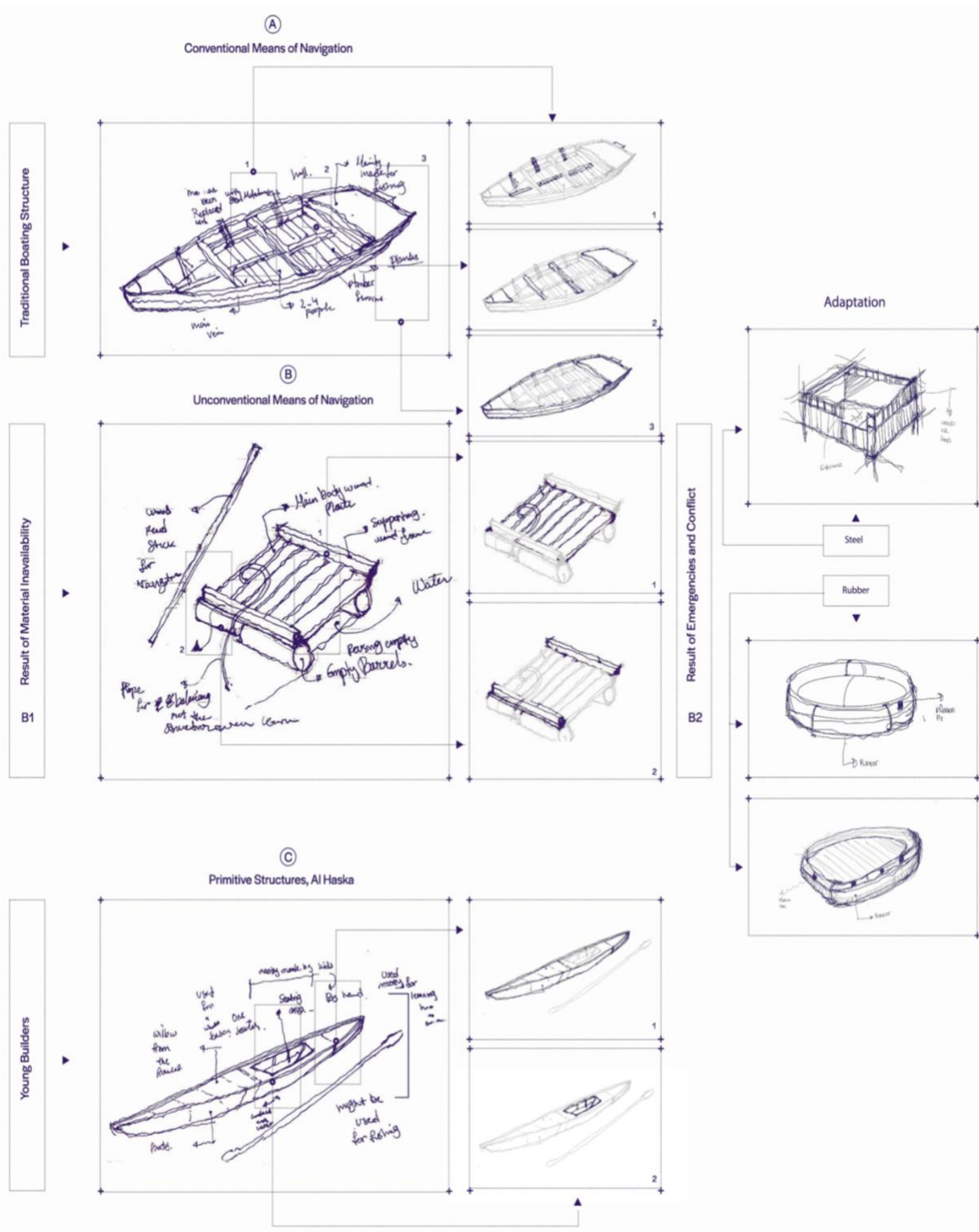


Figure 12. Analysis of crossing techniques in the Orontes Basin, [www.waterarchivesyria.com](http://www.waterarchivesyria.com)

## V. Forms and Techniques used in crossing the Orontes River

*“Back then, we had poplar, eucalyptus, and willow. In the old days of the Orontes River, ever since the waters first entered from Lebanese territory, both banks of the river were lined with willows. I remember as a child, going down to swim in the Orontes... you couldn’t even see the sun. The willows from one bank met the willows from the other. They nearly touched.”*

*“That’s why we used to have so many willows around here. Willows grow on their own; they’re not planted. Same with poplars; they’re forest trees, like pine and cypress. All of them - poplar, cypress, pine, eucalyptus - are forest trees, and many are planted specifically for their wood. As for fruit-bearing trees like mulberry and walnut, those are the ones we use most in woodworking.”*

– From an interview with a woodcraft practitioner, June 2024

In the context of the Orontes River, forests have played a crucial role in shaping the character of its banks. Conversations with artisans who have inherited their craft over generations reveal that much of the wood used to construct boats and transport models was locally sourced from the orchards of Hama and Homs. Wood held more than just functional value; it carried embodied knowledge and local craftsmanship, especially in its role in enabling mobility. It was particularly well-suited for building structural elements like hulls and frames, even with the most rudimentary tools and techniques.

Among the key sources of timber mentioned by today’s artisans were poplar trees, known for their fast growth and straight trunks. Poplars provided a strong, durable material, well-suited for construction. Reaching heights of up to 18 meters, they loomed large in both the physical landscape and the collective memory of the community, often described as lining the river so densely that their canopies covered the water entirely. Artisans also recalled using these trees to secure watercraft with locally made ropes. Poplars thrived in the orchards of Hama, particularly along the riverbanks and the edges of irrigation canals that cut through the agricultural fields. These areas,

known as hawra, were previously dedicated exclusively to the dense cultivation of these trees, uninterrupted by other crops.

The dense foliage of poplar trees forms a natural canopy often used by farmers for raising poultry. Most orchards were once lined with poplars, and orchard owners had the right to harvest their wood for building transportation models and maintaining the waterwheels that irrigated their land. Today, with the responsibility for maintaining the *nawā'ir* (waterwheels) transferred to the Hama Municipality, a dedicated grove of poplars was established near the iron bridge on the river's left bank. These trees are regularly harvested to supply wood for the systematic restoration of the *nawā'ir*. The tall, straight trunks of the poplars are especially suited for shaping the waterwheel's arches, each one spanning half its diameter. Poplar wood, whether as planks or full logs, also remains a staple material in the construction of traditional Arab house roofs.

The process of selecting wood passes through several stages. The first, and most crucial, is choosing the species. This foundational decision shapes the structure and function of the transport models to be built. In interviews with local woodworkers, the selection process was described as both technical and sensory. Residents would survey the willow and poplar trees lining the riverbanks - once celebrated for their abundance - seeking those with the straightest, most pliable trunks. Each tree would then be examined for hardness and texture to ensure its strength and suitability (as noted in an interview conducted with a practicing woodworker).

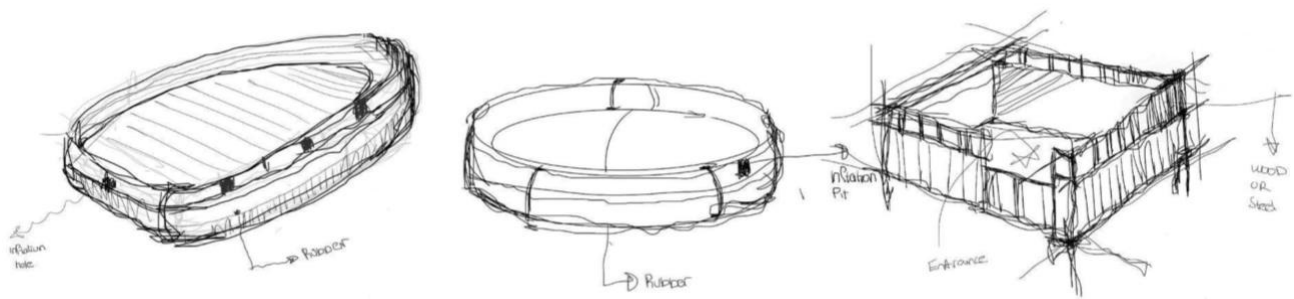
Practitioners have noted a shift in several dimensions of how materials are locally used. The first major change emerged with the decline of poplar and willow trees along the riverbanks of Hama and Homs, prompting a turn toward eucalyptus - a naturally less durable material for construction purposes. Over time, this transition marked a broader transformation in the material culture of river-based practices.

During periods of crisis and war, transport challenges have taken on urgent and unpredictable forms, where time becomes a decisive factor. Over the past decade, residents across the Orontes Basin have faced circumstances that required immediate crossings - driven by the need to escape danger or rescue loved ones.<sup>6</sup> In such moments, people have improvised passage using

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<sup>6</sup> The crossing methods in the Orontes Basin are not limited to those mentioned above. The following sketch drawings represent preliminary models of river mobility. Residents of the basin have devised a variety of approaches to crossing the river, each with its own logic and definition.

unconventional materials and methods, including flexible rubber or makeshift metal structures capable of transporting many people, or quickly assembled floating devices built from household items. In these instances, safety is often sacrificed for immediacy; the pressing need to cross outweighs all other concerns. This shift has also brought about a fundamental rupture: wood, a material long embedded in the region's ecological and cultural fabric, has increasingly been replaced by elements foreign to the natural landscape. Rubber, plastic, and iron now dominate the scene, favored for their availability, affordability, and durability to water exposure, and it was this shift that enabled people to devise new models of mobility.



*Figure 13. Sketch drawings of various transportation structures in the Orontes Basin, Al-Asi Repository.*

## 5.1 Models and Methods of Traversing the River

Throughout history, the Orontes River has been associated with diverse patterns of movement which, in each iteration, reflected the evolving relationship between human communities and water. Such practices have responded to shifting environmental, economic, and social conditions and are deeply rooted in the collective memory of local communities. Examining them reveals the vivid interaction with nature, as well as the adaptive strategies developed and passed down generationally.

This section traces and analyzes three primary modes of river crossing that have emerged along the banks of the Orontes. It begins with the traditionally dominant model: the wooden boating system- a key means of subsistence used for fishing and everyday transit. It then explores a less common form: the raft or ferry, often associated with emergency crossings or improvised solutions during periods of scarcity or crisis. Lastly, the section examines adaptive mobility models that arose in response to environmental and economic transformations, including the use

of metal boats and repurposed materials, alternatives that emerged from wood scarcity and the decline of natural resources. Together, these mobility practices reveal the diversity and resilience of the community's relationship with the river as both a vessel of memory and a space for movement and survival.

## 5.2 The Dominant Mode of Transportation: Traditional Boating Structure

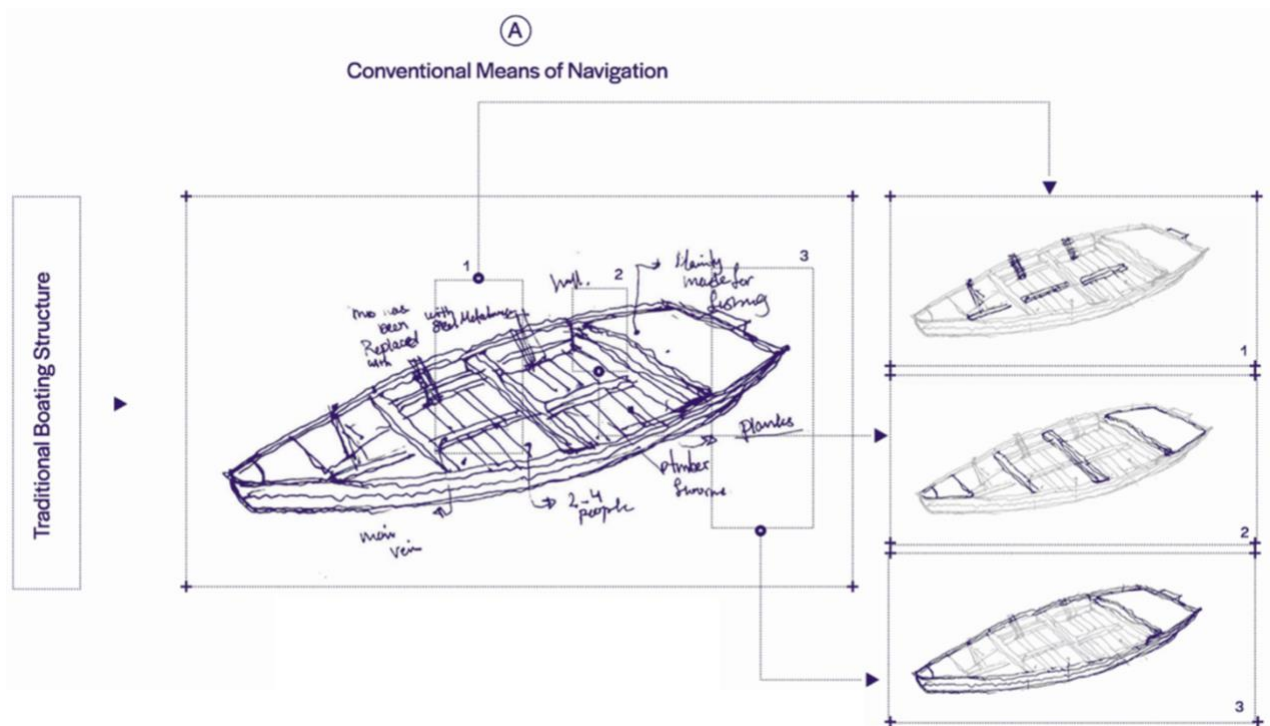


Figure 14. Schematic drawings of the traditional boat structure - Al-Asi Repository

*“The boats on the Orontes have become very small. There are two types: those made of eucalyptus wood, and others made from fennel. But the foundation was always wood.”*

– Interview with a woodworking practitioner, June 2024

*“The boat, like any wooden product, starts with a body - a large piece of wood that forms its backbone, shaped according to the boat's form. Then there are transverse planks along the hull, each with specific lengths and dimensions. I'm not sure of the exact details, and we'd need to ask someone else. But if the wood is too long and thin, I don't think it would work. I imagine there are international standards for boat dimensions. But basically, they*

*bring the wood, build the body, cover it with outer planks, and paint it with an insulating material, like putty, to keep the water out. After that, they add another layer, then go out with the boat to install the sails, do more adjustments, and add the engine.”*

– Interview with a Woodcraft Practitioner, June 2024



*Figure 15. Boats on the Orontes near the al-Jabiriya and al-Sahiuniya waterwheels, Hama, 1949. Water Commons Archives, Al-Asi Repository.*

Local practitioners shaped the traditional wooden boat through embodied spatial practices that resonated with the memory and environment of communities along both banks of the Orontes. Used primarily for fishing, the boat was one of the most familiar and widespread models of river mobility. However, the most significant transformation has been the shift from natural wood to iron as the primary construction material.

The original model of this crossing began with the careful selection of wood, as previously discussed. Once selected, the artisan turned attention to the frame, which is the structural base upon which the boat would be built. Using simple tools, the stringers were shaped to match the imagined curves of the hull. Then came the wooden planks that served as the core of a traditional boat frame. These were fixed to the frame with ropes or wedges, if available, and made pliable

through steaming, allowing them to bend gently and hold firm against the structure, forming a smooth body capable of withstanding the harshness of the river.

As the frame took shape, focus shifted to the finer details. Wooden pegs and metal nails were hammered into place to anchor the planks securely. Gaps between the panels were filled with caulking material to insulate the hull against the moisture of the river and the shifting weather conditions around it. Once the hull was complete, practitioners added the finishing touches: sanding the wood to a smooth finish and applying protective coatings to increase durability. Finally, the boat was assembled: its deck, seating, and rims carefully fitted and reinforced to ensure reliability. Once completed, the vessel would sit ready in the workshop, awaiting its return to the waters of the Orontes River.

*“All of them were found along the river in Hama, and sometimes in the surrounding countryside. But there were also types of wood they would bring from places like the monastery, for example. The hardest to work with was poplar. Poplar, walnut, and eucalyptus were the most difficult. Now, walnut is no longer available. We mostly rely on eucalyptus these days.”*

– From an interview with a woodworking practitioner, June 2024

In discussing the material used in crafting boat models, one practitioner noted that as wood became increasingly scarce along the Orontes, it was at times imported from other regions of Syria, most prominently Deir ez-Zor and the Ghouta of Damascus, to sustain the riverbank woodcraft traditions. By the end of the twentieth century, poplar branches, once abundant and pliable, had become rare. The tall poplar trees that had long formed the structural backbone of boat frames were steadily disappearing.

Today, wood has been almost entirely replaced by metal in the making of Orontes boats. This shift coincides with the river’s accelerated drying over the past decade, a result of climate change that has drastically affected the region, altering crop patterns and depleting water levels. Even modified versions of traditional boats have become increasingly rare. However, some individuals who still rely on fishing for their livelihood can be seen using the updated model: iron boats equipped with electric motors, now a common sight along the shrinking river (Figure 2).



Figure 16. Non-dominant method of traversing the Orontes (ferry).

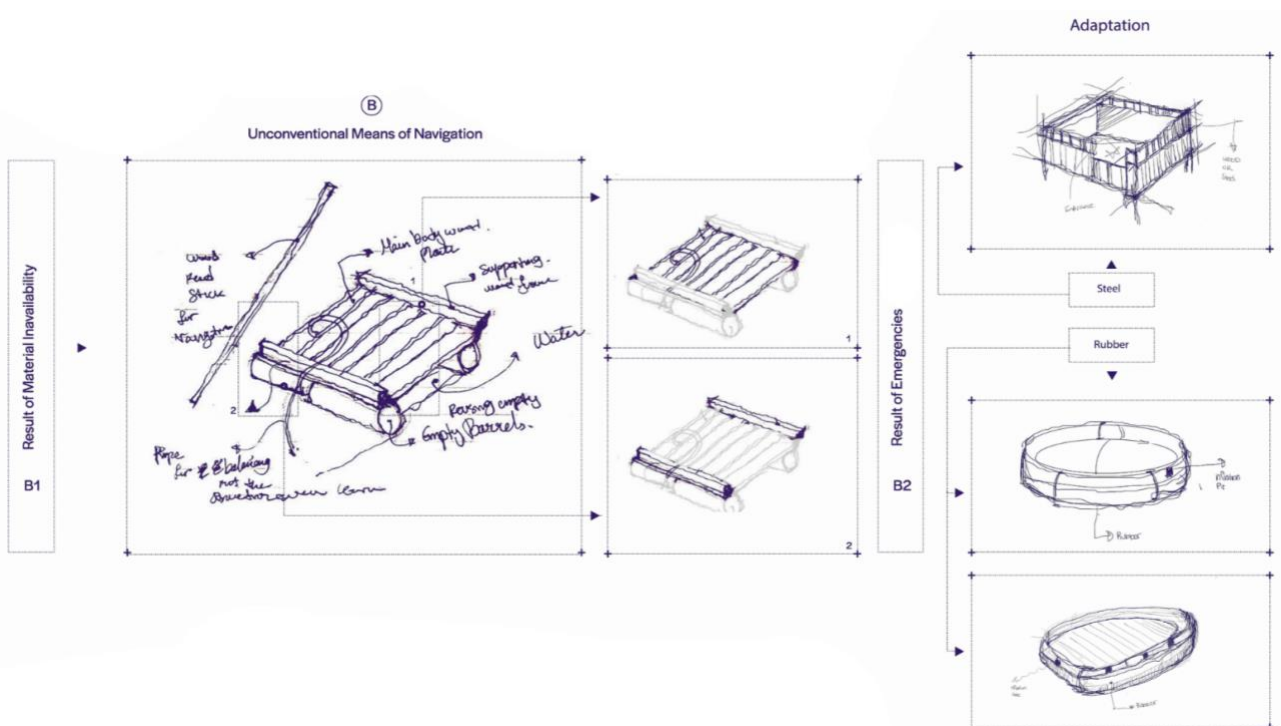


Figure 17. Sketches of the raft structure, Al-Asi Repository

## 5.3 The Non-Dominant Model of Transport and Its Adaptations: The Ferry

Shifts in perception during times of necessity - say, when crossing the river becomes a matter of urgency - have been key drivers in diversifying mobility practices. In such exceptional moments, marked by ruptures in memory and landscape alike, individuals hone adaptive skills suited to emergency contexts. The notion of river crossing transforms from a practice of exploration and livelihood into an imperative for survival. These conditions bring about noticeable changes in craft and technique. With residents once accustomed to the supple bend of willow and poplar branches, a turn toward unfamiliar materials began to surface. Metal emerged as a favored alternative for many artisans, valued for its durability and versatility. Over time, metal boats became more widespread and efficient. Alongside them, improvised forms of escape and movement emerged, often made from repurposed materials such as plastic, rubber, and old tires, resources drawn from the immediacy of daily life in times of crisis.

Wood scarcity along the Orontes placed craftsmen at a crossroads. No longer able to rely on the traditional materials that had sustained their work for generations, they turned instead to imported timber sourced primarily from Ghouta, near Damascus (as reported in interviews with current woodworking practitioners). Although distinct in grain and character from the familiar willow and poplar of the Orontes, this new wood held the promise of continuity. Yet as the groves dwindled, so too did access to this resource. The once-common sight of Orontes craftsmen seeking the ideal tree for their next boat became increasingly rare. Willow, once flexible and abundant, had become scarce, and the number of towering poplars, for long used as the backbone of boat frames, steadily declined as well. As the urgency of river crossing increased, the shift extended beyond material substitution. It demanded a fundamental rethinking of techniques and practices - those honed over centuries of intimate relation with the river. The dwindling availability of timber prompted local communities to devise alternative strategies for navigating the water. This section documents one such example: an unconventional ferry and raft design, shaped in response to harsh environmental conditions and the narrow margins of available material.

Figure 18 offers a visual example of these improvised vessels and illustrates a practical response to resource scarcity. The device consists of five basic components, each serving a specific purpose to ensure flotation and mobility in the currently stagnant waters of the Orontes.

At its core is a wooden plank, which acts as the main platform upon which the user stands. Though the type of wood may vary, it must provide a stable surface. The supporting beams, which are attached beneath the plank, do not follow standard dimensions but are adapted from whatever materials are available at the time of construction. These beams provide structural integrity and help distribute weight evenly, reducing the risk of capsizing.

Four barrels are fastened to the beams beneath the plank, enabling the whole structure to float. Their inclusion exemplifies the creative reuse of readily available materials to compensate for the unavailability of conventional boatbuilding resources. Navigation is achieved using a single wooden pole, often made from strong wood such as poplar or eucalyptus. This simple tool enables manual propulsion and steering, which is an essential adaptation in times of low water flow. To prevent the vessel from drifting, it is typically tethered to the riverbank with a rope tied around a tall tree.

What distinguishes this model is its minimal reliance on wood and the incorporation of recycled elements (such as plastic) beneath the structure to support flotation. It also requires no specialized skill or craftsmanship, having emerged instead from local experimentation.

In response to mounting environmental and social pressures, residents have shown remarkable adaptability. Through trial and error, they developed makeshift tools and floating platforms that meet their needs. Against the backdrop of a river undergoing its own transformations, these practices stand as a testament to the ingenuity of those who live along its banks, which serves a reminder that even in times of scarcity and uncertainty, the communities of the Orontes Basin continue to adapt through the everyday industries that they forge.

## 5.4 Young Builders and the Culture of Hasakah Construction

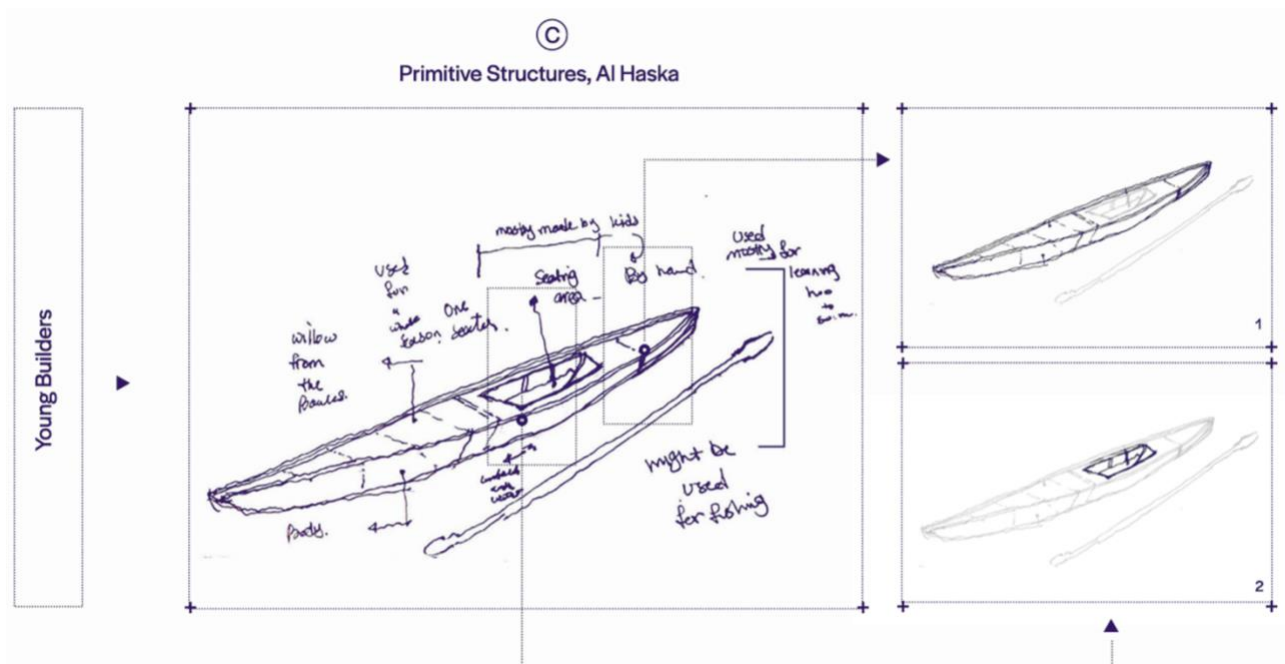


Figure 18. Schematic drawings of the Hasakah structure, Water Commons Archive/Al-Asi Repository

*"Some of the young men living along the banks of the Orontes River built their own small wooden boats, known as hasaka. These handmade boats remained afloat throughout the summer, moored to overhanging willow trees. Each day, they would row them along the river, traveling from Saqiat al-Maamouriya to Saqiat al-Bishriyat al-Arba'a, passing through dense groves of willow along the way."*

In a scene deeply embedded in the memory of the Orontes Basin, residents on its edges often recall the hasakah as a river-specific mode of transport. One resident describes how, even today, the building of a hasakah (in its most rudimentary form) is often taken up by children in Hama, as a way to engage with and become familiar with the river's waters.

The basic structure of the boat consists of a narrow body designed to provide stability on the water. A shallow, carved-out area at the center offers a place for the young rower to sit, shaped to ensure balance during use, which is an essential design consideration for maneuverability and control. A simple steering stick, similar to those used in other models, is employed to direct the vessel. Despite its simplicity, this tool allows for precise navigation, enabling the children to travel along

the river and among the willow groves (according to the testimony of a local resident of the Orontes Basin).

Through these boats, young builders are able to explore their environment and engage in a form of practical learning rooted in experience. The act of constructing and navigating the *hasakah* becomes a medium for understanding their ecological surroundings and connecting with traditional crafts. This model has seen little alteration over time. Its form has remained largely unchanged, not only because it requires minimal materials, but also because its primary purpose has always been recreational and educational. Unlike other forms of transport that have shifted toward metal or recycled components, the *hasakah* continues to be shaped from wood, which remains the principal material in its construction.

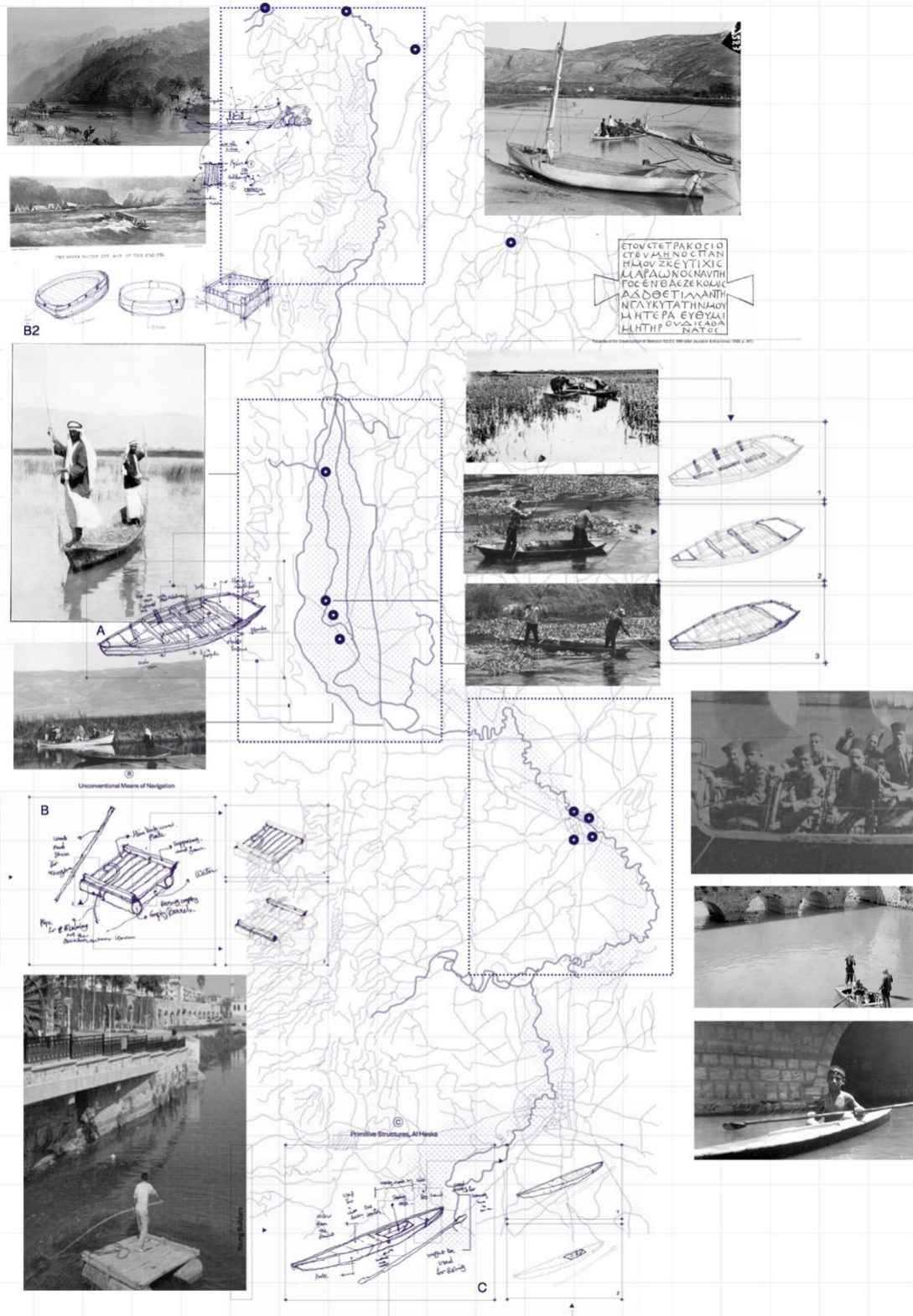


Figure 19. Geographical tracking of migration, Shared Water Archives [www.waterarchivesyria.com](http://www.waterarchivesyria.com).

## VI. Comparative Analysis of the Three Models

### 6.1 Formal Comparison of Structural Approaches

Across the various means of crossing the Orontes River, the three models studied (the boat, the *hasakah*, and the raft) differ in their methods of construction, materials, and form. While they share certain foundational elements, especially in structure and function, each embodies a distinct design logic shaped by environmental conditions, material availability, and use. Both the boat and the *hasakah* are built around a wooden hull. The *hasakah*, a more rudimentary form of the boat, is shaped as a narrow canoe, typically for individual use. In contrast, the raft diverges significantly, using a flat wooden plank as its primary surface, supported underneath by makeshift flotation aids.

The materials used in these models have shifted over time. The boat, once made of local poplar and willow, is now predominantly constructed from metal due to the scarcity of quality wood and the relative affordability and availability of metal. In the raft, the use of plastic barrels as flotation devices mark the introduction of materials alien to the river's natural landscape. These adaptations reflect broader material transformations across the basin, especially in times of crisis, where even emergency models exhibit radical departures from traditional materials.

In terms of support structures, the boat is reinforced with a full framework of main and secondary supports that stabilize the hull. The raft, however, relies solely on lower supports attached beneath the plank, depending on the user's balance while standing on its surface. The *hasakah* retains its small, carved-out form, optimized for a single user sitting at the center to maintain equilibrium.

All three models employ rudimentary steering tools. In the boat, this has recently expanded to include electric motors installed by fishermen and farmers to navigate the now-stagnant waters. The raft is steered using a simple wooden pole, while the *hasakah* is navigated manually by young rowers learning to maneuver through the river, an activity both playful and instructive.

Capacity also differs: the boat can carry up to eight passengers, while the *hasakah* is designed for a single user, and the raft is limited to one standing person, without seating.

As for mooring practices, the *hasakah* is often tied to tall willow trees along the riverbanks. According to one resident of Hama, young builders typically secure their *hasakah* at day's end by

fastening it to a tree, a gesture that reflects both care for the object and familiarity with the landscape.

## 6.2 Comparative Analysis of Construction Motivations

In the dominant model of mobility the Orontes River, the boat is typically built by specialized craftsmen, many of whom have a background in woodworking or have worked on the construction and maintenance of waterwheels. These boats are produced and sold for strictly functional purposes, primarily for fishing or transportation. While the crafting of traditional boats is associated with broader woodworking skills, the researcher did not document any artisans who specialize exclusively in boatmaking along the Orontes Basin. By contrast, the non-dominant models, such as the raft, are constructed by non-specialist users, often for immediate, practical needs. The raft's makers repurpose wood scraps to form the flat base and recycle plastic barrels to provide buoyancy. These improvised models are still in use along the river's edge, especially in areas with limited access to formal transportation methods. One resident noted that some fishermen today use inflated rubber tires, straddling them while fishing in an adaptation born of necessity.

The *hasakah*, meanwhile, is built by children and youth experimenting with rowing and engaging the river as a space of learning and play. They use whatever types of wood are available locally, and the model has remained materially unchanged over time. Though the *hasakah* has largely disappeared from the visible landscape of the riverbank, it continues to hold a significant place in the collective memory of the Orontes Basin's riverine communities.

## 6.3 A Comparative Study of Model Transformations

The dominant model (the boat) has undergone two major transformations in terms of materials. The first is a partial change: replacing traditional woods such as willow and poplar with eucalyptus, while maintaining the same structural model. The second is a complete shift in material, with the wooden structure replaced entirely by iron and the addition of an electric motor.

According to interviews, these two shifts have had contrasting effects. In the first case, i.e. switching from willow and poplar to eucalyptus, the vessel became less durable, due to the inferior structural qualities of eucalyptus and the scarcity of the previously used woods. In the second case, wood was entirely abandoned in favor of iron, which, while technically more durable, marked a

cultural rupture from the traditional material identity of the boat. Thus, while the model's functional performance may have improved, its symbolic and ecological resonance with the river landscape was diminished.

| Element            | Dominant mode of transportation | Non-dominant mode of transportation | Basic boat-making |
|--------------------|---------------------------------|-------------------------------------|-------------------|
| Illustration       |                                 |                                     |                   |
| Wooden body        | Present                         | Unavailable                         | Present           |
| Wooden plate       | Unavailable                     | Present                             | unavailable       |
| Main supporter     | present                         | unavailable                         | unavailable       |
| secondary supports | present                         | present                             | unavailable       |
| Barrels            | Unavailable                     | present                             | Unavailable       |
| Routing tool       | present                         | present                             | present           |
| Rope               | unavailable                     | present                             | unavailable       |

The raft, as the non-dominant mode of river transport, can be seen as a variant of the boat, adapted in response to emergency conditions. These adaptations, mostly driven by material constraints, have altered the form and structure of the vessel, and the materials used in its construction.

## VII. Conclusion

In communities formed around rivers, collective memory is closely tied to the local knowledge that emerges from daily interaction with the river itself. This knowledge plays a central role in

shaping perceptions and practices that embed themselves in the memory of those living along its banks. Based on this idea, the research traces mobility in the Orontes Basin, following the perceptions and adaptations developed over time. These perceptions are reflected in various written accounts, with some attributing boatbuilding to personal identity and others framing it as a challenge to be overcome. As the river became a site of exploration, such writings began to describe it from diverse vantage points: natural and geographic inquiry, expansionist ambition, or orientalist projection. Through these lenses, the crossing of the Orontes has been depicted across time and into the present. This memory trail helps illuminate the evolving relationship between people and their environment.

By examining how these perceptions relate to the lived realities of river communities in the basin, the research identifies current techniques in use today, including how different natural materials are sourced and adapted. Wood, in particular, has played a key role in shaping riverine memory whether abundant, scarce, or absent. As a primary material, its presence has historically influenced spatial practices, and its transformation or replacement has signaled shifts in how people engage with their environment under changing social and economic conditions.

The findings of this research indicate that the environmental and climatic changes experienced in the Orontes River region, particularly in recent decades, have directly affected local knowledge tied to river crossing methods. The decline of vegetation cover and the disappearance of key natural resources have altered the materials and techniques used in boatmaking, resulting in changes to both structure and use. In response, hybrid models have emerged, adapted to new conditions through the use of substitute materials or the repurposing of parts from older vessels. However, these transformations were not purely technical. They carried social and cultural weight, as some practices faded from daily life and shifted into the realm of collective memory. Certain methods are no longer in use, but remain alive in oral histories and family stories, having marked their symbolic role in shaping the spatial and cultural identity of river communities.

At the same time, other models have continued in limited use, particularly in areas that have retained elements of their ecological context or developed forms of local adaptation.

Through an analysis of the three models documented in this research, it became evident that each holds distinct features that speak to the relationship between environment and local knowledge -

from the origin of materials used, to the function each model was designed for, to the modifications shaped by shifting conditions. Together, these insights offer a fuller picture of how environmental change influences the production, continuity, and erosion of traditional technical knowledge.

Based on the above, this research recommends a reassessment of the relationship between local ecosystems and the everyday practices tied to them. It emphasizes the importance of restoring ecological balance, particularly through the revival of vegetation cover, as a vital condition for the continuity of local knowledge. The research also proposes the systematic documentation of these practices, and calls for collaboration with local communities to help revive river-related crafts as part of integrated environmental and cultural initiatives that support sustainability and preserve spatial identity.

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