Watery Ecologies of Belonging: Ethnographic Reflections on the Aquatic in Deltaic Spaces

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Introduction

In this chapter, I would like to propose a series of ethnographic reflections on *familial ecologies of belonging* in deltaic places. These are entangled connections between water histories, people's memories, and their experiences of home-making in deltaic environments. Deltas are particularly interesting watery environments to think with because they are characterized by complex processes of sedimentation and erosion, because multiple kinds of waters coexist and intermingle, and because they are sites made and remade through layered historical infrastructural transformations of land and water.[1] This chapter is based primarily on interviews, oral histories, and observations of everyday activities obtained during ethnographic fieldwork I conducted in the Kızılırmak River Delta between 2014 and 2018 as part of a wider project that focused on the politics and ethics of wetland conservation in Turkey.

The Kızılırmak Delta, one of Turkey's largest agrarian plains, is located at the edge of the expanding metropolis and provincial capital of Samsun and the bustling town of Bafra. Urban and peri-urban environments, industrial zones, and intensive, water-thirsty, and high-input agriculture characterize the Kızılırmak Delta plain. In 1998, the delta's coastal areas were demarcated as protected wetlands of "international importance" under the Ramsar convention—an international agreement on wetland conservation which Turkey had joined four years prior. Natural and archeological conservation statuses overlap with the Ramsar designation—the delta's conservation histories, however, are beyond the scope of this chapter.[2]

The access and resource use restrictions in the wetland conservation area impact the everyday life of rural residents nearby, who farm

1 Franz Krause and Mark Harris, eds., *Lived Histories of Flows and Sediments in a Turkish Delta* (New York; Oxford: Berghan, 2021).

2 The Ramsar Convention for the Wetlands of International Importance is an intergovernmental treaty dedicated to wetland protection, governance, and sustainable use, first ratified in 1971 by country representatives after a conference which took place in the town of Ramsar, Iran—hence, the name Ramsar. The Wetland Convention defines wetlands capaciously as "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters." Turkey joined the convention in 1994 and has since declared 14 Ramsar sites in the country. Erik Carp, ed., *Proceedings: International Conference on the Conservation of Wetlands and Waterfowl, Ramsar, Iran, 30 January–3 February 1971* (Slimbridge, United Kingdom: International Wildfowl Research Bureau, 1971); Cyril de Klemm and Isabelle Créteaux, *The Legal Development of the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (2 February 1971)* (Gland, Switzerland: Ramsar Convention Bureau, 1993); Geoffrey Vernon Townsend Matthews, *The Ramsar Convention on Wetlands: Its History and Development* (Gland, Switzerland: Ramsar Convention Bureau, 1993); Yılmaz Arı, "Ramsar Sözleşmesi'nin Doğa Koruma Yaklaşımına Eleştirel Bir Bakış," *Doğu Coğrafya Dergisi* 11, no. 15 (2006): 275–302; Fikret Adaman, Serra Hakyemez, and Begüm Özkaynak, "The Political Ecology of a Ramsar Conservation Failure: The Case of Burdur Lake, Turkey," *Environment and Planning C: Politics and Space* 27, no. 5 (2009): 783–800, https://doi.org/10.1068/c0840; Caterina Scaramelli, *How to Make a Wetland: Water and Moral Ecology in Turkey* (Stanford, California: Stanford University Press, 2021).

cash-crops and raise livestock. At the same time, the wetland conservation designation has also helped preserve the deltaic lakes and marshes. These areas of shallow water are fundamental for water buffalo grazing, as water buffaloes need mud to cool off in the hot summer days and graze on vegetation that grows in the wet meadows. In turn, buffalo grazing helps sustain the wetland ecology. Water buffalo herding, a traditional industry in the delta, had almost waned but was revived in the second decade of the twenty-first century, thanks to governmental subsidy schemes and NGO projects.

The remaking of shallow water ecologies into protected conservation areas of national importance which symbolize natural value is part of a longer modern history of Turkish state-making through the remaking of its nature—a process that produced both nature and nation. Turkish aquatic environments are places of rapid environmental and infrastructural transformation. Reclaimed marshes, in particular, have often provided land to resettle exchanged populations over the course of the twentieth century.[3] In a way that is not dissimilar to Turkey's large dams, a symbolic pinnacle of nation-building and development in the twentieth century, wetlands materialize the reach and power of the Turkish nation-state.

Contestations about the infrastructure sustaining (or destroying) wetland ecologies are also, invariably, political commentaries about Turkish state governance.[4] As regional scholars have argued, the twentieth-century transformation of Turkish marshes, swamps, and other ecologies characterized by shallow water—temporary or permanent—and hydrophytic vegetation into farms, fields, factories, and cities was implemented through ethnic population displacement and resettlement, alongside processes of migration and agricultural improvement schemes.[5] The rise of the Turkish wetland as an object of conservation also generated new environmental forms: wetland preserves often coexist with large-scale agricultural reclamation projects—even sustained by the same irrigation infrastructure.[6]

Amidst ecological, demographic, and infrastructural change, rural residents' experiences of deltaic belonging and displacement are intertwined with their everyday practices, embodied experiences, and memories of changing ecologies. This chapter focuses on the constitution of ecological belonging through experiences of displacement and loss, especially those which are connected to transformations of watery environments. I do so through three theoretical braids which are interwoven together.[7] First, I theorize these ecologies of belonging as *familial*—because they have to do with kinship and family relationships, as well as with practices and symbols of closeness, intimacy, and relatedness, amongst humans as well as connecting people with significant non-human others.[8] These are lived *ecologies*, centering the inter-

3 Chris Gratien, *The Unsettled Plain: An Environmental History of the Late Ottoman Frontier* (Stanford, California: Stanford University Press, 2022).

4 Ekin Kurtiç, "Sediment in Reservoirs: A History of Dams and Forestry in Turkey," in *Transforming Socio-Natures in Turkey: Landscapes, State and Environmental Movements*, eds. Onur İnal and Ethemcan Turhan (New York: Routledge, 2020), 90–111; Murat Arsel, Bengi Akbulut, and Fikret Adaman, "Environmentalism of the Malcontent: Anatomy of an Anti-Coal Power Plant Struggle in Turkey," *The Journal of Peasant Studies* 42, no. 2 (2015): 371–95.

5 Caterina Scaramelli, "The Lost Wetlands of Turkey," *MERIP*, no. 296 (Fall 2020), https://merip.org/2020/10/the-lost-wetlands-of-turkey/; Yılmaz Arı, "Visions of a Wetland: Linking Culture and Conservation at Lake Manyas, Turkey" (PhD diss., University of Michigan, 2001); Uygar Özesmi, "Conservation Strategies for Sustainable Resource Use in the Kızılırmak Delta in Turkey" (PhD diss., University of Minnesota, 1999).

6 Scaramelli, *How to Make a Wetland.*

7 Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants* (Minneapolis: Milkweed, 2013).

8 Janet Carsten, "The Substance of Kinship and the Heat of the Hearth: Feeding, Personhood, and Relatedness among Malays in Pulau Langkawi," *American Ethnologist* 22, no. 2 (1995): 223–41.

connected livelihoods of humans, plants, animals, micro-organisms—and climate, water, soil, and geology. And they raise questions of *belonging* and affinity: belonging to places and communities of people, as well as the ownership, and loss, of movable and immovable property.

In the Kızılırmak Delta, many of my ethnographic interlocutors were farmers cultivating monoculture fields of cash-crops—rice, corn, peppers, and more—raising water buffaloes, sheep, and cows, and tending to small house gardens for their own consumption. Class disparity was mapped on different scales of landholdings, on education and professional pathways, and on wider family networks living and working in Turkey's larger cities and in the diaspora abroad. Hardly anyone traced deep, ancient roots in the delta—most rural residents descended from exchanged Bulgarian or Albanian populations or had migrated to the delta from mountainous villages farther afield in the Black Sea region, working for local landlords at a time of expanding agricultural production in the early decades of the twentieth-century.[9]

While conducting oral histories and unstructured interviews, I soon noticed that delta residents' narratives of their own and others' histories of migration, dispossession, displacement, and of making new homes in new places were always also tied up with embodied stories about land/water, animals, climate, plants, and seeds. The following section centers on a few examples of these non-human anchors for familial ecologies of belonging in and around wetlands. Then, in the conclusion, I use this material to address the question of what might be specifically aquatic about these entanglements—or, conversely, what a theoretical focus on water ontologies can allow us to discern in accounts of ecological belonging.

On Mud, Animals, Seeds, and Water

On my first month of fieldwork in the Kızılırmak delta, I quickly established a routine with the family who was hosting me. I would join them at dawn as they prepared fodder for their livestock, scraped manure from the floors of the barn, milked their water buffaloes and cows, and then tended to their home vegetable garden and their corn field. This work required wearing loose work clothes and plastic boots or shoes, which would be discarded before coming back into the house. That agricultural work involves a lot of mud (and manure), is commonsense. But when I interviewed residents about their life histories, inevitably their narratives involved memories of experiences with mud and flooding.

There was seasonal mud seeping into the wooden homes when the river and the marshes swelled with the spring rains. Rain seeped through the house roofs, made of marsh reefs, and the neighborhood streets turned into rivers of mud. One woman's memory involved her freshly laundered linens all falling in the mud. Another remembered walking to her neighbors' house, which was on a somewhat higher elevation and drier from the muddy floods. While drainage and irrigation infrastructure, made possible by dams built upstream on the Kızılırmak River, expanded the possibility for growing more cash-crops in the delta, converting marshes and swamps into agricultural land, the reality of rural life was particularly murky, muddy, and watery. This recalls anthropologist Colin Hoag's ethnography of water in Lesotho—where one notion of national water, harnessed in large dams, a promise of national development, intersects with rural experiences of water as a destructive force and memories of displacement in the face of dam construction.[10]

Stories also centered the positive qualities of mud: for example, the fertile muddiness of flood agriculture, before the large river dams were built. Others recalled water buffaloes rolling in the mud of the marshes to cool off in the summer's heat. Belonging in the delta, then, meant making a family and familial life amidst

9 Scaramelli, *How to Make a Wetland.*

10 Colin Hoag, *The Fluvial Imagination: On Lesotho's Water-Export Economy* (Berkeley, California: University California Press, 2022).

a world of mud, learning its specific seasonality and topography, harnessing its productive power, keeping the dangers at bay, and learning to live within and, in time, building houses and roads that would be more immune to muddy seepage and flooding. Mud was a proxy for narratives of class mobility as much as it indicated belonging in a place. Mud, in fact, was largely left behind by farmers who migrated to cities, in Turkey and abroad. Many farmers living in the diaspora brought to the delta cash to build drier family houses in cement.

Mud is still a formidable presence in such a deltaic place of marshes intersecting with newer fields, roads, villages, and canals. In family histories, people's lives became somewhat more separated from mud in some domains (houses, for example, rarely flood these days), but not others. Every day, residents sweep muddy footprints from their courtyards and wash mud off clothes and shoes—a gendered labor of mud maintenance largely performed by women, including the hired housekeepers. Drainage and irrigation canals that have expanded in the delta since the second half of the twentieth century have more neatly separated water and land. Yet, they also require constant maintenance to keep up a world of land divided from water or where the flow of water is highly controlled in ways that allow for agricultural cultivation. The threat of mud clogging canals and drainage conduits in a drier climate, the flooding of an unexpected rain during the rice harvest, and the drying mud left behind by retreating wetland lakes loomed large in everyday conversations.

Familial ecologies of human belonging implicated the lives of other animals. In a sense, farmers in the delta made new homes alongside their domestic buffaloes, horses, cows, sheep, camels, and dogs. In the forests and meadows, they encountered foxes, boars, moles, and other mammals. To speak of one's familial life is to speak of the animal labor, care, and encounters that punctuate it—take, for example, childhood memories of climbing atop the water buffaloes or teaching one's child to ride horses. Camels have disappeared from the delta but used to be a key infrastructure of transportation, central to transporting the delta's valuable commodities, like tobacco.[11]

At the same time, home-making also meant getting to know the seasonality of migratory birds' movements and recognize the familiar (sometimes also thought disruptive) presence of birds living in one's roofs, orchards, fields, and swamps. Narratives of the past my interlocutors offered often centered about bird encounters in the delta's expansive swamp forest and marshes—watery ecologies that have since been drained and reclaimed into agricultural fields. As the swamps were turned into rice and other fields, other water birds found opportunity for home-making. For example, the grey-headed swamphen, *Porphyrio poliocephalus*, an omnivorous rail who does quite well amidst rice fields, seems to have arrived in the delta in the 1990s, to the chagrin of many farmers, who resent the bird's conservation status. As the rice ripens, the soundscape is punctuated by the loud blast of propane-fueled cannons set alongside the fields to scare the rice-eating birds away.

The marshes' waterbirds attracted, now as in the past, wealthy recreational hunters, often Turkish and sometimes from other countries, who employed local young men on hunting expeditions. A stash of printed photographs taken in the 1980s that my interlocutors in a large landholding family showed me featured the hunters' car decorated with a carnage of feathery carcasses and a cadre of teenage boys (including my interlocutors, who have since aged into older men) wearing woolen caps and pants with shirts tucked in, holding wooden rifles as they pose for the photograph. Local youth can no longer hunt waterbirds in the marshes, at least not legally. The loss of this specific practice of masculinity inflects stories of the past, with an abundance of marshes, birds, and a lack of restriction. Here, familial ecologies and intimacy with waterscapes and birds were conductive to bird death but also to net-

11 Özesmi, "Conservation Strategies."

works of relatives and families coming together around the activity of the hunt in the specific environment of the coastal marshes and swamp. After all, skilled hunters know to think like their prey and to find their way into a hard to navigate deltaic landscape, one which is constantly changing.

Narratives about animal encounters as part of the delta's familial ecologies of belonging inevitably also raised questions of who exactly belonged to which place and who did or should not belong. Belonging, after all, only exists if there is exclusion. My questions about animal stories and encounters—questions I asked in every interview and oral history—generated conversations about which animals might be native to the delta, which ones might be natives but detrimental to rural life, and which ones might have been introduced—by whom and for what purpose.

Political conspiracies and theories of power always abound in these stories of animal belonging. But they are also about seeking to understand, and make sense of, a deeply changing place. Take, for example, *Carassius gibelio*, the silver carp (known as the Prussian carp or, in Turkish, *Israil sazanı*, the Israeli carp). In the past two of decades, the carp has mysteriously appeared in the delta's brackish lakes, where it eats other fish species' eggs. With its strong dorsal spikes, the carp can resist local predators and tear through fishing nets and has wreaked havoc on a local lake fishing economy. That the carp found its way to the delta's lakes is not surprising: *Carassius gibelio* has expanded rapidly through freshwater ecosystems in Turkey, as it is used to stock freshwater aquaculture, especially the ones developed in the lakes of dam reservoirs.[12] From there, escape is easy. *Carassius gibelio* is a very adaptable species: it can survive in turbid, polluted waters with low oxygen and does well in brackish waters like the ones of the lower delta lakes.

When the fishers experience the threat of this species "invading" the delta's lakes where they fish for other commercial species, they are observing environmental change which has created new opportunities of belonging while foreclosing others. The construction of several large dams upstream of the Kızılırmak River in the latter decades of the twentieth century changed the delta's ecology from one of seasonal flooding to expanding irrigated agricultural production. The dams also reshaped the delta's environment, capturing the fertile river sediments on the bottom of their reservoirs, and caused an acceleration of coastal erosion. The invasive, voracious fish species eating precious catch in the delta's lakes is also a material proxy for the ongoing marginalization of the lake fishers and of the seasonal reed cutters, contending with wetland protection regulation which directly affects their work and livelihood.

Many familial ecologies of belonging take place in the delta's home gardens thriving alongside the large commercial cash crop fields. Turkish deltas are places of historic and contemporary mobility—of birds and fish, but also of people. Migrants often carry agricultural seeds and plant cuttings with them—or seek out varieties to cultivate a new sense of home. Seeds, too, travel: they are exchanged, gifted, bought and sold, and selected with every planting cycle. Older farmers in the delta remember the many varieties of sweet melon which were grown there— now supplanted by the couple of stable hybrid varieties which dominate agricultural market but which, allegedly, do not taste as good. Commercial seed varieties have increased some farmers' prosperity—think for example, of the three main varieties of rice grown in the lower delta, processed in Bafra's industrial zone and sold on national markets.

At the same time, belonging in an agrarian place also means to know and remember the

12 Şerife G. Kırankaya and F. Güler Ekmekçi, "Life-History Traits of the Invasive Population of Prussian Carp, *Carassius Gibelio* (Actinopterigi: Cypriniformes: Cyprinidae), from Gelingüllü Reservoir, Yozgat, Turkey," *Acta Ichthyologica et Piscatoria* 43 (2013): 31–40, https://doi.org/10.3750/AIP2013.43.1.05; Hamdi Aydin et al., "Invasion of Freshwater Bodies in the Marmara Region (Northwestern Turkey) by Nonnative Gibel Carp, *Carassius Gibelio* (Bloch, 1782)," *Turkish Journal of Zoology* 35, no. 6 (2011): 1007–31.

cultivated plants of one's ancestors and to keep these varieties alive by storing and replanting seeds each season. One of my hosts in the Kızılırmak Delta, for example, showed me seeds grown and passed down from her grandmother in her mountainous ancestral village—just east on the Black Sea coast. My host had migrated to the delta as a child, her family looking for land and economic opportunity. In her home garden, family ties and ancestry sprouted with each growing cycle. Many of her seeds had been brought by neighbors and relatives from farther afield and even abroad, and they thrived next to commercial varieties. Some varieties failed to thrive in the soil and climate of the delta, and my host was quick to liken them to migrants like her, who could also wilt in their new home.

To belong in the delta means to cultivate the seeds carried from past and ancestral homes, sometimes from places much farther away. It also means to incorporate new seeds into one's garden and to gift and receive seeds with one's relatives, neighbors, and visitors. This kind of seedy belonging is rooted in the topsoil of home fields, sprouts alongside the larger commercial fields, but is by no means rooted in tradition or in place, for a skilled domestic cultivator adapts her choices to plants that will thrive in the specific environment of her home gardens and that suit her taste preferences and labor affordances.

Let me now move from muddy streets, soggy fields, marshes, and brackish lakes to hydro-social[13] water—moving through the atmosphere into rainfall, flowing in rivers, canals, and underground, seeping through the soil, and evaporating into the atmosphere. Here I complement my own ethnographic interviews in the delta with a project of salvage ethnography conducted in the 1950–1960s by researchers at the Center for Asia Minor, in Athens, who worked to collect oral histories and memories of the delta's Orthodox Greeks displaced after 1921.[14] Reading the incomplete transcripts of these interviews, thanks to a colleague who translated them for me, I was struck by the ubiquity of accounts of lived ecologies of the delta in these collected memories of displacement and dispossession from their homes and loved ones in the Kızılırmak Delta.

Asked to talk about life in Bafra and surrounding villages, many interviewees recalled a deltaic landscape in flux—one in which water, animals, and plants marked the rhythm of the seasons and conveyed a sense of belonging to place. In an interview conducted in 1956, for example, a displaced Greek woman recalled that each year, after August 15, came the rain and cold. The river swelled and flooded and settled into its winter bed. Migratory storks and swallows returned to their tree and rooftop nests in March, marking the beginning of the spring. The flood retreated, leaving behind fertile lime for the cultivated fields and meadows of fluffy grass. Shepherds would direct their flocks of water buffaloes to graze in the lower plains and by the river shores. In the summer, people left the lower delta for the more pleasant summer climate in the mountains surrounding the delta.[15]

This specific account is certainly framed and shaped by the positionality and the questions and interests of the interviewee—it is situated within a wider project of ethnographic documentation and preservation of Greek Asia Minor histories of the early twentieth century. What I am interested in here when reading these and similar memories is a recurrent marking of the passing of the seasons with the temporal rhythms of different kinds of water flows and home-making strategies located in the specific ecological context of the delta—one which included human and other animal lives. These

13 Jamie Linton, "Modern Water and Its Discontents: A History of Hydrosocial Renewal," *Wiley Interdisciplinary Reviews: Water* 1, no. 1 (2014): 111–20, https://doi.org/10.1002/wat2.1009.

14 Georgios A. Yiannakopoulos, "The Reconstruction of a Destroyed Picture: The Oral History Archive of the Center for Asia Minor Studies," *Mediterranean Historical Review* 8, no. 2 (1993): 201–17, https://doi.org/10.1080/09518969308569657.

15 Centre for Asia Minor Studies, "Visit Reports by the [CAMS] Partners for the Collection of Material in the [Refugee] Settlements of Athens, Piraeus and Environs.," n.d. [Folder PO 137/Coastal Pontos/Pafra Province/Folder 1].

stories are of course more fragmentary than the narratives I collected first-hand from my hosts, friends, and research interlocutors in the delta. Thinking of these stories together, as a sort of landscape of ecological memories of familial belonging,[16] in the following, and concluding, section of this chapter, I foreground what, precisely, is aquatic in these and other narratives.

Conclusion: The Familial Aquatic

What is particularly aquatic about the everyday, familial, and embodied experience of place and place-making I explored in the section above?

Historian Christopher Hamlin, geographer Jamie Linton, and others have shown how modern water was made to become a material reality of its own, one which can be disconnected from processes of ecology and society, through its chemical formulation as H_2O and its movements in the hydrological cycle. Premodern water, by contrast, was ontologically multiple: waters had different ingredients, different properties, states of lightness, temperature, health effects, tastes, and smells. Then these multiple kinds of waters become one "modern water."[17] These accounts have generally considered the scientific abstractions of H_2O water as a loss: a loss of the imagination, loss of cultural meaning, and loss of diversity.[18]

Many explanations of this loss are rooted in the transformations of the industrial, urban, and agrarian landscapes of the nineteenth century. Water became a source of power and a resource of industrial production. As masses of workers moved to industrial cities, the problem of water supply and sewage removal arose. Public urban water infrastructure was brought underground and hidden.[19] These processes were fundamental to water's transformation into a secular and abstract, homogeneous substance.[20]

Meanwhile, marshes, like the ones in the lower Kızılırmak Delta, became seen as unproductive and unhealthy places to be reclaimed for agricultural improvement and national development.[21] State engineers designed large river dams for hydropower production, flood protection, and agricultural irrigation. As many scholars have pointed out in different regional contexts, these dams also served as material symbols of state power. Their construction and the flooding of the reservoirs also displaced disenfranchised rural residents.[22]

Critiques of the modern water approach have also suggested that water has never fully become singular and that histories of science and ethnographies of expertise reveal the social and political work that creates watery

16 Keith H. Basso, "Wisdom Sits in Places: Notes on a Western Apache Landscape," in *Senses of Place*, eds. Steven Feld and Keith H. Basso, School of American Research Seminar Series (Santa Fe, New Mexico: School of American Research Press, 1996), 53–90.

17 Christopher Hamlin, "'Waters' or 'Water'?—Master Narratives in Water History and Their Implications for Contemporary Water Policy," *Water Policy*, Historical Perspectives on Global Water Challenges, 2, no. 4 (2000): 313–25, https://doi.org/10.1016/S1366-7017(00)00012-X; Jamie Linton, *What Is Water? The History of a Modern Abstraction* (Vancouver, Toronto, Canada: University of British Columbia Press, 2010).

18 Ivan Illich, *H_2O and the Waters of Forgetfulness* (London: Boyars, 1986); Hamlin, "'Waters' or 'Water'?"

19 Hamlin, "'Waters' or 'Water'?"

20 Maria Kaika, *City of Flows: Modernity, Nature, and the City* (New York: Routledge, 2004).

21 Gratien, *The Unsettled Plain*.

22 Amita Baviskar, *In the Belly of the River, Tribal Conflicts over Development in the Narmada Valley* (New Delhi, India: Oxford University Press, 1999); Colin Hoag, "'Water Is a Gift That Destroys': Making a National Natural Resource in Lesotho," *Economic Anthropology* 6 (2019): 183–94, https://doi.org/10.1002/sea2.12149; Ekin Kurtiç, "Sedimented Encounters: Dams, Conservation, and Politics in Turkey" (PhD diss., Harvard University, 2019); Kurtiç, "Sediment in Reservoirs;" Jeanne Féaux de la Croix, "Moving Metaphors We Live by: Water and Flow in The Social Sciences and around Hydroelectric Dams in Kyrgyzstan," *Central Asian Survey* 30, no. 3–4 (2011): 487–502, https://doi.org/10.1080/02634937.2011.614097.

landscapes.[23] For example, geographer Jeremy Schmidt has called attention to the way even modernist planners and hydrologists maintained a vital essence to water, one that challenges arguments which portray modern water as alienated and objectified.[24] And anthropologist Colin Hoag has demonstrated that the alienation of water as a commodity likewise requires constructing cultural narratives about water traditions and identities.[25]

Anthropologists of water have asked whether there is something inherent to watery places, and water infrastructures, which shapes social life, meaning-making, and sociality[26] In other words, does water's material property determine the meaning and social life that is possible on and about it? Others have taken a different approach, asking how the meaning of water emerges from specific social relationships.[27]

Rather than giving a definitive answer, this chapter has argued that articulations of belonging in place are entangled with the varied livelihoods of plants and animals and with aquatic flows—even when these processes are constituted through terraforming practices of drainage, reclamation, damming, and conservation. The wateriness and aquatic nature of the Kızılırmak Delta has long been shaped by sedimented layers of human intervention, extraction and production regimes, changing notions of nature, population displacement, dispossession, and resettlement. The aquatic, in all these stories, is intertwined with and cannot be separated from these multiple elements, actors, infrastructures, and political histories.

Scholarship that has centered on aquatic transformations in Turkey and the Ottoman empire,[28] in conversation with work on marsh drainage and conservation in other parts of the world,[29] raises the question of precisely what is specific to the Ottoman, Anatolian, and modern Turkish context and what these might offer to aquatic histories beyond the regional context. In what ways do they challenge or complicate these given narratives of water modernization and disenchantment?

I suggest that one way to answer to the question of the aquatic—what we can learn about Anatolia through an aquatic focus, as well as, conversely, what Anatolia has to offer to water histories elsewhere—is to focus on the social life of watery places. While environmental historians remind us that every environment on Earth (and beyond) is shaped by the livelihood of humans, Science, Technology, and Society (STS) scholars have studied the so-

23 Jessica Barnes and Samer Alatout, "Water Worlds: Introduction to the Special Issue of Social Studies of Science," *Social Studies of Science* 42, no. 4 (2012): 483–88, https://doi.org/10.1177/0306312712448524.

24 Jeremy Schmidt, "Historicising the Hydrosocial Cycle," *Water Alternatives* 7, no. 1 (2014): 220–34.

25 Hoag, *The Fluvial Imagination*.

26 Ben Orlove and Steven C. Caton, "Water Sustainability: Anthropological Approaches and Prospects," *Annual Review of Anthropology* 39 (2010): 401–15; Casper Bruun Jensen, "Amphibious Worlds: Environments, Infrastructures, Ontologies," *Engaging Science, Technology, and Society*, no. 3 (2017): 224–32, https://doi.org/DOI:10.17351/ests2017.56.\\uc0\\u8221.

27 Franz Krause and Veronica Strang, "Thinking Relationships Through Water," *Society & Natural Resources* 29, no. 6 (2016): 633–38, https://doi.org/10.1080/08941920.2016.1151714; Jamie Linton and Jessica Budds, "The Hydrosocial Cycle: Defining and Mobilizing a Relational-Dialectical Approach to Water," *Geoforum* 57 (2014): 170–80, https://doi.org/10.1016/j.geoforum.2013.10.008.

28 Gratien, *The Unsettled Plain*; Faisal H. Husain, *Rivers of the Sultan: The Tigris and Euphrates in the Ottoman Empire* (Oxford: Oxford University Press, 2021); Jennifer Derr, *The Lived Nile: Environment, Disease, and Material Colonial Economy in Egypt* (Stanford, California: Stanford University Press, 2019); Alan Mikhail, *Nature and Empire in Ottoman Egypt: An Environmental History* (Cambridge, United Kingdom: Cambridge University Press, 2011); Kyle T. Evered, "Draining an Anatolian Desert: Overcoming Water, Wetlands, and Malaria in Early Republican Ankara," *Cultural Geographies* 21, no. 3 (2013): 1–22.

29 Paolo Gruppuso, "Edenic Views in Wetland Conservation: Nature and Agriculture in the Fogliano Area, Italy," *Conservation and Society* 16, no. 4 (2018): 397–408, http://dx.doi.org/10.4103/cs.cs_17_130; Frank Snowden, *The Conquest of Malaria: Italy, 1900–1962* (New Haven, Connecticut: Yale University Press, 2008); David Biggs, *Quagmire: Nation-Building and Nature in the Mekong Delta* (Seattle: University of Washington Press, 2011).

cial life of infrastructure-building and expertise and argued that these, too, need to be located within social worlds and meaning-making practices. The question, then, is not so much one about the mutual constitution of water and society but about water infrastructures, situated in their ecologies—and the social worlds and subjecthoods that they produce, whether by design or unintentionally.

Anthropologist Franz Krause has invited us to think of water not as static matter, but, rather, in its variedly experienced seasonal rhythms.[30] The specific qualities and rhythms of water matter, in these intimate, everyday ecologies of belonging. And ethnographic accounts of familial ecological belonging, like the ones I offered in this chapter, can help us move away from an essentialized notion of water as a substance that pre-exists its own relationships. At the same time, they can also point to the new kinds of belongings that the seemingly contrasting hydrological infrastructures of marsh drainage and of wetland conservation have formed, despite attempts to more neatly separate water from land, wetland from field, and to demarcate in new ways who belongs in a place and who is excluded.

30 Franz Krause, "Rhythms of Wet and Dry: Temporalising the Land-Water Nexus," *Geoforum*, 131 (2017): 252–59, https://doi.org/10.1016/j.geoforum.2017.12.001.