Delta methods:

reflections on researching hydrosocial lifeworlds

Franz Krause (ed.)

Cover: Tumma Elanik looking for moose during a beaver hunting trip in the Mackenzie Delta, Canada, October 2017.
(source: Franz Krause)

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Acknowledgements

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1. Introducing Delta Methods

Franz Krause

Each Problem its Method?

Anthropologists, geographers, sociologists and others have long been keen to adjust their research methods to the changing social and cultural worlds they are studying, and to the changing questions they are addressing. Multi-sited (Marcus, 1995), urban (Jackson, 1985), digital (Pink et al., 2016) and multispecies ethnographies (Kirksey and Helmreich, 2010), for example, belong to the manifold ways in which anthropologists have developed alternative approaches to the 'classic' village-level study.

One of the current tropes that seems to motivate many to devise novel research methods is that of the Anthropocene (e.g. Haraway et al., 2016; Moore, 2015), an era in which human activities may have global geological impacts comparable to plate tectonics and solar radiation, which thoroughly muddles – if not entirely dissolves – the distinction between 'social' and 'environmental' issues. A group of scholars has suggested that the Anthropocene demands that we discard all regular methods in research, replacing them with a more open approach of 'feeling' and 'following': 'Breaking with 'methods' whose aim is to purify phenomena by isolating them from 'background noise,' following is to embark on a quest through the Anthropocene in its open-ended multiplicity' (Bhangu et al., 2014, np).

The contributors to this collection share an appreciation of the openness and empathy implied in this passage, but are also keen to elaborate more specifically what such an approach would entail. Mark Harris makes this explicit in his contribution, stating that there is no 'toolbox of methods that can be learnt out of context and applied with little adaptation in all situations.' Instead, Harris proposes 'to draw out from existing approaches some techniques and practices to suit the peculiar character of human life on and in watery worlds.'

The research of all contributors to this collection revolves, in some way or another, around the relationships between human lives and water, especially along rivers, on coasts, and in river deltas. These are relations characterized by rhythmic spatiotemporal patterns, political ecologies of wetness, and volatile transformations (cf. Krause, 2017). In devising ways of studying these relationships, even in their 'open-ended multiplicity', our work follows Lury and Wakeford's (2012) search for 'devices' that lay open the 'happening of the social' and, in our case, the processes by which watery worlds come into being and are being transformed. Furthermore, Lury and Wakeford remind us that exploring specific issues requires specific tools, and that 'it is not possible to apply a method as if it were indifferent or external to the problem it seeks to address, but that method must rather be made specific and relevant to the problem' (Lury and Wakeford, 2012, pp. 2–3). So what is 'the problem' here?

Hydrosocial Lifeworlds

Our collection comprises a set of reflections on methods for, fieldwork practice in, and research approaches to what we call hydrosocial lifeworlds. The term hydrosocial (cf. Krause, 2016; Linton and Budds, 2014) points to the recognition that social and hydrological relations often closely correspond, in that water flows may mirror political and economic power, and human subjectivities may be shaped by the qualities, quantities, and timings of water. Researching hydrosocial lifeworlds means investigating how differently situated humans – as hydrological agents, and as inhabitants of wet places – participate in the formation of waters and their absence. It means paying attention to how the social and the hydrological are internally related; it does not mean dividing the world up into different slices of sociality, as if there were a separate 'biosociality', 'geosociality', or 'technosociality'. Rather than as a limitation of the study of social life, the idea of hydrosociality is intended as an expansion of this

study – to pay attention to relations with, through, and about water in addition to our customary attention to relations through kinship, social movements, or institutions (cf. Krause and Strang, 2016). Simultaneously, it is a reminder that water flows are never socially or culturally neutral, but are being co-configured by, and in turn participate in configuring, social relations and cultural practices. Hydrology – and hydrological transformations – are embedded in social, material, cultural, and economic processes. But how can we learn about these processes? If adjustments and fine-tuning of ethnographic methods are necessary to better understand contemporary predicaments and produce insights that contribute to current debates, what 'devices' (cf. Lury and Wakeford, 2012) do we need to study hydrosocial lifeworlds? In the contexts of global economic booms and busts, of population shifts and identity politics, of climate change, hydrological megaprojects and social movements, how can we study the ways in which people plan their lives, remember their pasts, and make ends meet, how they dream and what they fear, and how these macro dynamics are imbricated into their everyday lives? If change and uncertainty have replaced stability and continuity as the core principles of both social life and hydrology, what ethnographic tools may serve to capture and understand these hydrosocial lifeworlds?

The contributions to this collection suggest some tentative answers to these questions. They originate in a workshop, held in Cologne in January 2018, titled 'Research methods for volatile lifewords in the hydrosocial Anthropocene'. Some contributions were among the papers presented at the workshop, others emerged from the discussions we had there; most are a combination of both. These contributions are explicitly 'working' papers – propositions, suggestions, observations – that point in particular directions, but are not meant as exhaustive discussions. They reflect the contributors' current state of thinking and practice on these matters, and should serve as points of departure for further discussion and development.

The title of this collection, 'Delta methods', echoes three related aspects. First, the majority of contributions are concerned with research in and on river deltas (and the remaining two with rivers and coasts, which are, literally, not far off), so the title may be taken to mean 'methods for studying social life in deltas'. Second, the workshop organisers collaborate in a research project with the acronym DELTA, so the title may also refer to 'methods useful for the DELTA project'. And finally, since in scientific convention, the Greek letter Δ / δ (delta) stands for 'difference' and 'change', the title can also imply 'methods for researching changing phenomena'. By underlining the polysemy in the title, we also want to emphasise that the methods and approaches discussed in this collections, while emerging from, or proving useful in, research on hydrosocial lifeworlds, are not limited to these contexts. They might well turn out to be (and some of them have been) effective devices for ethnographic fieldwork elsewhere, too.

Scales, Flows and Walks: The Contributions

The collection opens with Mark Harris outlining three 'moments' of knowing a river. These are: swimming in its waters, encountering people along it, and legally acknowledging rivers as persons. Each of these moments conveys a different, and irreducible, scale associated with the relations between a river and the people inhabiting its banks. Each scale represents a different set of practices in which these relations are embedded, and requires different research approaches. But connecting these scales – as indeed the river itself does – yields meaningful insights into human lives along watercourses.

Subsequently, Naveeda Khan reflects on her work along the Brahmaputra-Jamuna River in Bangladesh, and extends this into the Bengal Delta. Among many other experimental juxtapositions, she takes the shifting braids along the course of the Jamuna as a provocation to think about social complexity, and the paradox of a life-giving river that is also said to lead children into their deaths as a cue for understanding existential tensions of which both river and river dwellers are part. Khan's key in her juxtapositions of the geological/hydrological with the social/cultural of the river is to approach humans as 'determined creatures in both senses of the word 'determined'', Not only are human lives caused by the social and ecological relations in which they unfold, but humans are also resolute actors who may stand their ground and break new trails.

Matt Edgeworth presents a powerful argument for

occasionally shifting scales during research on life in deltas. Given the current technological possibilities, it can be easy, for example, for an ethnographer to zoom out from their field site to see it in a larger context or a different light. Edgeworth illustrates the utility of zooming out both spatially, e.g. through existing GIS maps or satellite images, and temporally, e.g. through accessing timelines of sediment transport or erosion. Through the example of the Nile Delta, the Aswan High Dam, and the Toshka Lakes project – hundreds of kilometres apart, but intractably linked through the distribution of water, sediments, and the possibilities for human life – Edgeworth pleads for thinking the hydrosocial Anthropocene in a multi-scalar, fractal way, in which ethnography benefits from zooming out, and globalised visions benefit from zooming in.

Asking explicitly how ethnographic methods can provide insights into life in perpetually transforming places, Nora Horisberger focuses on the flows that make and transcend scales in and around the Parnaíba Delta in Northeast Brazil. Having documented some of the unstable flows – of water, sand, salt, commodities, and people – which make and unmake life in the delta, Horisberger discusses her experiences of moving along with people though the delta. Moving with people became a method for Horisberger to learn about materials, processes, and meanings that she had not been able to find out about during her interviews in the village.

Following people and fish also figures prominently in Michael Viña's argument for accompanied walks as a method necessary to complement traditional tools like freelists and interviews, based on his research with fishers in coastal Ecuador. 'Walking the Anthropocene', as Viña calls it, enables encounters, stirs memories, and creates experiences that help the researcher understand the processual and emergent qualities of ecologies and knowledges. Viña illustrates this through a detailed account of his walks through fisher families' home gardens. By observing and analysing what crosses his path, he is able to trace the histories of fish species abundance and work practices, and the geographies of economic inequalities and exchange.

Benoit Ivars notes that the volatile dynamics of erosion and accretion in the Ayeyarwady Delta in Myanmar are addressed through metaphors of circular movements by delta inhabitants. He goes on to lay out three complementary research strat-

egies to explore the circularity narrative: an archival perspective, documenting the history of current givens such as land tenure; the perspective of a village, which may be established on newly forming alluvial land, but is also likely to be eroded away again soon; and a perspective through agricultural and financial rhythms, the correspondence of which is a critical factor in success or failure in the perpetually newly establishing farms. The latter two perspectives hinge on both in-depth ethnographic fieldwork and more abstract material like GIS layers, hydrological data, and price records.

In my own contribution, I take my initial frustrations with my inability to plan encounters and appointments during fieldwork in the Mackenzie Delta in Arctic Canada as a starting point to argue that the flexibility in the lives of its inhabitants must be mirrored in an equally flexible research method. I compare this method to the trapping practices of my interlocutors in the delta, where preparation is key, but planning is futile. Just as the more a trapper knows about the animal they are hoping to catch, the more effective their trapping can be, the more I learned about people's routines and conventions, the better I was able to prepare for meaningful encounters from which I would learn about life in the delta.

Finally, Sandro Simon reflects on the implications of violence and fear for ethnographic research in deltas. The Tana Delta in Kenya, where he started his fieldwork, is – like many river deltas in Africa and around the world – an area beyond the immediate control of state agencies, and therefore a fertile ground for illegal and insurgent activities. A series of attacks attributed to a terrorist group turned Simon's prospective field site into a danger zone. His contribution contemplates fear in the field – both the sociality of fearing together, and the isolation of fearing alone. The former can foster the intersubjectivity necessary for ethnographic fieldwork, while the latter can foreclose any meaningful interaction. Simon also demonstrates that emotional engagement with a region and its inhabitants is not limited to the immediacy of fieldwork, but can both emerge before, in handling supposedly abstract data, and linger afterwards, in following up conversations through electronic media.

Together, these reflections suggest that in order to study hydrosocial lifeworlds, we need methods that are as mobile as their inhabitants and the water

flows and sediment loads, fish populations and travellers, river braids and alluvial islands, and the manifold other processes we hope to understand. This mobility applies as much to switching between analytical, temporal, and geographic scales as to the walks and snowmobile rides we undertake with our interlocutors. Alongside this focus on movement, the contributions also make clear that careful ethnographic studies, which foster a familiarity with a place, its inhabitants, and its particular waters, remain crucial to our approach. Without living among the people we accompany on a walk, without swimming or boating in the same waters as they do, and without repeated and near redundant encounters and conversations, our 'grounded' understanding will be much shallower than the deltas we seek to learn about.

What at first glance may appear as a tension – between mobility and place – is, of course, less of a tension and more of a misconception of places and movements (cf. Ingold, 2007; Gregorič Bon and Repič, 2016). The contributions to this collection make this evident in many ways. It is flows and movements of people, ideas, and materials that make and unmake places. Indeed, a delta could be considered the epitome of a place constituted by movement. Therefore, if we follow these flows and movements, rather than abandoning a place, we are rather being true to its essence. In order to study perpetually transforming hydrosocial lifeworlds, we need methods that can accommodate the multiple scales of their mobilities, that appreciate the double meaning of 'determined' humans, that acknowledge the affectual dimensions of 'data' and fieldwork practice, and that enable us to move along with our interlocutors. ■

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2. Scaling a River

Mark Harris

Abstract

How can we know a watery space? This contribution to the 'hydrosocial Anthropocene' focuses on techniques and methodologies for the ethnographic and historical investigation of riverine societies. Here I examine three 'moments' to explore how we can open a river to ethnographic and historical investigation. The first is swimming, and how this practical activity provides an insight into the character of the space and body of the river, its flows and currents. The second is encounter: the river as a meeting point for human community and its nurturing. The final moment is river as a 'being'; here questions of a river's legal rights and ownership come to the forefront. This trinity of approaches helps to shift our terracentric notions towards a more liquid appreciation of human life. Underlying this shift is the work of scaling. The activities on and around rivers and seas produce different levels and depths of engagements: some intense and close up, others making use of its immeasurable surfaces for long-distance movement. Scaling then is a composite technique for knowing about human life and its embeddedness in the liquid environment.

Let me begin with a quotation that brings me directly to the themes of scale, imagination and the peculiar character of human engagement with water.

'He thinks, if you were born in Putney, you saw the river every day, and imagined it widening out to the sea. Even if you had never seen the ocean you had a picture of it in your head from what you had been told by foreign people who sometimes came upriver. You knew that one day you would go out into a world of marble pavements and peacocks, of hillsides buzzing with heat, the fragrance of crushed herbs rising around you as you walked. You planned for what your journeys would bring you: the touch of warm terra-cotta, the night sky of another climate, alien flowers, the stone-eyed gaze of other people's saints. But if you were born in Ashlockton, in flat fields under a wide sky, you might just be able to imagine Cambridge: no farther.'

Hilary Mantel, Wolf Hall

Here a fictional Thomas Cromwell is comparing himself to people born near the famous centre of learning. There is the mischievous suggestion that scholars there are not only confined to a limited landscape, but that they also lack the imagination to think outside their own context. Cromwell, by contrast, grew up on the banks of the Thames and travelled extensively in Europe. Even for those who have no experience of travel, yet share his intimate connection to the river, Cromwell believes they are instinctively transported across the watery surface to all that awaits on the other side. The river leads one on. In imagination or reality, it flows across space and time into the future and faraway lands.

This fine passage introduces the general theme of this working paper. One kind of space is the everyday and familiar, and it is connected to another space by means of a watercourse, rather than the land. This other space is known and imagined but is not experienced in the same way. So there are two kinds of space: one that is lived in, and another that is distant but still part of a known universe. Connecting these spaces are human communities along the waters' margins, not to mention the animals, birds, insects and fish who also participate and contribute to the making of these spaces. The interactions between these subjects are encounters that bring together the near and far. Yet each interaction has its distinct reach; short-, medium- or long-distance. The imagined and practised connections between great early modern ports of London and Venice, for example, are composed of these

different scales.

Is the Thames River also a subject in these meetings? It also contributes to the building of environments. It provides a home for fish, a surface for boats to move on, hydration for all animals (Krause and Strang, 2016, p. 634). All the flows between activities and entities mean, according to this fictional Cromwell, that those who live next to a river are prepared to expand their minds and activities in a different way from those who are landlocked. They see the Thames and imagine the Channel, in Cromwell's view.

Yet, I actually don't believe there is a universal truth here. I think there were people living in a particular historical and environmental context who imagined themselves as discovering the world. This was early modern Europe after all, the time of the New World voyages, the establishment of commercial links in India, Africa and South America (see for example (Thornton, 1998).

My point is that as researchers, our struggle is to find a way into that world of Cromwell in the first half of the sixteenth century. That passage, so skilfully written by Hilary Mantel, gives us some clues as to how to enter. The clues I want to pick up on are: first, the scale of space and time associated with water-based activities; and second, the imagination and encounter that draws communities together, and the rivers and seas as fellow participants in these stories of longing and forming of the experienced world, as part of the unfolding drama of life. Perhaps there are others, but for me, these afford a technique for anthropologists and others wanting to approximate the 'hydrosocial Anthropocene'.

There is no universal formula for harvesting data on volatility and fluidity that anthropologists of watery worlds should employ. I am not going to suggest that we should all go canoeing to understand water. One of the dangers of using the term methodology to describe the ways in which ethnographers engage with people to produce data is to imply that there is a toolbox of methods that can be learnt out of context and applied with little adaptation in all situations. Methodology is a harsh and ugly word that separates out the relations from the evidence gathered. There is nothing new in that statement. Rather what I am proposing here is a shift in emphasis to draw out from existing approaches some techniques and practices to suit the peculiar character of human life on and in watery worlds.

The title of this contribution, *Scaling a river,* expresses the need to have a composite technique for knowing about human life and its embeddedness in the liquid environment. My keywords are *immersion and swimming, bridging and encounter, and mutuality and environing beings.* Together these give substance to the notion of scale as more than about range, levels or limits. The linking of scale and river too provides an exciting opportunity to rethink ethnographic techniques of fieldwork. And arguably more interestingly, there are implications for thinking about the connections, through water, between spaces of experience and imagination and between time past, time present, and time future. In imagining a space downriver (or upriver) are we following time, or the movement of water?

My aim is to bring together these fresh keywords in an historical phenomenological approach with a renewal of fieldwork techniques appropriate for working in watery worlds. The term scale has been used to rethink levels of social processes, such as global, regional and local. Here is an example of this proposal: running is a personal capacity where I follow a path, paying attention to the features immediately in front of my feet so as not to fall over (forgive my terracentric example; the same point could be made about canoeing). I also look ahead to make sure I am moving in the right direction. The scale is extended not just in space but in time as well. Let's also add in the possibility that I am running in the warmth of a tropical night and using the position of the stars to navigate by. That would take the scale out to the universe! The runner is using different kinds of scales to move by, estimating a position in a multi-range approach. Thus, scale is linked to all manner of affordances, as Alan Costall examines (Costall, 2006). Rather than speak of levels we can speak of a spread of affordances, some experienced close at hand, others further away and known through perception and imagination.

Scaling is the active accomplishment of the bringing together of different affordances into a composite plan of action. One meaning of the verb to scale is to climb or reach a peak. There is the implication that technical devices can be involved, such as a ladder or rope. The movement can be punctuated by intervals, perhaps for rest or assessing progress. This temporal duration of scaling, then, is rhythmical. A pattern of time is created by the movement of the person up the cliff face, or whatever it might be.

But scaling could also be performed by non-human animals in a different environment: let's say a salmon moving up river to lay her eggs, fighting against the fast-flowing river having swum around the Atlantic or the North Sea for many months. In essence, this is the action of scaling I am trying to invoke. And I am drawing a parallel with human activities involved in scaling a river. Each activity has its own scale (space limits/temporal duration).

Swimming and Knowing the River

A good way to start with knowing a watery expanse is to immerse oneself in it. This can be done by paddling, bathing or swimming, or simply sitting in it. These practices are akin to the ethnographic conceit of immersion in another way of life by participating fully in the ebb and flow of daily life.

In this context it is worth considering various characteristics of bodies of water. The top part is hardly a uniform surface; nor is it a skin-like boundary. Winds above the water create waves or ripples, and build up their own momentum. Below the water, physical objects and changes in the river bed and bank cause eddies and change flows and currents. There is a complex interplay of all these forces that contribute to the movement of the river. The river then is an ever shifting, swelling, shrinking and swaying body of water. This is the kind of river Mark Twain writes about in Life on the Mississippi. Knowing how sandbars, snags, or other obstructions affect the surface of the water means the pilot can navigate safely (Twain, 1990 [1883]), p. 63). However, the Mississippi underwent much work to allow larger vessels on its higher course, digging out its bed and straightening the banks, thereby making the river more uniform. The older skills of navigating the river were lost. The more a river is managed by artificial banks or dams, the more it loses this 'wild' character, and the surface is disconnected from the depths, becoming a benign and regular land-like shell for commercial movement. Unfortunately, this is, of course, a familiar story.

What does swimming in particular make possible in terms of a being a technique of learning? The activity provides a way of getting to know the currents and tides of water. The suspension of the human body in water means it will be subject to the forces pulling and pushing in various directions. This kind of lesson provides insight into how to negotiate these currents. Two people swimming a few minutes apart can be affected in very different ways by the maritime tides. That is a matter of survival, but it is also knowledge that can be used in all sorts of other ways, such as knowing how fish and boat movements are influenced by the tidal flows.

Another small example is playing children's games underwater. At the very start of my fieldwork in the Amazon, I spent much time with children playing tag in the Amazon River (Harris, 2000, pp. 1-6). This was a double initiation, for I was being introduced to the world of river dwellers through the activities of children, and also to the ways of the Amazon River. I was lucky for I arrived halfway through the dry season so the river, while still extremely powerful, was not at its most dangerous, when it carries with it trees from eroded banks and so on. The riverbed was hard, which made it easy to stand on. And importantly for the game of cat and mouse, the water was muddy and an ochre colour so nothing could be seen below the surface. Swimming in the water, I learnt physically the power of the river, at which level the current was the strongest, and importantly when not to fight it, how to let go, and how far I would be carried while holding my breath for ten seconds. Children told me much the same things and added that these lessons translated into paddling a canoe and how currents change with proximity to the bank.

In a similar vein, Tristan Gooley in his charming book, How to Read Water, says that tides tables were only published from 1830 (Gooley, 2016). Before this time, how did sailors and navigators know the periods of the movements of water, a particularly important matter when entering and leaving a port or harbour? Rather than depending on other people's measurements, sailors used their own observations of tidal flows across the water, or through passages of water, such as sounds. Based on this range of perceptual information they were able to make their own calculations and projections. Recreational wild swimming has received much media exposure in Europe in the last few years. Reading some of these accounts provides further insight into the sheer pleasure of immersion in often very cold water and swimming in remote places in beautiful environments (Wild Swimming Community Contributors, n.d.). Swimmers report their appreciation of different kinds of waters, depending

on season, recent weather, specific stretch of river or coastline, different colours. Above all it is the adventurous element that is emphasised in these stories. Swimming is a way of plunging into the unknown, for the water is experienced differently each time. Whatever the activity on or in the river, there is an unpredictable element to it – fish jump, dolphins surface and so on. We are mingling with other creatures in a strange medium. The more we interact with water in our activities, the more familiar we become with its character and with the beings that live in it but there is always an adventurous element. To me that fits well with a method for fieldwork and getting to know a different world and way of being. Researchers move from a point of little or no knowledge to one of better understanding and appreciation, which for ethnographers can be conceived of as an adventure, a 'quest for experience', in Hans-Georg Gadamer's terms (Gadamer, 1989).

Meeting along the River and at Sea

I want to move on now to address briefly the notions of encounter and cultural bridging as an element of scaling. A recent book by Thomas Oles calls for a more comprehensive view of walls. He argues that walls are rooted in the human economy and natural environment (e.g. a hilltop fort). Walls are used to assert power but can never be accounted for only with reference to power and violence (Oles, 2014, p. 64). They can be about sustenance and increase as well as control and destruction. For Oles, a wall is the natural landscape transformed by human ingenuity and labour (Oles, 2014, p. 65). It does not divide; instead its binds people together, and rather than enforcing divisions it provides a stage for interactions. I think a similar proposition can be made with reference to rivers and seas as both natural frontiers and meeting points. The history of the Amazon is replete with encounters between different kinds of people on rivers – some violent, others socially constitutive.

Here is a peaceful example from the Brazilian Amazon of the eighteenth century, then part of the Portuguese empire. A colonial military officer was sent to travel up the Rio Branco with some friendly Indians after a large rebellion of Macuxi Indians against the Portuguese. There was some tension and much uncertainty at the time, in particular about this trip, because the canoe was travelling into Macuxi territory (Barata, 1846, pp. 27-29). After about two days of travelling upriver from a Portuguese fort marking a frontier of sorts, the officer was told by his paddlers that some Macuxi lived on a lake nearby. The crew decided to stay overnight on the riverside and then went to the lake in the early morning. As the day dawned, they set off and met a Macuxi canoe coming towards them. The paddlers stopped, and the military officer indicated that he wanted to talk to the Macuxi men.

Through interpreters, the Portuguese said he wanted to know where they lived and to speak with their leader. In his report, he recorded their replies as having nothing to do with his questions. The Macuxi told him they knew the foreigner crew had arrived because they heard the sounds of the paddles and the songs of the paddlers. And instantly they knew that these were neither the noises of Macuxi in canoes nor of people who were used to navigating in these parts. Barata's report made clear his impatience with such comments as he returned to his question about wanting to arrange a guide to take him to meet their leader. He was told that he had to go to the village, which was some distance away. The Indians with whom he was conversing could not take him because they had to fetch their wives from their gardens elsewhere. Barata then recounted how he was made fun of by the Indians since he managed to get himself very lost, and that he became very upset when the leader did not commit his villagers to moving closer to the Portuguese fort to allow for the provision of labour for colonial activities.

This riverine encounter can be seen as paradigmatic of the multitude of similar meetings between different kinds of people. Some might have ended in death and violence; they might also have resulted in the sharing of food and conversation. The key element in this instance is how the place shaped the relationships before, during and after the meeting. There is the significance of the sounds: how the rhythmical splashing identified the outsiders coming from far away, their voices carrying along the surface of the river like skimming stones. Knowledge about how best to negotiate this particular river's currents is also part of the water life in this case. In this unremarkable meeting there is the individual scale of a long drawn-out history of repeated interactions that brought the Old and New World together. Although

it is a singular event, the context in which it occurs is multiple. Two of the main salient issues here are Portuguese expansion and fear of Dutch invasion from the north, and struggles between Amerindian leaders and groups to secure access to goods and avoid attacks from slavers and traders.

In the colonial period, 'the river of meetings' was a charged place. It was like a frontier in the sense that it marked a boundary between different social entities. But the river was not the boundary itself, as though on opposite sides of the riverbank there were opposing nations or states. Rather, the river was the way into the world of the independent Amerindian nations. After the arrival of the Portuguese colonists in the Amazon in the early seventeenth century, the further upriver they went, the more likely they were to encounter Amerindians. Natural obstacles such as rapids and waterfalls, acted as frontiers challenging Portuguese expansion into the remoter parts of the Amazon, in the sense of Oles above. These spots may also have been meeting points. Seasonality also affected the movements of Amerindians and Portuguese and all those in between. At times of high water, some rapids could be passed over more easily.

These encounters along the river highlight the differential human capacity and knowledge associated with rivers. By the end of the colonial period in Brazil, the charged space of the rivers was transformed into a shared environment from which a new regional culture emerged. The villages, forts and homesteads along the rivers became connected into a network for the movement of commodities and military hardware. In this way, we can speak of the alignment of human communities from Lisbon to the Upper Amazon in much the same way that Cromwell envisioned the Thames leading to Italy. This joining up, or bridging, was novel in historical terms. It did not, however, erase cultural difference or lead to homogeneity between Portugal and Brazil. This methodological focus on meeting draws out the combined elements of contrast and companionship, and permits questions about the changing historical meanings of a particular space. Did rivers, and water, aid or hinder the Portuguese colonial project and occupation of space? And how did Amerindians use rivers to forge a new form of social life, or resist and find opportunity in the new conditions that confronted them? What is the connection between rivers and forests in this bridging? What was the link between regional culture that emerged at the end of the colonial period and the riverine network of communities?

Rivers as Legal Persons

I want now to move on to approaching the river as a person. Of course, we are familiar with ethnographic and historical accounts of rivers, seas and oceans being honoured through ritual observances and represented in art and poetry with human qualities and characteristics. Remember, too, the poet T.S. Eliot's characterisation of the Mississippi River as the 'strong brown god', which is 'sullen, untamed and intractable'. What I mean here, though, has little to do with a ritual and the spirit world. Rather, I want to get at the alimentary world of water, and its definitive role for survival and sustenance.

Swimming is one way of knowing the river as it flows. Yet phrasing the learning process in that manner makes the river sound like an abstract entity rather than a living and intimate part of everyday life. In the waters of the Amazon region (as elsewhere), people wash their bodies, clean pots, swim, catch fish, observe and drink, to mention only some of the regular interactions. Although the river does not reproduce, it is like a living organism. It contains life as well as making life possible for those who live on and near it. The interactions between people and their riverscapes have produced a stock of practical knowledge that connects the different peoples who have lived by it. This commonality is borne of constant engagement with the river rather than the handing down of knowledge across generations. So the phrase 'learning from the river' is appropriate in this context. Children learn from the river the need to juggle various tasks to keep river life going. In effect they gain a grammar for spatial orientation and temporal patterning of work activities.

The river in this sense is a storehouse of memories, skills and knowledge. But it has also co-produced them as people go about their daily business. The tracks made by canoes and paddles vanish almost as soon as they appear. Yet the trace of human effort to make that journey endures in a memorial form, which is the taskscape. In these ways, the river is an archive. Its treasures should be consulted in forms quite foreign to the Western construction of knowledge. Learning how to live with the

river in the course of each person's life is facilitated by tapping into this storehouse of memories. In Connerton's sense, the riverine archive shares characteristics of both inscribing and incorporating practices (Connerton, 1989, pp. 78-9), between which Connerton sees no absolute difference. On one hand, there is the external body of the river, and on the other, the human body and its unconscious and ritual-like performance of skills. This characterisation is unlikely to be a uniquely Amazonian perspective. It is however one that helps bring out its deep history, or a long-term cultural connection between the river and various historical societies.

This profound imbrication of person and water is bound up with a more recent development that accords a river rights as a legal entity. I see this official recognition as a significant step forward. In different countries, rivers are recognised as having legal status. The Ganges in India, the Atrato River in Colombia and the Whanganui River in New Zealand are the first rivers to be given specific status in law. In each country, perhaps unsurprisingly, the actual law is different (O'Donnell & Talbot-Jones, 2017).

In Colombia, the Atrato River has been granted rights because of what it provides for human life rather than its equivalence with humanity (Mount, 2017). According to a recent article, these biocultural rights mean the river deserves protection, conservation, maintenance and restoration (O'Donnell and Talbot-Jones, 2017). These rights often come too late and are founded on a rather passive view of the river as something which needs to have things done to it. One could conceive of a more active view of the river where its banks are not turned into embankments or covered over, where the animals, birds and fish who live in or near it are allowed the freedom to make their own river, and so on. Nevertheless, the legal underpinning of a river's rights is an important advance in protecting water quality and the habitats along and near the river. Note too that this legislation only covers a specific course of water, not all rivers.

What is the methodological implication of the river as a legal subject? For me the answer involves seeing the river, or other bodies of water, as an ethical subject. Part of this response is respecting the river as an ecosystem on which a wide number of animals depend. The right to clean water is a well-established topic for both humans and all the life associated with a river. Here I am thinking, however, of the challenge to notions of private property and ownership that the river presents if it is understood as an 'irrevocable ethical force' (Faubion, 2011, p. 145). And, returning to my initial comments on the inappropriateness of the term methodology, the river becomes an ethical subject through interaction with living beings, rather than existing as a separate entity. Doing fieldwork is not a mining of raw data from our informants, rivers or otherwise. It is an adventure that harnesses the qualities and powers of the waters: an activity of self-plunging and then shaping or directing the flow of that experience to reflection and analysis.

Ending

Recalling Cromwell, consider how Amazonians, caught up in the colonial world of the Portuguese, understood the seafaring boats coming upriver. They may have thought about what other 'wonders' the river could bring. Did they see a river and imagine a sea? Were tales told of the land across the ocean from where these white strangers came? It is inconceivable that stories of distant places connected by water were not recounted in some form by Amerindians. Thus the imaginations of these river-dwellers forced into missions or slavery took on new horizons. The river came to embody knowledge – and imaginations – on the move. As such, the flowing water brought together human communities. The scale is extensive and encompassing, yet limited to the margins of the river and seas.

There is nothing much new here. I have emphasised existing techniques and concepts. It is impossible to ignore the peculiar practical and experiential features of water, the fact it nurtures other beings, and that it is a subject in and of itself, and lends itself to imaginative extension.

As I said at the start, underlying this shift is the work of scaling. The activities on and around rivers and seas produce different levels and depths of engagement: some are intense and close-up, while others make use of its immeasurable surfaces for long-distance movement. Scaling, then, is a composite technique for knowing about human life and its embeddedness in the liquid environment.

This trinity of approaches, which is by no means exhaustive, helps to shift our terracentric notions towards a more liquid appreciation of human life.

Embracing a multiscalar perspective, I have tried to push us to develop analytical and methodological tools that capture the ongoing tension among scales treated as levels, and the emergent character of practice in relation to them. This in turn encourages us to grapple with how actors of varying forms produce proximities through the choices and constraints that configure learning and knowledgeability in relation to that which preceded them and which surrounds them. ■

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3. From Rivers to Deltas: Some Conceptual and Methodological Routes

Naveeda Khan

Abstract

In this short piece I retrace some of the conceptual and methodological pathways I have taken in my ethnographic work in moving from thinking about rivers to focusing on deltas. My approach is best characterized as thinking anthropologically and philosophically with geography and related sciences.

The Human as Determined

The workshop on 'Research methods for volatile lifeworlds in the hydrosocial Anthropocene', organized by the Delta Project at the University of Cologne in collaboration with the Global South Studies Center Cologne, held in January 2018, was an occasion for me to reflect on the figure of deltas in my research. I arrived at a glimmer of a notion of how thinking about deltas might be useful, or of how deltas may have always been latent in my thinking, by means of my engagement with rivers, specifically the Brahmaputra-Jamuna River. This short piece is an overview of some of the ways in which I have approached the river, and thereby, the Bengal Delta, in my work, with some forays into concepts and methods that provide tools to think about the physical dimensions of social existence without tipping into environmental determinism. This is not to recapitulate the pious adage within anthropology that the social cannot be reduced to the physical, that its complexity overreaches any tendencies within its environment, but to simply admit that the determinants of existence are so varied and interwoven that it is not worth making a claim for one over others. In fact, I accept that we, as humans, are determined creatures in both senses of the word 'determined' – caused, and resolved. The way in which these two qualities come together in the human is still interesting to me. I would argue that anthropology has always striven to be democratic in the study of any society, to include within its consideration non-human beings and material agents, although perhaps not with the catholic spirit espoused today. Today, we, as scholars, are exhorted to be even more democratic in this sense, and might therefore find new implications for the doubly determined predicament of human lives.

The Braid

When beginning to think about the Brahmaputra-Jamuna River, the first thing I had to learn was to be amazed by it. This sense of amazement didn't come to me spontaneously by gazing upon the river itself, or by looking at maps, tables of the volumes of water and sediment it carried, and photographs. These only reassured me of my initial impression that this was a large river. It took an encounter with the work of a geographer, Dr. M. Nazrul Islam of Jahangirnagar University in Bangladesh and the author of a technical book on the river titled Braiding and Channel Morphodynamics of the Brahmaputra-Jamuna River: Bangladesh (2010), for me to realize that this was a complex and intricate river quite unlike any other, or rather one amongst only a handful of rivers of this nature. As Dr. Islam explains, the existing models for river systems produced by

the Western academy could not begin to represent the complexity of a river that changed course as a matter of course. Its braid-like formation, as opposed to a meander, meant that it was many strands at once, each scuttling across the low lying land that comprised the Bengal Delta. The recognition of such complexity in my backyard was quite thrilling, serving as my first realization that all the stories I had grown up hearing in Bangladesh, of it as a watery landscape, did not simply refer to the picturesque scenes of rivers as one rode across the country-side or went on ferries, or even the land covered in water in times of disastrous floods, but rather that the land itself was somehow liquid. It did not have the treacherous nature of quicksand, but was more in the nature of something upon which one could stand for periods of time, which yielded the agricul-tural-pastoral conditions so central to Bangladesh's self-image, and yet was always shifting and moving. The trick for this anthropologist was to keep this dynamism in view, at play with other determinants of social existence. Here William Connolly's (2013) understanding of the geological, biological and climatic systems as self-organizing processes, always interacting with the social domain, with its many systems and processes was very helpful. Yet, while the image of the river's strands as coming undone and being re-braided was a poetic one, what conse-quence did its braids and liquid land have for human and other forms of sociality?

Milieus

In one of my earliest writings about the river (Khan 2015), I pursued the idea of the braided river as constituted by many rivers at once, with each version of itself yielding a different sociality, or a sociality with some degree of difference from others, even those right next to it. These differences, moreover, I suggested, abided in the specificity of the river's strand running through the various social arrange-ments. Two concepts suggested themselves as a way to capture the particular loop between social life and the riverine environment. Firstly, Jakob von Uexküll's notion of the Umwelt (lit. the world around [one], often translated as environment), in which each living being serves as the center of its world, within which it makes its immediate environ-ment fit its needs and reads the signals and signs

carried by this environment accordingly (2010). In von Uexküll's writing, the tick, with its comparatively limited subjective perceptions, was used to portray a world centered on a self. It helped with proliferating the world of human into so many Umwelten. A second inspiration came from George Canguilhem's (2008) notion of the milieu, which, according to his genealogy, had evolved from the ether within which cosmic bodies were suspended to become the living environment produced by the mutual modulation of physical elements and living beings such that one becomes the milieu for the other.

While the Umwelt was attractive in so far as it allowed for the possibility, even perhaps the fantasy, of taking up the perspective of non-human beings, I ultimately decided on the milieu as the more rele-vant concept to use in the context of the Brahma-putra-Jamuna River. My reasoning was simple. The concept of the milieu was in line with the commit-ment I had to attend to the dynamism of the phys-ical, as well as of the social. Mine was not a vitalist conceit, which felt like a wishful projection of animacy to the material world, but rather a concern with mutual modulation towards the building-up of norms, morals, even desires within milieus. In this early paper, the cinematic quality found in iconic Bengali films on riverine lives yielded the perfect opportunity to explore the visual image's inadvertent capture of the building-up of milieus.

Living Paradox

Yet the idea of the river as milieu-producing did not fully satisfy because if there was mutual modulation, of one being or element serving as/in the milieu of the other, with even the possibility of desire of one for the other, how was this desire being expressed? How exactly were humans and waters desirous of one another, and how was this not again the fantasy of being able to take the point of view of the non-human, or the projection of magicality onto the inanimate?

The astonishing numbers of deaths of children by drowning grabbed my attention, not because of any numerical difference from any other part of Bang-ladesh, but in so far as these deaths appeared with regularity in interlocutors' recollections. The associ-ation of these deaths with an imagination of mythic beings in the river calling the children to themselves

made me realize that the mythic held potential for thinking of the co-figuration of humans and the river as mutually desirous, attracted and dangerous to each other, an insight I explore in a paper on the topic (Khan 2016). This mythic figuration of the river was not simply the personification of its physical characteristics, as if myths only served the social to understand itself and its surroundings, but rather in the mode of capturing a quality of the world at large, of which the river and river dwellers were a part. I characterized this quality as the paradox of existence, made insistent by water, that death and decay are central to life. The exploration of mythic figures over time, across the landscape and between different individuals, provided a way to show how this paradox presented itself and evolved in and as the changing experience of water.

I made a serious effort in the abovementioned paper to read Alfred Whitehead's Process and Reality (1979) in order to draw out what myths expressed. For Whitehead, the difference between humans and non-humans, animate beings and materialities held no salience. Consequently, what he was describing was thinking, even mythological thinking as in my case, as an ongoing activity of the world thinking itself. This was an insight that he developed through his critical engagement with Kant, suggesting to me that there was something in Kant worth pursuing to arrive at a different way of understanding the distinction and interrelation between the social and the physical that had been a consistent interest of mine.

Nature as Thought

From Whitehead through Kant to FWJ Schelling (1989, 2004), I arrived at the romantic philosophy of nature that understood dynamism, or what might be described as perpetual activity, as the thing itself rather than the dynamism of a particular sociality or physicality or their interrelation. While this notion might have a whiff of idealism about it, the interpenetration of mind and matter I first experienced in Whitehead and later in Schelling made me realize that this charge was not entirely as horrid as it had been made out to be by the materialist turn within social theory and anthropology. Thinking – whether it was located in the brain or in something more ephemeral like the mind, whether emplaced

within a human body or imagined within the inanimate – was not as interesting to me as the simple fact that there was thinking: it was an activity in the world, and the dynamism I was drawn to in my field site had the structure of thought to it. Even though I do not subscribe to the notion of panpsychism, I am convinced that matter arcs towards complexity. In Schelling's rendition of this tendency, matter arcs towards intelligibility and consciousness, while consciousness is oriented toward becoming matter. The artistic urge manifest in art objects is an instantiation of this two-way tendency for him. And in the book manuscript on the chars in the Brahmaputra-Jamuna River that I am presently working on, I attempt to explore the idea of nature as perpetual activity being thought/instantiated through the river, river-dwellers and land in many different ways. Does this approach unduly enchant my field site? I think not, because it's the structure of thought that I am interested in, and this structure is only actualized in and through activity, movement and practice; that is, very empirical, down-to-earth things.

River as Event

Focused as I was on the interrelation between thought and activity, with even stasis as an aspect of activity, I only ever perceived the river as a hydrological entity, a channel, albeit a schismatic channel, bearing water and sediment downstream and across a terrain. The terrain itself only showed up in my imagination in the form of angles, dips and inclines that produced the propensity in water to flow. It took experiencing a minor earthquake in Dhaka, and reading the newspaper articles that followed, profiling the work of seismologists, to make me realize that the river may be thought of otherwise. A short paper that I wrote, still under review, proposes that we think of the river not only as a physical entity but also as an event in time, a shudder of the Earth's surface traveling along the length of the river. More explicitly, the river was the product of an earthquake that changed the course of an older river enabling it to discharge the sediment built up as a consequence of the earthquake. The sediment was the engine of the newer river, with its life course inextricably tied to the decreasing volume of built up particles intermixed with its waters. Scientists sometimes think of the river in this manner. Having spent a lot of my

time thinking about rivers as hydrological entities, as milieu-producing, as expressing qualities of the world, within the deep structure of thought, it was a pleasant surprise to delve into scientific writings and realize that there was yet another way in which one could approach the river (and doubtless there were countless others).

And, Finally, the Delta

I was not quite sure what the stakes were in thinking of the river as an event except that it made it clear that the river could cease to be, as an event could cease unfolding across time, if it ever did, as the sediment from the last earthquake finally made its way to the ocean waters. But at this workshop at Cologne, listening to the rich array of papers that compared deltas across the world, described the societies upon them, and provided specula-tions on the coil of history, politics, and materiali-ties conjoining deltas and societies, I realized that thinking of the river as an event had made visible to my mind's eye the tectonic activity that had crafted the paleoshelf on which Bangladesh sits. I began to think about the subsurface of the Earth with its angles, dips and inclines that gave water and sedi-ment flows in this area their propensity and the sediment-fanning effect produced by the encounter between fresh water and ocean water at the coasts. In other words, the image of the Bengal Delta as a physical formation had finally come into my head, filled my mind as the idea of the river once had. And so starts another possible line of experimentation that works between concepts and methods to draw out how deltas may be indexed in the structure of thought and experience. ■

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4. River Deltas in the Context of the Anthropocene Debate

Matt Edgeworth

Abstract

This paper looks at how river deltas have figured in the context of the broader interdisciplinary debate about the Anthropocene up until now. Deltas are radically influenced by human activities upstream – in the form of both soil-eroding activities, which increase amounts of sediment carried, and the construction of dams, which reduce the amounts of sediment reaching deltas. These changes in sediment flux constitute a significant part of the stratigraphic signature of human impact on Earth systems, with implications for people who live in Delta regions.

Figure 4.1: The Irrawaddy Delta, Myanmar. Image generated from elevation data gathered by Shuttle Radar Topography Mission, (source: NASA. Public Domain)

Introduction: Anthropocene Perspectives

This paper zooms out from detailed ethnographic perspectives on specific delta regions to consider what is happening to deltas on a planetary scale. This is something the concept of the Anthropocene encourages us to do – to shift focus from the local to the global through intermediary scales and back again. The capability to shift scales is inextricably bound up with developing technologies of visualization, made possible especially by computers and satellite communication systems. So even while situated in the midst of the action, in the thick of things, as for example when conducting ethnographic fieldwork, researchers can switch at the click of a button or the swipe of a screen out of our local situation, using

Google Earth on a computer or mobile phone to take up very different, disembodied perspectives on things, looking down on Earth from standpoints in orbital space. In the multi-scalar realities we all now inhabit, this globalizing perspective can usefully supplement embodied and situated ethnographic perspectives on the ground.

Consider this satellite image of the Irrawaddy River in Myanmar (Burma). At first sight it appears to be a straightforward photograph, but it is actually an elevation map, made from data collected through remote sensing by NASA's Shuttle Radar Topography Mission. Higher elevations are shown in white, lower elevations in green. Colours of course are arbitrary.

Using a computer, we can shift scales and drill down further into the data. The fine texture of these images, which opens up more and more levels of detail at every scale of analysis, is stunning. As we zoom further and further in, we begin to glimpse the fractal character of anthropocene landscapes – with the same basic patterns of tributary and distributary channels (partly modified and transformed by human action) repeating themselves at different scales.

The level of detail is so good that the slightest fall or rise in elevation will be picked up by satellite remote sensing, even if it is only a change of a few millimetres. Year by year changes in ground levels will be detected and mapped, not just in the Irrawaddy

Delta but in other deltas all around the world. Rates of growth or shrinkage can be measured through time, allowing comparisons to be drawn between different delta regions. A picture of regional and ultimately global trends is built up.

As it happens, the Irrawaddy Delta is still aggrading, still growing. More sediment is being delivered to the delta than is being removed by coastal erosion and storm surges. Like all river deltas, it sinks under its own weight, but this is continually being counterbalanced by the deposition of further sediment. In that sense the Irrawaddy is untypical. Many of the world's major deltas are now rapidly shrinking in size and sinking faster than the sediment that normally goes to build them up is arriving.

Anthropocene Trends in Sediment Flux

All deltas are different; no two are the same. Even so, there are broad patterns to emerge from studies of many of the world's major deltas when considered together. One of the most important trends regards the amount of sediment being carried by rivers to deltas (Syvitsky and Kettner 2011), as illustrated for example by the graph in Figure 4.1, which shows variations in sediment flux in five major rivers in Asia flowing into the western Pacific (Wang et al. 2011).

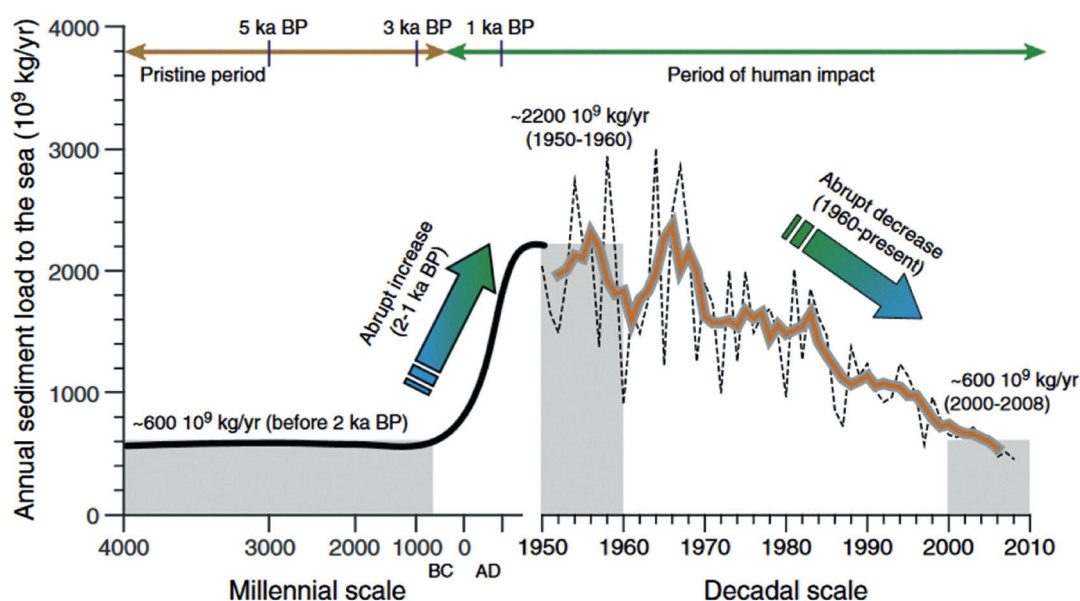The graph shows a fairly steady flow of sediment

Figure 4.2: Variations in sediment flux in five Asian rivers – the Yellow, Yangtze, Pearl, Red and Mekong – at the millennial scale (6,000 yr BP to 1950) and decadal scale (1950 to 2008), showing historical increases and recent decreases due to human interventions and influences. (source: Image reproduced by courtesy of Houjie Wang et al. 2011, Figure 14).

to delta regions during the 4,000 years up until 0 AD. This is followed by a gradual increase in sediment influx per year over the next two millennia, up to about 1950. But this trend is abruptly and significantly reversed from about 1950 onwards, with a rapid decrease in the amount of sediment being carried by rivers. Such a pattern of increase followed by decrease is found over and over again in accumulations of sediments in many delta regions throughout the world, creating a strong stratigraphic signal of human impact on Earth systems – a double signal in fact.

Let us briefly consider the two trends separately. Firstly, the steady increase in sediment carried by rivers to deltas over the last two thousand years is thought to have been brought about by a range of human activities on the rivers upstream (I use the term 'human' here in a broad sense to include our companion species of domesticated animals and plants, and even non-sentient forces corralled by or aligned with human projects). Activities such as deforestation, tilling, terracing, extensive animal grazing and mining all lead to soils which are more easily eroded by rivers, and therefore to increases in amounts of sediment carried and delivered to deltas. The onset of this first trend varies in date from place to place. In China it starts earlier, but in the US it does not appear until the colonial period. An appropriate term for such deposits is 'legacy sediments' (James 2013), referring to material that finds its way onto deltas as the indirect result or unintended legacy of other human activities. But the term also carries the implication of the knock-on effects of the accumulation of sediments on floodplains and deltas and the people who live there, as a legacy left for subsequent generations, with the deposited material continuing to influence events and processes far into the future.

The second trend is the abrupt decrease in sediment flux from 1950 onwards. This does not signify a cessation of the anthropogenic activities such as forestry and agriculture that give rise to greater soil erosion, but it does signify a great increase in the number of structures that physically prevent the sediment carried by rivers from reaching delta regions. The impeding structures referred to here are dams, which effectively constitute giant sediment traps, impeding sediment flow.

Dams as Sediment Traps

People have been damming rivers for thousands of years, radically influencing physical forms of rivers and deltas (Edgeworth 2011). But this was on a relatively small scale compared to today. The situation is best illustrated in the US, where there were few dams until the colonial period, apart from the dams of beavers and the fish weirs of indigenous peoples. At first, from about 1800 onwards, dams were constructed to provide power for mills to grind corn or saw wood. This had substantial and ongoing effects on rivers and floodplain formation (Walter and Merritts 2008), but it was the building of large dams for the production of hydroelectric power and for diverting water through massive irrigation schemes in the 20th century that really started to impact on deltas and to change rivers into something else entirely (Williams et al. 2014). The Hoover Dam on the Colorado River, built in the 1930s, was one of the first of these. It heralded the radical transformation of that particular river system, for it is so extensively dammed, and so much water is now siphoned off for irrigation schemes that the river no longer reaches its delta: it is literally 'a river no more' (Fradkin 1996). The Hoover Dam also heralded the increasing proliferation of giant dams on major rivers throughout the world.

There are now 300+ giant dams (over 150m high) worldwide, and 57,000+ large dams (over 15m high). The number of smaller dams is impossible to count. About 400,000 square kilometres are thought to be submerged under reservoirs behind dams, with huge impacts on river environments and the people who inhabit them (McCully 2001).

When a river meets a dam, its current slows, and it drops its sediment load. Dams stop the movement of material carried in suspension that would have been deposited on floodplains or deltas downstream. It is not just the dams but also the huge reservoirs behind them that have extensive environmental impact. Reservoirs hold such a weight of water and trapped sediment that earthquakes can be set off through the compaction of underlying strata - an effect first noted by the mid-20th century in relation to the Hoover Dam (Carder 1945) and since confirmed by many subsequent studies on dams throughout the world, such as the Koyna Dam in India (Gupta 2002).

The placement of a dam has manifold effects on the

Figure 4.3: The River Nile and its delta, as seen at night from the orbiting International Space Station, 2015. (source: By NASA/ Scott Kelly (astronaut) Public domain)

river system as a whole, both upstream and downstream of the dam structure itself, including on the delta or estuary where it flows into the sea. A key point here is that what happens in the delta cannot be separated from what happens elsewhere on the higher reaches of the river. The Irrawaddy Delta continues to aggrade because its river branches have not been extensively dammed up until now, though this may change in the near future, with several major projects for hydropower dams planned (Kirchherr 2017). On river systems which have been extensively dammed, like the Yangtze, the general pattern is one of sediment starvation, nutrient loss, delta shrinkage and erosion (Wang et al 2017).

An Example: The Nile Delta

I choose the River Nile and its delta to illustrate principal themes mainly because of my interest in its archaeological associations, but I could have selected numerous other shrinking deltas as well. It was in the fertile mud of the Nile, delivered seasonally through cycles of flooding and drought, that the roots of Western civilization were nourished.

Now the river rarely floods. North of Cairo, the river splits into innumerable distributary channels, canals and irrigation ditches, with every drop of water put to use, so that only a fraction of the water reaches the sea. The delta region is sinking by about a centimetre a year, no longer receiving the annual replenishment of 100 million tonnes of fertile silt (Sharaf El Din 1977). Soils are compacting and subsiding. Chemical fertilizers are used to replace the life-giving nourishment of the mud that no longer arrives. The coastline is eroding. Add to that the predictions of sea level rise, and the prospects for the delta are dire. It is estimated that a third of the delta area might be lost by 2050.

The prime reason for this denudation and shrinkage of the delta is a river structure built hundreds of kilometres away. It may not be directly visible in Figure 4.3, a photo taken at night from the International Space Station, but the spectacular effects of it are plain to see, in the form of light powered by electricity generated from the river. Thus the whole of the river north of a certain point has the appearance of being illuminated, while to the south of that point it remains in darkness.

The Nile reveals itself here as a river of light, just as much as it is a river of water and mud. The light comes from electric power generated by a hydroelectric power station on a giant dam, which has the secondary effect of impeding sediment movement.

Note that the river of light follows the course of the more material river, heading northwards towards Cairo and the delta. To find its source follow it back southwards upstream until the light can no longer be seen. This is the location of the Aswan High Dam, and behind it the vast reservoir, Lake Nasser. Since being constructed in the 1960s, the dam has effectively controlled the river, preventing annual floods and the distribution of fertile silts onto the floodplain and delta.

Though hundreds of kilometres apart, the dam and the delta are inextricably connected. The shrinkage and erosion of the delta is a direct effect of the dam and its entrapment of sediment. The inevitable consequence of a shrinking delta is likely to be translocation of millions of people from the delta region. Some 50 million people are currently packed into the region. Where will they go as the delta contracts? One possibility is an area of formerly uninhabited desert, known as the Toshka Lakes, where a new inland delta is being artificially created to the west of Lake Nasser. The Egyptian government is already diverting 10% of the waters of the Nile to Toshka, 30m above the level of the river. The project was started in the 1990s, then seemed to be stalling in the new millennium, but has recently been revived (Michaelson 2017). The delta, it might be argued, is shifting position, relocating as the result of a human-induced river avulsion. Following the immense amounts of water (and financial investment) currently being pumped to the new location will be infrastructure in the form of roads, power lines, urban developments and communication networks. Flows of people are likely to follow in due course.

The point of this example is that a holistic understanding of what is happening in the delta region could not possibly be gained from a situated local study alone. It has to somehow take in also the river system as a whole, including the dam that exerts its influence on the delta from hundreds of kilometres upstream, and wider trends that are bringing about changes to sediment flux in rivers throughout the world.

Integrating Global and Local Perspectives

As already noted, most ethnographers today live and work in multi-scalar realities where mobile phones and computers and geographical information systems like Google Earth are part and parcel of everyday field research. Many of the ethnographies discussed in this collection are multi-scalar as well as multi-sited.

The juxtaposition of multiple scales of perception in field settings opens up opportunities to cultivate explicit dialogue between different scales of analysis – to shift back and forth between them as a deliberate research strategy. There is no great separation between the debate on global issues and locally situated ethnographic research. The former should be at least partly grounded in and critically interrogated through the latter, and vice versa.

The Anthropocene manifests not on one overarching global scale but – in a fractal sense – on multiple scales simultaneously. It has a deep texture to it that would be hidden if the focus was solely on the global at the expense of the local, or the other way round.

It follows that, just as ethnographers are able to shift out of the minutiae and complexities of the social and material fields they are investigating in order to consider the wider picture, it is equally vital for Anthropocene theorists to augment globalizing conceptualizations of Earth systems with situated local and regional perspectives, such as those provided by the kinds of ethnographies of human-environment interactions we have been discussing. ¬Views from space need to be integrated with views of events on the ground – and 'ground' here must surely include the softer mud and shifting sandbanks of river deltas. ◼

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5. Of Salt and Drought – What Methods for Ethnographic Research in Fluid Places?

Nora Horisberger

Abstract

This chapter discusses some questions I am currently dealing with in my fieldwork. Flows – of water, but also of many other things – are an important part of the history as well as the everyday life on the Canárias Island in the Parnaíba Delta (Brazil). According to local narratives, several hundred years ago, moving sand dunes transformed mangrove forests into an inhabitable place – the Canárias Island was born. One of the characteristics of life on the island, which is also referred to as sandbank, is to 'live on water': water not only surrounds the place, it is also beneath it. To be floating on water is one of the main distinctions from life on terra firma; it confers high fertility and productivity to the environment. Part of this abundance (e.g. crabs, cashew nuts, carnaúba wax) is gathered and sold by inhabitants; it literally 'flows out' of the delta region to other places. Changes in these flows can have important impacts on those who live within them. For instance, rivers are drying, and some freshwater flows have become salty during recent years and made rice planting, a major activity of the region, impossible. I discuss my experiences with ethnographic research in such fluctuating environments where flows connect pasts and presents as well as various places and actors (national and international). A core question that I identify is whether researchers are better off at the village level or rather doing multi-sited fieldwork, for instance trying to 'follow the flows'.

Figure 5.1: Parnaíba Delta with location of the villages of Passarinho and Barrinha (source: Google Earth, January 2018)

I n this text I would like to share and discuss some insights and questions I am currently dealing with during my ethnographic fieldwork in the Parnaíba Delta in Northeast Brazil (State of Maranhão). It is based on four months of fieldwork I conducted from mid-August to mid-December 2017. I spent most of that time in a village called Passarinho, with apprimately 35 houses, situated on the Canárias island inside an extractive reserve (*Resex Marinha*), and also a

few weeks in the village of Barrinha, with approximately 20 houses, situated on the island with the same name, and where I have planned to continue fieldwork in the coming months. This text, however, concentrates mostly on the first village.

The main purpose of this text is to reflect on the kinds of methods we could use to do ethnographic fieldwork in fluid and continuously transforming places. Indeed, the delta inhabitants I worked with consider themselves as living on water. Fluidity and permanence of movement in the environment makes up one of the specificities of the place and distinguishes it in the local view from the stable mainland. In this constant becoming, the action of 'Nature' plays a central role.

In the first section below I elucidate some of the specificities of life in Passarinho, and describe major hydrosocial changes inhabitants dealt or are dealing with, and the local perception of these. Then in a second section, I turn to a discussion of the methods I used and reflect on whether we should employ special methods for places such as Passarinho and what form they could take. Having used both classic ethnographic methods and more experiential methods of 'moving along' with people, I will highlight how the latter helped me to understand and trace the makings of non-human actors. On one hand, actively moving through places allowed me to go beyond a discursive engagement with the physical environment. On the other hand, certain places revealed themselves to be a repository of memory: by moving through them with my interlocutors, the mnemonic value of these places helped my interlocutors and me to engage in rich conversations and access historical, social and ecological information.

A Floating Place

In Passarinho, the term *delta* is an unfamiliar word. Inhabitants use it from time to time in everyday language but it remains somehow obscure to most people what exactly the term means. The term was introduced with tourism and activities linked to it around ten years ago. It is a common situation, for example, that delta inhabitants point to a group of tourists making an excursion and say 'oh look, they're going to the delta', while actually both inhabitants and tourists are already in the space that would be defined as the delta in geomorpho-

logical terms. Delta inhabitants make, however, a difference between the islands they live on and the *terra firme* – the stable mainland. According to local narratives, the *terra firme* has been made directly by God, he created it the way it is today. The same narratives hold that the Canárias island, by contrast, is a product of the actions of Nature. It was first an area of mangrove forests and rivers. Then, several hundred years ago, moving sand dunes transformed the mangrove forests into an inhabitable place, and the sandy island of Canárias was born. The island is also referred to as *croa* – sandbank. A second distinction from *terra firme* is that the island is perceived as floating. Indeed, one of the characteristics of life on the island is to 'live on water'. That means that water not only surrounds the place, but is also beneath it. To be floating on water is thus a specificity of the island life, and it confers high fertility and productivity to the environment. If the sandy ground might seem unfertile at first glance, people affirm that 'everything grows'. The water is only two to four meters below the surface, which allows many plants to stretch out their roots and find water. For the inhabitants, this means that in some of the lower areas (e.g. lakes during the rainy season) some plants such as beans, potatoes and watermelons can also be planted during the dry season, when no rain is available. Besides, it is possible to dig waterholes, *cacimbas*, at the edge of every lake, even when these dry up during the dry season. Indeed, the sand works as a filter so that the water in the freshly dug *cacimba* is clean and clear and can be used for several household purposes, including washing and watering plants.

Everyday activities are also organized around the rhythms of tidal flows. Fishermen wait for a good tide to go fishing. They use fishing techniques that play with the variation of the water level to catch fish. Crab gathering is only possible when the tide is low because otherwise the mangrove forests are covered with water and the crabs stay in their holes. A lot of canals in the labyrinth of water courses are only passable by high tides and some villages (e.g. Barrinha) are only reachable during high tides. Also, the spring tides, locally called 'moon tides', usually bring a lot of mosquitoes so it is better to stay at home after nightfall.

The fertility of the delta region results in a high abundance of products. Gathering and selling these products provides the main income for most inhabitants.

Gathering of cashew nuts during the dry season is a major source of income for women. Together with a small yellow fruit called murici (*Byrsonima crassifolia*) gathered in the nearby forests and sold for making juice, it is referred to as the 'women's salary'. Men extract the wax of the carnaúba palm during the dry season. Crab gathering is also exclusively a men's activity. It is hard work in the mud of the mangrove forests and hardly suffices to nourish a family, but still the crabs are greatly appreciated by tourists and exported to bigger cities. These products literally 'flow out of the delta' to cities like Teresina and Fortaleza, and some, like the popular carnaúba wax and cashew nut, even end up on international markets. As the transport out of the islands is complicated and expensive, most people sell their gatherings to middlemen, who are inhabitants of either the same village or neighboring villages and who resell the products in Parnaíba, the largest town in the delta. Middlemen usually have a powerful position, since if they stop buying, people sometimes have to migrate to other activities. Passarinho's inhabitants often point out that 'everything is going out': all the richness is flowing to other places. They underline a certain contrast between their own restricted mobility and the fact that the abundance they have is going entirely to neighboring states, mostly Piauí and Ceará.

Flows – flowing and floating materials – are an important part of the history and everyday life in Passarinho. Flows connect pasts and presents, local and global; human and non-human actors intermingle. The fluid environment is perpetually in movement, and people emphasize the fact that change – doing and undoing – is inherent to Nature. But still, some changes (e.g. in water flows or quality) can have important implications for those who live within these fluid environments.

Changing Flows

Stories of drought

Drought, or, in other words, 'water getting scarce,' is a recurrent topic and concern in the stories of Passarinho's inhabitants. Most people living in Passarinho and the whole Canárias island, are descendants of immigrants either from the State of Maranhão (from the terra firme) or from the State of Ceará.

The first ones that arrived on the island, probably in the beginning of the 18th century, were a group of fishermen fleeing the drought in the State of Ceará. They first built some fishing huts, then they started to spread across the island and founded the five villages that exist today. In this way drought, even if not directly experienced, is something present in the narrative of origin of the villages, a narrative that is transmitted from generation to generation.

Besides the past, drought also marks the present situation in Passarinho. Indeed, for some years now the winters in Passarinho have been getting 'weak'. The last few years have been marked by 'bad winters', with a little rain only during some months. Before, some of the older inhabitants told me, there were six months of summer (i.e. dry season) and six months of winter (i.e. rainy season), the winter starting in January. Now, in bad winters, there is rain only during three months. The lakes dry out completely during the dry season. Before, everything was full of water, covered by water, so that to walk around you had to look for the 'highs'. There were many 'bleeders' – connections to the river and other lakes – so that the fish could move around and enter the lakes. This period, when the village is partly under water, is described as beautiful and joyful: everyone takes a bath in the lakes; children play in the water; women wash clothes in the lake; the whole family fishes with fishing lines. During the dry season washing and bathing is more restricted to the household, and fishing predominantly a men's activity.

Morover, the nearby river is drying out. It is one of the many branches of the Parnaíba river, but it is the one where most men of the village go fishing. It used to be connected to the sea before, but now the moving sand dunes have almost closed the branch off from the sea. In consequence, there is much less water and fewer fish. These types of watercourses, called *barras* – arms or inlets of the sea – are of crucial importance because they allow the entry of fish coming to spawn in the calmer waters. Fishermen say that it is much more difficult to fish today, so some have moved to other places much further away, and others fish less. Most inhabitants, however, do not see it as a big problem. Instead, they explain the situation as part of 'Nature'. Nature, in the local view, makes and unmakes, builds and unbuilds, constructs and deconstructs – it is all a natural process, nothing is fixed. Nature is

Figure 5.2: River closed off by moving sand dunes, October 2017 (source: author)

much stronger than humans, so people should not try to fight against it. Furthermore, it is not seen as a linear process, that is, a development towards an ever-drier situation, where water will get scarcer and rivers drying up more and more. In the local perception Nature can for instance open up the closed river tomorrow; the situation can revert back to a past situation or change to something completely new; a principle inherent, it seems, to a fluid order of the world.

When the water got salty…

Passarinho was once known for its rice plantations. Today, the traces of this past are almost invisible and only in the stories and memories of the older inhabitants do they continue to live. Many people migrated to Passarinho during this rice period in search of work opportunities, so that the village was about double its current size.

Dona Lucía (about 70 years old) and her husband came from Coqueiro, situated on the terra firme. There were no opportunities in Coqueiro, the soil was not fertile, and they could hardly nourish their ten children with only crab gathering and fishing. '*I caught crab in the early morning, I went into the mangrove with the tide and started to catch crabs*', recalls Dona Lucía.

> *'Sometimes I would come back only at 6 o'clock at night and sometimes it was very bad, I caught only a few. I just had my work clothes and one dress. Sometimes I hid in the basin where I took my bath and waited for the clothes to dry to put them on again. When I found some potato bags on the riverbank, I would take them home and sew clothes for my children. Then my husband and I heard about this place called Passarinho*

where he had the opportunity to work in the rice fields. When I got here I was with my hands down, I was on the floor. And here it improved a lot, many people helped me. Today my children and I have a good life but I had to fight a lot.'

At this time, people planted rice in the mangrove forests during the winter. In summer, the water was salty, but in winter, the rain 'sweetened' the water. People had to work in the mud, but the rice grew very well. The advantage of planting in the mangrove forests was that people did not have to change the planting area from year to year as is usual in slash-and-burn agriculture practiced on the land. In mangroves, they could plant on the same land for 10 to 15 years. The older inhabitants remember that there was a huge abundance of rice: there was so much rice that a part of it got spoilt by falling into the mud. However, some years ago (probably less than ten) the water in the mangroves started to become more and more salty. The dam of Boa Esperança on the Parnaíba River. built in the 1970s. had already reduced the volume discharged by the Parnaíba River, and so with the decreasing rainfall there was not enough rain anymore to sweeten the water during the winter. The brackish water made rice cultivation more difficult, and around the same time, the number of capybaras (*Hydrochoerus hydrochaeris*) increased in the region. Capybaras are herbivorous, semiaquatic rodents. They preferably live in forested areas close to bodies of water (rivers, lakes, swamps, marshes) and feed on various types of grasses. Capybaras are social animals and can occur in groups of over 100 animals. If not hunted, they can become problematic in some regions because of their population density. Capybaras definitely became a problem in the rice fields in the mangrove areas in the proximity of Passarinho. Probably various factors jointly led to this situation. Inhabitants state that before there were less capybaras and some people hunted them for their own consumption, but since 1998 hunting these animals is considered by the Brazilian legislation as an environmental crime[1]. Additionally, since 2000 the area has the status of a Marine Extractive Reserve (*Resex Marinha*) which means an increase in control and environmental inspection. Whatever the exact reasons for these changes, it is clear that the salinization of water and the increasing numbers of capybaras jointly led to the complete abandonment of rice cultivation in recent years. It also greatly altered the social structure and life of the village. Many inhabitants of Passarinho migrated to other places – either their places of origin, or places such as the neighboring village of Canárias, considered more developed, and closer to the city of Parnaíba. More than half of the village left, and the remaining inhabitants had to migrate to other activities. In Passarinho, a whole part of the village called 'the other side' or the 'side of the Adrião family' disappeared. Once, there were over 30 houses on the Adrião's side. Today, only three of them are left, and some other traces, for instance the arrangement of some trees, allows visitors to guess where the former gardens were; tiles and bricks and an abandoned cemetery testify to the former social life. Today, Passarinho is seen throughout the region as 'the village that didn't get it', the village that did not develop, that did not manage to follow 'evolution' (e.g. buy quads for transport).

What Methods for Fluid Places?

What methods do we use to do ethnographic research on and in such floating environments? Are classical ethnographic methods enough or should we adapt our methods to the fluidity of the environment?

Up until now, I used classic ethnographic methods, for example immersion: I lived in a family, sharing daily activities and trying to immerse myself completely in the village life. Obviously, this entails 'participant observation'; I actively participated also in cashew and *murici* harvests, and also, somewhat less, in fishing activities. I conducted a lot of informal conversations and some semi-structured interviews. I also collected oral histories: I investigated people's biographies and the 'biographies' of some places (e.g. mangrove forest, sand dunes) that seemed to be important. In addition and in a more experiential way, I started to move along with my interlocutors, visiting various places.

Most of the methods I used so far clearly place humans and their narratives and practices at the center of attention. This was undoubtedly a good entry point to become familiar with the region and its inhabitants as it allowed me to learn a lot about the place. However, after some weeks of fieldwork, I

started to ask myself how I could further develop my research methods. I have found that in fluid environments such as delta areas, environmental materials (e.g. water, sand, winds) play a central role. So, one key question is: how to engage with these materials as an anthropologist? In other words, is it enough to engage with them through people's narratives, or should we develop special methods to get at them more directly?

The challenge is – and here I follow especially Kohn (2013), Ingold (2013) and Tsing (2014) – to tell stories that take not only humans but also other-than-human lifeforms seriously. This means that we should understand them as lifeforms that are not necessarily dependent on humans, be it as spokespersons or creators (Cardoso, 2016). One possible step could thus be to continue on along the 'tracks' or 'trails' that my interlocutors indicated to me during this first period of fieldwork. For instance, people repeatedly pointed out to me that 'Nature' is perpetually doing and undoing everything. The sea makes islands but it will also undo them. The river, closed off from the sea, might be dying for us, but not for Nature, because it can open it again at any time. That is, everything is in perpetual movement, always changing, always moving and flowing. The movement makes places and lifeworlds, and the doing and undoing of places goes beyond human action and thinking. Concretely, this means that as anthropologists we should engage in the mobilities of others (Ingold and Lee Vergunst 2008) and somehow try to pursue and trace the makings of others (Tsing 2013).

The question remains of how to do this practically, and I do not have a clear answer to this. However, I propose that one way could be to move along more intensely with people. In my fieldwork, I occasionally conducted something we could call 'go-alongs' (see Kusenbach 2003), or maybe it would be more appropriate to call them 'move-alongs' because they included various means of transports (quads, boats, horse carts) besides walking. I have not done this in a systematic way so far, but more opportunistically, which means whenever I had the opportunity to move-along with someone, I went. Often these move-alongs took the form of trips or excursions (*passeios*) with the objective of going to see something (a lake, sand dunes, a village, etc.) or visit someone in neighboring villages.

To move along is not an easy undertaking in the delta.

Transport is complicated and expensive. During the day, the sand gets so hot that one can hardly walk around. Furthermore, in Passarinho, since the arrival of the quadricycles, walking is not a common activity anymore. Nevertheless, I learned by doing these kinds of move-alongs that by moving, we actively create encounters with people and places. Moving, especially walking, gives a different sense and understanding of the environment we are in and the materials making it up. For instance, by moving along, people made me attentive to the importance of traces in the sand. Inhabitants are familiar with the footprints of other inhabitants and so, reading traces is commonly used to see who has passed by and whether they were a stranger or not. In particular, footprints found inside someone's fence are carefully studied. It is the property of sand that makes these traces temporarily visible and constitutes, thus, a sort of record of movements. It was by moving along, too, that I got a feeling of how tiring it is to walk in sand. My move-along partners taught me to search for the harder parts of the sand, usually lower parts that are slightly more damp because of the ground water below, or sand with some vegetation. Furthermore, I experienced how difficult it is to walk through mud that is sucking you down, that is so slippery that you suddenly lose all support and control over your body. As Tim Ingold[2] suggests, by walking we can no longer pretend to be moving on the world's surface as we are inevitably immersed and moving with, and not against, the material.

Besides broadening my personal experience and sensory engagement with the delta landscape, during my move-alongs, my interlocutors and I created shared experiences, stories we could remember and which could become knowledge afterwards. Often, it happened to me that people would only engage in a conversation about a place after I had visited it and they had the certainty that I knew what they were speaking about. The move-along methods thus produced much richer ethnographic interviews and conversations. Before doing move-alongs my interlocutors had already pointed out to me that Nature was permanently redoing everything. However, when asking for concrete examples of changes, asking what was different before, I did not receive satisfactory answers. In my own conception I defined automatically the 'transformations of Nature' as 'changes', but asking my

interlocutors about 'changes' always directed the conversation towards what they considered to be improvements of their life conditions such as the arrival of electricity or the improvement of transport through the quadricycles. Then, one day I visited together with my host family the neighboring village 'Morro do Meio'. As the name, 'Dune of the Middle', suggests, the characteristic features of the place include a couple of smaller and bigger sand dunes, the only ones directly on the island. Walking through these dunes, my interlocutors started to engage in a detailed account of the movement of these sand dunes over the island and explained how they had created the island several hundred years ago. Recollections of a former village just next to the dunes followed, and one of my interlocutors remembered fishing trips he had made close to the area. Not only were these in-situ interviews very rich in historical, ecological and social information, but once I was back in the village, asking other interlocutors about the dunes of Morro do Meio, they also suddenly engaged and became much more forthcoming in conversations about this place, and detailed how Nature, through the dunes, had made their island inhabitable. Moreover, some days later I was invited to 'go and see the place where a sand dune had cut the river off'. My interlocutor, a former fisherman, insisted on showing me the place, and on the way gave me a rich account of where the river had dried up and showed me places he had used to fish before and that had since transformed in muddy mangrove soil. Strang (2010) points out that movement through places, besides facilitating different kinds of ethnographic interviews, also draws on mnemonic values of the physical landscape: 'Places not only reflect the physical materialization of cultural beliefs and values, they are also a repository and practical mnemonic of information' (Strang, 2010: 978).

One of the older inhabitants explained to me that sometimes the transformations are so subtle that one can hardly notice them. Only people who engage permanently with the environment, who observe and remain attentive to the transformations, notice. In the eyes of my interlocutors, it was probably only when I started to engage myself with the places and thus the actions of Nature that I gained enough knowledge to hear their narratives about these places. In this way, going beyond a discursive engagement with the physical environ-ment – e.g. including sensory engagement – turned out to be a precondition for being able to access discourses and narratives about these places. Navigating through the physical environment, which is full of references to this ever-transforming action of Nature, also helped my interlocutors to verbalize these transformations. By moving and listening to the stories, I realized that these changes do not startle people but are inherent to local life. If there is permanence in this environment, it is the movement of Nature itself. The continuous transformations, the trope of Nature transforming everything, creates a sort of stability, a fluid order of the world.

Conclusion

For its inhabitants, a perception and sense of 'living on water', or of 'being floating', seems to characterize the specificity of living in the Parnaíba Delta area. The fluidity and permanent movement of the environment constitutes one of its specificities. The local perception of life in the delta urges us to take into account that life does not merely take place on a surface or in a fixed world, but rather in a fluid material world of various dimensions in constant becoming. Nature (Natureza) plays a central role in the movements and becoming of the place: it perpetually builds and unbuilds everything. This perception of Nature is, in this way, the opposite of the Western concept of Nature, which humans consider themselves to control and dominate. Natureza has its own agency, and is much stronger than humans, which is why it makes no sense for people to try to fight against it. Human beings are better off adapting and following the movements of Natureza.

Our methods, I propose, should align with the movement and fluidity of the place. As anthropologists, we cannot pretend to immerse ourselves in a social context and social life without also immersing ourselves in the 'natural' environment, as the social and ecological are not distinct domains of being but intertwined processes of becoming. ■

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Notes

[1] Law n° 9.605 February 12, 1998

[2] Tim Ingold in his presentation, Flying Swimming Burrowing: Life on the inside of a worlding world' at the Workshop, Research methods for volatile life-worlds in the hydrosocial Anthropocene', University of Cologne, January 17-19, 2018.

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6. Walking the Anthropocene: Exploring Multispecies Relations in Coastal Ecuador

Michael Viña

Abstract

What anthropological methods are best suited to studying multispecies relations in the Hydrosocial Anthropocene? How can we simultaneously grapple with human and nonhuman assemblages without reducing the latter to a template for the desires and meanings of the former? How can ethnobiology and multispecies ethnography— two subfields firmly anchored in grappling with human-nature relations—establish a more productive engagement? This paper aims to explore potential answers to these questions by juxtaposing freelists and structured interviews, standard tools in ethnobiological research, with walkabouts, also known as participatory transects, in rural appraisal studies. While freelists and interviews expanded my knowledge about marine fauna nomenclature and morphology, they also obscured the situated orientations that generate ecological knowledge, as well as the unexpected encounters that revealed how landscapes emerge through those humans and nonhumans that carve out their lifeworlds in shifting sites dominated by water, fish, and sediments. Multispecies ethnography offers an opportunity, following Tsing's suggestion that walking is a way of 'taking notice,' to learn about deep-seated memories and fragmented histories that stir hope, angst, and worry, thus revealing the uncertainty of building and dwelling in landscapes which are subjected to and implicated in socio-ecological changes of different intensities.

Introduction

With 'speculative wonder,' Ogden and colleagues in their review article Animals, People, Plants, and Things (2013) invite researchers to lay out a multispecies project that aims to relocate the all-too-human realm within a meshwork of lively material engagements and interspecies linkages. Similar developments such as Kohn's (2013) anthropology of life and Kirksey and Helmreich's (2010:545) multispecies ethnography have also emerged as scholars have become attuned to a 'host of organisms whose lives and deaths are [intimately] linked to human social worlds.' And while such literature abounds with life forms, substances, and vibrant materials, there is less mention, as is often the case, of the methodological approach used in such studies.

As the Anthropocene unfolds, and the anxiety over its detrimental effects on plants, animals, and habitats increases, multispecies ethnography opens several lines of inquiry that permit a close examination of not only human actions in the Anthropocene, but also the way in which plants, animals, and ecosystems have reacted to such overt manipulation, in the process co-creating new trajectories and opportunities that have spurred both subtle and dramatic landscape changes. Thinking, writing, and dwelling in the Anthropocene entails recognizing and emphasizing the intensity with which vast changes across the planet have occurred. However, research has tended to document these changes across terrestrial ecosystems with much more frequency than the changes occurring in intertidal areas and coastal zones.

Underwater, generations of diverse demersal and pelagic fish have long interacted with the increased pressures of pollution, acidification, coral reef degradation, and the proliferation of

larger boats and more sophisticated fishing implements. Although fishers in coastal Ecuador, where I conducted ethnographic fieldwork between 2014 and 2016, are unaware of the term Anthropocene, their narratives and experiences indicate that they have been feeling the pressures of accelerated environmental change. Fish-fisher relations provide a departure point to show that fish are also affected by many of the same forces that affect fishers and the broader region, and that they are not an undifferentiated mass of bodies; they differ in taste, they are aware of fishers' presence, they vary in behavior, morphology, proclivities, movement, and capacities. During my fieldwork, fishers insisted that the constitution of fish has changed to the point where they have become skinnier, smaller, and less oily, and yet at the same time have increased their capacity to outwit fishers. In order to take their claims seriously instead of framing them as beliefs or folklore, I required a methodological approach that did not position fish as background, objects of human perception, or reduce their subjective universe to an interplay between human categories and hierarchical taxonomies.

This paper aims to explore potential avenues for addressing this challenge by juxtaposing freelists and structured interviews, standard tools in ethnobiological research, with distinct kinds of walking experiences, an approach commonly referred to as walkabouts or participatory transects. While freelists and interviews expanded my knowledge about marine fauna nomenclature and morphology, they also obscured the situated orientations that generate fishers' ecological knowledge. Moreover, they could not account for the unexpected encounters that revealed how landscapes emerge from those humans and nonhumans that carve out their lifeworlds in shifting sites dominated by water, fish, and sediments as well as household and large-scale infrastructure. This burgeoning multispecies project offers an opportunity, following Tsing's (2015) suggestion that walking is a way of taking notice, to learn about deep-seated memories and fragmented histories that stir hope and angst, revealing the uncertainty of living in amphibious landscapes which are subjected to and implicated in socio-ecological changes of different intensities.

Ethnobiology and Freelists

Harold Conklin's groundbreaking research on the shifting cultivation of the Hanuoo and their intricate classification of plants, which detailed 1,600 different varieties (Nazarea 1999:3), has provided the launching pad for further ethnobiological inquiries and local ecological knowledge research in many guises and referred to using many acronyms (e.g. LEK, TEK, IK, and TKW) (Hunn 2007, Zent 2009). Burgeoning in the 50s and peaking in the 80s, ethnobiology encompasses diverse research projects ranging from comparative classifications of plants and animals, to fostering a more applied research agenda concerned with finding the links between local knowledge and science.

Freelists are a method commonly used in ethnobiology to elicit the items that belong within a semantic or cultural domain (e.g. plants and fruits) (Weller and Romney 1988:9). This deceptively simple task consisted in this case of asking interviewees to name all the fish they knew. I listed them one by one, noting additional information that surfaced during the activity. Since I was working within a highly diverse fishery with both warm and cold-water species, free listing provided the opportunity to become accustomed to the linguistic variation of the ichthyologic world.

In his seminal work on ethnobiological classification, Berlin (1992:8) argues that nature is not a continuum where humans construct arbitrary distinctions; instead nature is composed of discontinuous bits and pieces which reflect biological realities that impose themselves on the human mind. Ethnobiology takes the world we perceive as a singular reality rather than as an emergent, spontaneous, and relational process in the making. By assuming this position, Berlin does not posit an independent ontology outside human perceptions, and as a result, he unwittingly conflates how humans perceive the world and organize it with how the world is—what Miller (2016:120) refers to as 'ontological friction.' Berlin attempts to mitigate between a biological reality and human construction of the world, arguing that knowledge about the world cannot be arbitrarily produced but must conform to something out there—in his framework, nature's basic plan apparent through animal morphology, size, ecological salience, and locomotion, to name a few. As a result, the ethnobiological literature

often presents a natural world bereft of agency, an account that ignores the way in which the natural world affects human emotions and practice.

My perspective, which follows closely the thinking and writing of assemblage theory (DeLanda 2006), accepts nature's material autonomy with its full range of expressions, behaviors, and movements while accounting for a world of changing human and nonhuman agents that generate particular histories and socio-ecological realities (Blaser 2012). This move allows me to position fishers' ways of knowing and practices as partial and multiple due to the fleeting nature of fish, fishing gear, and the erratic behavior of El Niño. Thus, fishers continuously contemplate their approaches and probe the landscape, crisscrossing land and sea while attempting to understand the changing subjective universe of fish, because they do not conflate how they know the world with how the world is. That is, while fishers know plenty about the seascape, they are also aware that their calculations and predictions may falter. Referring exclusively to evolutionary relatedness and arbitrarily assigning a basic plan to nature fails to capture when fish act out of line and surprise fishers, or the possible reasons why they may not be at a specific location – or conversely, why they happened to be at a specific fishing spot when they were not expected to be there.

As my research progressed, I gradually strayed away from freelists, and once I concluded my interviews, I did not conduct follow-up interviews, but decided to clarify my doubts through encounters generated by walking. Walking best captured other themes and ethnographic moments such as the rhythmic presence and absence of fish and the multi-scalar infrastructure designed around fish that serve as attractors of profit, knowledge, conflicts, and sharing.

Presence and Absence

One humid evening I sat with Carlos to freelist different fish names. I asked him exactly the same question I had asked seven other fishers: 'please list all the fish you know.' He provided 134 different fish names while relaying interesting morphological information and some of the ecological habits of fish. I learned for example that many fish change names as they grow from a juvenile to an adult stage. Other fish such as *ladron* (thief) (*Paranthias*

colonus) are named because of their penchant for certain behaviors such as stealing fishers' bait, or, in the case of the *enterradora* (digger) (*Astroscopus zephyreus*), its tendency to burrow in the wet sand. After I concluded this freelisting with Carlos, we decided to walk to the seafront area to check the nocturnal tide level. As we passed a small temporary lagoon that emerges during times of sporadic rain near the river mouth, he mentioned that when the water levels of the lagoon are high enough, his father throws fish guts into the water to feed young fish and crustaceans. After a couple of weeks, he said, the fish grow quickly and are ready to be caught when the extreme tide makes its way to the lagoon and unsettles the bottom, 'you can tell when the fish are active; there are certain shapes in the water, small shapes that look like the number three.' With a wistful tone in his voice, he mentioned that his father's tendency to feed young shrimp has diminished due to the lack of rainfall and strong swells coming together to produce the brackish water that humans and fish desire. Thirty years ago, this lagoon would last for several months, providing locals with a mosaic of crustaceans and fish.

As he described the scene, he began naming some fish, *domingo (Trachinotus rhodopus), guapuro (Polydactilus approximans), leonora (Chaetodipterus zonatus), olloco (Xenichtys xanti)*, all of which had disappeared from the area or were rarely seen. I wondered, much like Carlos, how it was possible that a place so rich and abundant has declined to the point where the terms 'endangered' and 'extinction' are being used daily in reference to fish, livelihoods, and community.

Later that night, I noted that none of the fish Carlos had mentioned showed up on the lists. In this sense the list's failure to capture these absent fish provided an opportunity to ask, while walking and fishing, about the unlisted fish. Some fishers pointed out that those fish were not around anymore while others had simply forgotten about them. When I told fishers that I had seen the *leonora* at the market in my travels south near the Peruvian border, they immediately recounted the species' previous abundance in these waters, and their memories of catching and consuming it, while wondering why the *leonora* stopped coming to this area. Walking with Carlos involved imagining fish, predicting conditions, and reflecting on the current state of the fisheries, juxtaposed with a nostalgia that sits

uneasily between resilience and utter loss.

Fishers' ways of knowing did not only involve perceptions about what is visible today, but also encompassed what was visible and palpable yesterday, linked to the changes occurring throughout different yet overlapping fishing sectors. Knowledge cannot be encapsulated in a static list of names or elaborate taxonomies, but instead co-evolves through environmental engagement and the different rhythms according to which fish make their presence and absence felt. While Carlos may have been content answering my inquiry according to the template and instructions provided, when the tables turned, and he dictated the route of our walks, other themes, stories, and ways of knowing emerged.

Fishy Infrastructures

A beach seine net hangs vertically in the water with weights equally spaced along the lower edge and floats on the top edge of the net. The net is cast from an eight-meter boat a few hundred meters from shore and is pulled on each side by a contingent of men, women, and children. Setting a beach seine outing requires much effort. Some men run with ropes and gasoline containers shouting instructions to the younger fishers. Others walk at a slower pace pushing a large tricycle while making sure to keep the 75hp Yamaha engine steady. Clusters of two to three men begin to walk briskly, dispersing throughout town in search of able bodies willing to pull the net and secure some fish for their households.

Once the pulling, securing, and distribution of fish has taken place in the seafront area, people return home, walking contently and hugging each other side by side with fish tied to their waists by a short rope. Body postures changed drastically from the initial rush and subsequent pulling of the net to the slow and relaxed return home. Following people and fish back to their home gardens after a fishing outing concluded led me to interact in the more intimate realms of household infrastructure. These intimate sites scattered across home gardens are not so separate from fish as they first appear; water cisterns contain young freshwater fish known as *chalaco (Dormitator latifrons)* to reduce dangerous mosquito populations; processing tables host the guts and blood of fish, as these are gathered in plastic bins to feed the hungry pigs, chickens, roosters, and ducks that consume the fish guts with great gusto. In addition, ashes from calcined fish guts and fishbones nurture many of the plants in and around home gardens.

At one of these ubiquitous processing tables, Bryan began processing and cleaning a jack he had caught earlier that morning. As he wrapped the fish in plastic, he remarked, 'look at this fish, he fought and fought, and we pulled for hours. He would've never imagined he would lose, but his life continues, and he is now headed to the highlands by bus.' Following Bryan's suggestion, I was careful not to assume that the life of a fish ends once its heart stops beating and its carcass lies in a fishing boat. Fish continue to inject vitality into people's bodies, households, the community, and markets as they are moved from site to site, processed, sold, shared, and consumed. Noting the afterlife of fish after people finish consuming it, discarding the vertebrae, head, tail, and spines just outside their front yard, the fish also goes on to fulfill the needs of other creatures, namely flies, cats, grubs, dogs, and worms.

Walking through these home gardens and their intimate infrastructures also revealed an intense ecology of sharing and bonding that occurs between kin and friends and across households, as well as the emergent knowledge that is ignited through processing, inspecting, and cooking fish. For instance, women also noted changes in fish and fisheries through detailing the changes in fish organs, specifically the fish bladder, known locally as *buches*. While women processed the mangrove snapper, they commented that their bladders were smaller and shriveled when compared to fish of the same size in the past. Although ten women mentioned the mangrove snapper in the freelists, not one of them mentioned the change in its bladder during our conversation. Neither interviews nor freelists fully captured the multi-sensory engagements that emerge when people encounter the materiality of fish—blood, guts, organs, and scales.

It wasn't only fish per se that I incessantly followed through unexpected paths; the rumors about the potential presence of fish often reoriented my direction. Rumors move like fish; they come and go with different intensities, and for fishers, being in the loop of these rumors may often lead to good catches. On this occasion, word was out that jacks *(Caranx caninus)* and black skipjacks *(Euthynnus*

lineatus) had been spotted near the Isla Salango. Decades ago, Salango was the site of a beach seine cooperative consisting of twenty-two net owners who employed a turn-based system near the Island to catch black skipjacks and other scombrids. Such was their penchant for skipjacks that Salango fishers became known as come *negras* (black skipjack eaters) (see Southon 1989). Today the cooperative no longer exists. Only a few old, dry, and dusty beach seine nets remain in Salango. One of the main reasons for the breakdown of the beach seining cooperative was the emergence of fishmeal factories linked to large-scale purse seining. Net owners gradually sold their nets and began to negotiate with merchants, accumulating copious amounts of debt to acquire larger boats with sophisticated technology allowing greater capacity to fish in untapped areas. Many fishers describe this transition as the moment the fishery became fragmented as each fishing family began to pull their own way and abandon the syndicate—decision-making as a collective unit was no longer relevant. However, the sudden presence of skipjacks ignited a nostalgia for fishing with dugout canoes and smaller seine nets. Although beach seining is prohibited, a small group of men defiantly cast their net in front of one of the largest fishmeal factories in Ecuador, established in the late 1970s. While the outing occurred, many women and men rejoiced at how the ongoing scene reminded them of the good old times—when the factory's foul smell wasn't around, and skipjacks abounded!

Fish blur the ostensible categories of traditional and modern, remaking these banal categories into an uneven terrain similar to the overt human manipulation characteristic of the Anthropocene such as technical and administrative practices that reduce fish to objects of profit-making schemes. Fishers and merchants also engage in similar practices, reducing fish to fluctuating market values that may generate a couple of dollars on the side selling a few mullets, to heftier 60,000-dollar earnings after a bountiful purse seine catch. In similar reductive ways, state economists remake fish to fit the calculative models used to quantify and predict the Ecuadorian GDP vis-a-vis other countries with a strong fishing sector. Not all fish end up at the stalls of local or regional markets or on the tables of households or restaurants. As fish are sucked through underwater pipes into the Salango fishmeal factory, they are trans-formed into completely unrecognizable forms. For example, fish such as sardines are steamed, pressed, and transformed into fishmeal used to feed industrial chicken and pigs. Bags of fishmeal are also purchased by large-scale shrimp farms to sustain their vast shrimp populations. Moreover, fish oil is a valuable commodity sold in health stores around the world in bottles labeled Omega 3, containing tiny gel capsules.

Though the intimacy of home gardens may lie in stark contrast to the large scale, almost lifeless white and blue walls, steel pipes, and uniformed guards of the fishmeal factory, they are both woven into the ecology of sharing, as fishers on industrial ships funnel fish into the community, generate extra money on the side, and accumulate the end-of-year company bonuses that are later reinvested in their households and small-scale fishing operation as well as circulated among kin and non-kin alike. Fishers entangle and shape industrial fishing through a meshwork of both rhizomatic and arborescent (DeLanda 1997) practices that temporarily draw in captains, fish, coastal patrols, and fellow fishers.

Conclusion

I did not walk only to reach specific points in town or the intertidal zone, but rather walking involved developing ethnography and theory while following trails and paths, sometimes taking unexpected detours with companions. The detours over muddy, wet, dry, and soft surfaces, more so than the old weathered and foot-worn trails, were fruitful in leading me to carefully note the qualities of water, land, and fish and how people mobilize these to stake claims over territory and livelihoods. While walking with fishers, I was also exposed to the more-than-human history of the area. Men and women relayed the historical ecology of mangroves, mountains, rivers, and the sea as well as the changes in marine and terrestrial fauna. They pointed out the changing constitution of the sea, and the plants and trees that no longer grow along the riverbanks, a consequence of rampant deforestation and lack of steady and significant rainfall. Memories and environmental histories textured our walks, but these walks also involved imagining, reminiscing, and generating future imaginaries that reveal the anguish over the possibility that the younger gener-

ation might not know, follow, catch, process, and eat the fish that their elders have come to appreciate over many decades.

Walking is an equally useful approach to understand how fish and fishers partially enact scales across overlapping fishing sectors and diverse kinds of infrastructure. Fishers link up with socioeconomic processes that take place across vast distances, particularly in the form of rampant tourism development and the large-scale fishing industry. In walking across different terrains as well as following fish and the rumors they spark, it is possible to show how the ostensibly distinct categories of local and global or traditional and modern are ill-equipped to deal with the different rates of movement and mobility by which different landscapes, nonhumans, knowledges, materials, and technologies shape everyday life in the Anthropocene. ■

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7. Around and Around: *'Kyauk Pyin'*, Alluvial Lands and the Challenges of Ethnographing Volatility in the Ayeyarwady River Delta

Benoit Ivars

Abstract

In the alluvial landscape of the Ayeyarwady River Delta (Myanmar), life takes place in an interplay between the advance and retreat of river sediments, which corresponds to the contraction and expansion of village land. Although the river continuously enriches the soils with the deposition of alluvium, it also holds the land in suspense in a world of risk mixed with uncertainty. In this paper, I reflect on the image of the 'kyauk pyin' used by a key informant in the field, depicting the circular pattern of life on the alluvial lands ('kaing-kyun' or 'myei-nu-kyun') along the Ayeyarwady (Irrawaddy) River. I will argue that narratives and images might provide a fruitful tool to explore and conceptualize life experience in volatile settings. The representation of the 'kyauk pyin' captures some of the directions, movements and positions of the 'kaing' dwellers. Following this image, I discuss my experience in engaging with dwelling practices on the alluvial lands.

Introduction

U No Tu is a heavyset farmer, specialized in the production of chili peppers and living on the edge of an alluvial island named 'Pyi Taw Tar' located in the middle of the Ayeyarwady River. When I spoke to U No Tu for the first time, he stunned me by using the words *'kyauk pyin'* and *'thanaka'* to echo his dwelling as a farmer living in the midst of waters. *Thanaka* is a yellowish paste that Burmese people apply to their cheeks, noses or necks. The paste is made by rasping a tree bark with water on a circular stone called *kyauk pyin* which has a channel around it to drain the water. The stone possesses several distinctive features. It has a center and an axis of rotation, and organizes other elements in circles around its center. It further stimulates the paste obtained through a rotational movement of the hand with the addition of water (twisting it back and forth). By employing this image, U No Tu tried to convey the idea that life

on the alluvial islands, which are annually flooded, regardless of the river flows, follows circular shapes, illustrated by the repeated clearing of the land, the building and rebuilding of farm structures, and the reconstruction of houses or displacement of entire villages across the river. He adds that land is constantly appearing and disappearing with a speed never before known, from one bank to another (*'ta phat ka paw yin ta phat ka pyo dar'*; literally, 'when one bank erodes, land appears on the other', illustrating the idea of a repetition of the land).

I build on the image of the *'kyauk pyin'* as a productive heuristic for both theorizing and empirically investigating 'volatility' in the context of the Ayeyarwady River Delta. The *'kyauk pyin'* says the skills of the *'kaing'*[1] dwellers consist 'in rounding' *('loun: hjo:')* by continually observing and anticipating the movements of land and water (erosion, accretion, etc.) when selecting their settlement sites, choosing their crops or extending their territory on the river. That constant passing to and fro, that neverending shifting land, and the uncertainty of flooding being

always present to the senses, is reflected in the 'loops' – sometimes accelerated, sometimes held back – of the people across the river.

In this paper, I describe how I have been working with this idea of 'circularity' and discuss the importance of 'unpacking' concepts such as change and volatility, and the need to grasp how people make sense of their own lifeworld on an everyday basis, exploring local categories and images of 'change', difference, and repetition. Life in deltas is generally presented as unstable and insecure (e.g. Coclanis and Stewart, 2011). Farming along the alluvial margins of the Ayeyarwady River Delta has never been easy, seldom been safe, and never been risk-free. Yet, the assumption that deltas are inherently volatile and uncertain environments often appears ungrounded, covering a multitude of processes and changes, such as erosion, mangrove degradation, flooding or coastal squeeze. This assumption is created by views of deltas both from below (e.g. sediment measurements, etc.) and above (e.g. satellite imageries, remote sensing, etc.), but ignores more specific questions, including for whom, when and where precisely deltas are volatile. Within the same hydromorphological delta, there may be a multitude of different deltas and volatilities for different people. In this paper, I argue that an ethnography of hydrosocial changes in a context such as deltas can provide more on-the-ground perspectives on how delta dwellers live and experience uncertainties and change in land and water. Images and metaphors such as that of the 'kyauk pyin' may appear as fruitful representations for exploring how delta inhabitants tell and represent their stories and navigate in their environment.

Ethnographic Strategies: 'Grounding' the Narrative of 'Circularity'

An initial step in my research has consisted in documenting the social and political history of the Ayeyarwady River Delta. I was notably interested in the ways the categories of *'kaing'* (alluvial land) and *'kyun'* (island), which relate to the image of the *'kyauk pyin'* used by U No Tu, are used. In mid-2017, I spent time in the national archives, located in Yangon, reading materials associated with the Delta. At the time, I was broadly interested in the infrastructuring and geographies of the Delta,

a preoccupation shaped by my positioning between an anthropologist and a geographer[2]. I complemented this exploration by consulting the Indian Records in the British Library in London in early 2018 (following a previous session in January 2017). The first step of my research hence resembles a back-and-forth movement between the ethnographic field sites and archives. In this paper, I discuss three perspectives considered as part of my ethnographic strategy, including (1) archival research, (2) a study of village settlement and people's mobility, and (3) the exploration of cropping and debt practices.

(1) An archival perspective of the administration of *'kaing'* land

The term *'myei-wa-kyun-po'* ('delta' in Burmese, literally 'the island at the opening of the river') typically indicates the significance of the category of island (*'kyun'*) in the conceptualization of the Ayeyarwady River Delta, a network of cross-connected rivers with so-called islands included between their branches (see fig. 7.1). The British Administrators, who ruled the delta as part of colonial India from 1824 to 1948, extensively refer to the term 'island', and the land reclamation structure in Lower Burma in the XIX-XX century notably takes place 'island-by-island' (Ormiston, 1907; U Tin Gyi, 1931). Many toponyms found in the delta carry the term *'kyun'* (island). The embankments which characterize the upper part of the delta are named 'horseshoes', in relation to the saucer-shaped contours of the islands, and because they resemble a horseshoe with the opening facing downstream. These U-shaped embankments not only shape the flood and settlement patterns, partially encircling the land, but also contribute to a division of the land. The mainland (*'myei-ma' or 'le-myei'*) is mainly dedicated to rice cultivation, while in the alluvial lands (*'kaing-myei'*) located outside the embankments, miscellaneous crops (known as *'kaing'* crops) such as corn, beans, groundnuts, chilies or tobacco are embraced by the cultivators. The alluvial islands (*'kaing kyun'* or *'myei-nu-kyun'*) must not be confused with the portions of mainland (*'myei-ma'*) which are designated as islands due to their position in relation to the surrounding creeks and rivers. The construction of the dikes involves a change in the patterns of erosion and avulsion and profoundly influences the settlement patterns and conditions of life along the
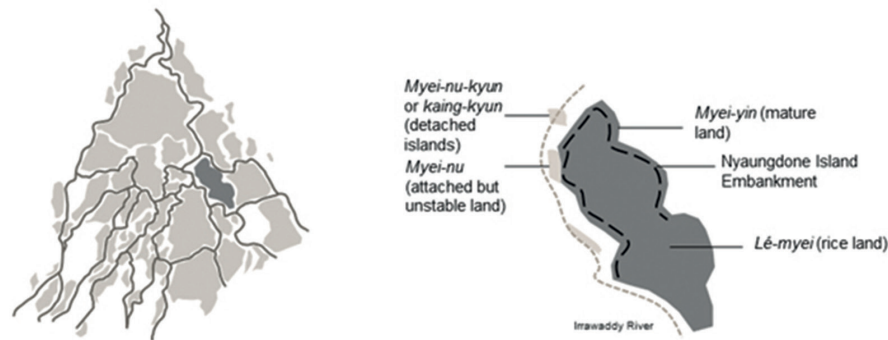
Figure 7.1: An illustration of the Ayeyarwady Delta with main rivers and 'islands' (left) and the different categories of land in the Nyaungdone Island (right) (source: author)

river. The embanking of the Ayeyarwady River also provided direction to the alluvial dynamics (erosion, avulsion, and also expansion of village territories), the colonial embankments being for instance originally higher on the West Bank of the River (Candy, 1931).

With the annexation of Lower Burma by the British Empire in 1852 and the introduction of the Burma Land and Revenue Manual (1900), '*the tenure of the island-land becomes communal and the persons entitled to cultivate island-lands are the inhabitants of the village-tract within the boundaries of which the lands are situated'* (p. 113). Since then, the rights to access and cultivate the alluvial lands (*'lo-paing-kwin'*) accrue to the nearest village. In the case of land appearing between two village tracts or townships, the administrative boundaries apply, following generally the deep-water channel (*'ye-ne-chaung'*). Law operates a distinction between the permanent land (*'myei-yin'*, literally 'the mature lands') and the impermanent or unstable land (*'myei-nu'*). Unlike the permanent parts of islands, which are administered on the same footing as the mainland areas (cadastral survey, distribution of land titles, etc.), the *'myei-nu'*, which undergoes yearly change in composition, texture and shape, and which are to be surveyed annually (Ibid.), can be re-allotted every year.

The Land Nationalization Act (1953) that followed the independence of Burma introduced new criteria for the administration of the alluvial land, by giving priority to landless households, including through the constitution of groups. The distribution of the land is hence directed towards *'voluntary groupings of landless agricultural labourers'* (Henderson et al.

1968, p. 217) by the granting of land-use rights with the State retaining the ultimate ownership of the land. The current management of the island-lands (both stable and unstable landforms) as provided in the Farmland Law (2012) follows similar principles. Land is distributed by lottery systems organised at village level. The measurement of the nearest village, the identification of the deep-water channel and the distribution of the land between potential beneficiaries are subject to continual disputes between villages and 'kaing' dwellers. In many cases, the rule of the closest village is supplanted by local custom, which generally consists of the negotiation of territorial boundaries between villages on the river. At the village level, access to the land is also enmeshed in local power relations, along with claims and disputes between villagers over the criteria for distributing the newly appearing land.

(2) Tracing movements: the perspective of an alluvial settlement

The pace of change in the alluvial lands poses another difficulty for investigating perceptions and experiences of hydrosocial changes. Alluvial lands appear and disappear in relatively short periods, leaving the inhabitants with no option other than moving, sometimes every five or seven years, sometimes every two or three years. Access and rights to cultivate alluvial land are often a source of conflict. Any attempt to reconstitute the history of an alluvial settlement becomes merely a political exercise, at least from the perspective of land tenure. It is still, for instance, difficult to access the cadastral maps held at the Township Department of Agricultural

Land Management and Statistics (DALMS). The volatility of the alluvial land is echoed in the diverse strategies and attempts to gain profit from the process of land distribution. Rather than entering directly through the angle of tenure and land allocation, I decenter my focus towards the exploration of toponyms and the mobility of people across the landscape, focusing on the village of Ngwe Taung Yan, in the Township of Nyaungdone.

U Kyaw Hlaing is a *'kaing'* cultivator living in Ngwe Taung Yan, and born in a village named Shwe Hin Tar Kyun, located on the East Bank of the Ayeyarwady River and lying within the territory of Sine Tone village tract. The village of Shwe Hin Tar is still known as an island, while the land is considered mature (*'yin'*), and administered as such (Land Use Certificates known as LUCs are for instance distributed to the cultivators). Originally, Shwe Hin Tar was an island, which appeared in the middle of the river and progressively moved towards the east bank where land accreted several decades ago (see fig 7.2, the village tracts of Se Kawt Ye Le and Nat Pay). The term 'island' marks both the past and future of the land, which always holds a potential for returning to being an island due to erosion. U Kyaw Hlaing got married to Daw Khin Hnin in 1976 and bought four acres of land on a newly appearing islet known as Se Kawt Taung Kyun.

The term *'taung'* means sandy, and *'Se Kawt'* refers to the geographical position of the island, located near the village tract of Se Kawt on the West Bank of the River. Se Kawt Taung Kyun is a toponym that repeats in the history of the alluvial settlement. Local informants hold that the newly appearing land (*'mjei-nu'*) came from the West Bank of the River near Se Kawt Village. After the distribution of the land, a new village named Shwe Hin Tar was created on the island. Most of the *'kaing'* dwellers who moved to Shwe Hin Tar were people living in neighbouring villages located on the west bank of the river. With the increase in population and the maturity of the land, the alluvial settlement became an official village in the early 1960s. The same process applied to the creation of Ngwe Taung Yan Village when groups of people originally from Shwe Hin Tar decided to establish a separate village located on the newly appearing land in front of Shwe Hin Tar. Becoming a new village is an essential step in the alluvial landscape as it implies its own boundary and right over the newly appearing land. Thus, if the

maturity of the land is an important aspect of the social and ecological dynamics, the 'administrative' maturity of the alluvial settlements is also crucial. A large part of the inhabitants of Ngwe Taung Yan originate from Shwe Hin Tar Village, which itself emerged from the migration of villagers from the west bank of the River and from Se Kawt Ye Le (see fig. 7.2). In this sense, the village of Ngwe Taung Yan can be viewed as a 'derivation' of Shwe Hin Tar, which later became independent. The households that settled in Ngwe Taung Yan were newly married couples or families who faced land erosion in Shwe Hin Tar. In this sense, the village of Ngwe Taung Yan, while being an independent settlement, is sometimes said by villagers to be *'Shwe Hin Tar a' paing'* (literally, 'owned by Shwe Hin Tar').

New settlements, however, do not necessarily succeed in becoming independent. For instance, Shwe Taung Yan (literally, 'the golden sandy shoal'), a village located at the edge of the river, faced severe erosion episodes, which forced the inhabitants to move several times. Currently, part of the households are registered in neighbouring villages including Ngwe Taung Yan, while others relocated to a tiny piece of land registered under Shwe Taung Yan but which faces extinction due to the river bank erosion.

The alluvial history can be apprehended in terms of 'derivation', which I understand as the action of establishing new villages, following the movements of the land and river, creating new frontier settlements. For instance, the seniority of a village like Shwe Hin Tar makes its group more powerful than Ngwe Taung Yan, which was created by a group of landless people who are former inhabitants of Shwe Hin Tar. This is notably reflected in land allocation processes. Whenever new lands appear close to Ngwe Taung Yan that should receive the land according to the nearest village rule, Shwe Hin Tar would hold a claim, and would generally receive a share of land. The settlement trajectory and local arrangements imply different historical and political positions and interpretations (e.g. contesting the antecedent/seniority of a village over more recent settlements, the rule of the closest village). It follows that the criteria for the distribution of alluvial lands are linked to the larger history of the village settlement, including individuals and groups decisions to migrate and cultivate newly and less stable land.
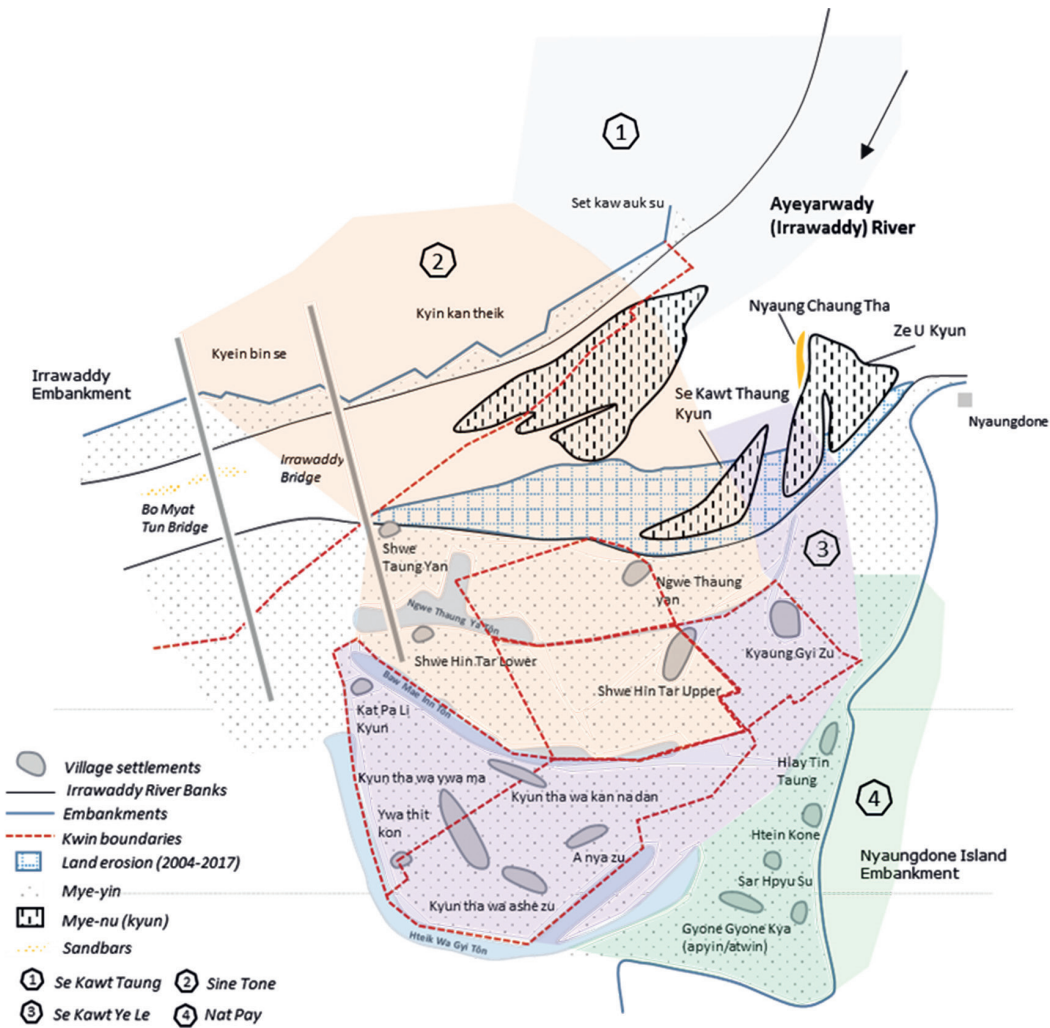
Figure 7.2: The alluvial landscape near Ngwe Taung Yan Village, which consists of different village tracts or territories (see 1 – 4). Every village located on the East Bank of the River originates from previous settlements, with the older alluvial villages being found close to the Nyaungdone Island Embankment in Nat Pay and the more recent along the Ayeyarwady River. Kwin boundaries indicate the village cultivating areas. (source: author)

(3) Agricultural Rhythms and Credit

The inhabitants of Ngwe Taung Yan Kyun are predominantly farmers. The study of agricultural rhythms thus appears suited for understanding how the 'kaing' dwellers adapt to their environment. A large part of my fieldwork hence consists in exploring the cropping strategies and agricultural decision-making. Adjusting to the floods to prepare the seedlings, anticipating the amount of sediments received by the land in selecting crops, and balancing the risks and uncertainties between different plots are central to cultivating the riverine landscape. In the last three years, flooding patterns have been changing, and the cultivators experience more difficulties in predicting the river floods. It is generally agreed that the river water will submerge the land twice each year. However, in the last years,

a third period of flooding has put a large number of cultivators at a loss. Farmers from Ngwe Taung Yan devote a large share of their land to cash crops, which are affected by high price volatility, hence adding another layer of uncertainty to a land which is always prone to erosion and flooding.

Credit and debt are the lifelines of *'kaing'* cultivation. Agriculturalists heavily depend on loans to meet their expenses, since they lack financial resources to invest in their crops. In order to manage the various lines of credit, cultivators articulate their cropping by using different strategies: ordering the succession of crops, such as with rows intercropping (two or more crops grown simultaneously in the same field in a distinct row arrangement) or relay intercropping (two crops associated in the field at the same time during part of the season), in order to rotate their debt. Due to a high level of indebtedness, cultivators

in Ngwe Taung Yan are very sensible to crop losses. The popular expression in Burmese *'kyun kaing hmi, kaing kyun hmi' (literally the Islands rely on reeds just as the reeds rely on islands)* that builds on the symbiotic relation between the *'kaing'* grasses and the alluvial lands on which they grow, echoes the relation of interdependence between the land and the credit. The *'kaing'* cultivators need land in order to rotate their debt as much as they need the credit to make their land productive for farming, as held by local informants. Farmers can become landless from one year to another due to erosion. The balancing of debt across the fluctuating periods of 'landing' and landlessness are key to the ways villagers in Ngwe Taung Yan engage with land and water volatility. In this sense, I consider that the volatility of the alluvial lands is not merely reflected in everyday practice, but is actively shaped and negotiated, notably through cropping strategies, debt practices, and land allocation.

Conclusion

Following metaphors and narratives or storylines can be useful for ethnographically investigating how local inhabitants elaborate on the multifaceted aspects of delta life, such as the processes of land allocation, mobility, or the uncertainties of farming. In this paper, I used the metaphor of the *'kyauk pyin'* as an analytical tool with which I have tried to embrace different perspectives (archival, spatial, and rhythmic). Juggling with different angles and dimensions, such as archival research or toponymy analysis, can be a fruitful way to approach how differently situated people position themselves and interpret their actions in the alluvial context of the Ayeyarwady River Delta. Delta inhabitants, for instance, employed the *'kyauk pyin'* metaphor to highlight community obstacles in the settlement and cultivation on land surrounded by water. The metaphor implies a certain solidarity between villagers in the face of erosion, including when moving their houses or between landless and landholders for agricultural wage work. The *'kyauk pyin'* metaphor is followed by the expression 'jumping from one place to another where the blanks are', voicing the idea of movements across the alluvial lands and across the river. In an environment as ephemeral as the alluvial riverbank, where not only the lands, but

also entire villages, groups, settlements, and crops are ceaselessly disappearing and (re)appearing, the circularity of the *'kyauk pyin'* provides some clues about the villagers' action logics and patterns of life. ∎

Acknowledgments

Notes

[1] Land classified as '*kaing'* means alluvial land. Cultivators on the alluvial land and islands are known as '*kaing thama'*. The term '*kaing'* also refers to a coarse elephant grass (Saccharum spontaneum) which forms the largest part of the vegetation on alluvial land.

[2] The main supervisor of this PhD research is Franz Krause (UoC), anthropologist and principal investigator of the Delta Project. Jean-Philippe Venot, geographer at the Institute of Research for Development (IRD) is second supervisor.

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8. Trapping Trappers, and Other Challenges of Ethnographic Fieldwork in the Mackenzie Delta

Franz Krause

Abstract

A strategy used by hunter-gatherers to procure food is to be opportunistic and flexible, improvising their activities as they go along. Furthermore, when hunting, fishing and trapping, their success often depends on luring animals into a particular place or predicting their movements, rather than directly pursuing them. Preparing, waiting, and returning empty-handed belong to hunting and gathering as much as do going out and bringing back prey. These characteristics are also prevalent in the techniques used by the people who hunt, fish and trap in the Mackenzie Delta. Through ethnographic fieldwork in and around the hamlet of Aklavik in the Mackenzie Delta, I have come to think of my research as akin to trapping. I am pursuing ever-elusive stories and knowledges, and eager to participate in meaningful activities that may be long delayed or over by the time I hear of them. Every so often, I feel like I happen to be in the right spot at the right time, but I also spend a lot of time attempting to prepare useful encounters, and at least as much time waiting for things to happen. In this essay, I reflect on the parallels between trappers' and ethnographers' work practices, based on my experiences in the Mackenzie Delta. I will suggest that researching a volatile social and ecological world may require opportunistic, flexible and improvised research methods.

How do the flexibility, informality and improvisations that delta inhabitants use to get by in a volatile world translate into anthropological fieldwork practice? If our research participants' realities are characterized by rapid and uncertain transformations, and their responses to and participation in these realities are creative and spontaneous, then what does this imply for an ethnographic method? This essay reflects on some of my early fieldwork experiences in the Mackenzie Delta, in the Canadian Northwest Territories, from early August to mid December 2017. It can be seen as an attempt to understand the flexibility of the people who interacted with me, in a context where many aspects of social life, at first glance, seemed to point towards increased stability. In the beginning, this flexibility was frustrating for me, as a researcher trying to make and keep appointments and plan the project's development. Only in time did I begin to see that this flexibility – which could easily be mistaken for unreliability or carelessness by an outsider – is an essential part of the wider creative spectrum that I had come to learn about. This in turn, made me think of my own fieldwork practice as a more flexible endeavour, for which I found 'trapping' a productive metaphor. In a similar way to that in which some Mackenzie Delta inhabitants carefully set traps to catch furbearing animals, I attempted to craft situations – i.e. metaphorical 'traps' – in which I would be able to 'catch' the stories, experiences and knowledges that I hoped would help me answer my research questions.

A Stabilizing Delta?

Let me begin to explain this metaphor by outlining the context of my fieldwork. In the Mackenzie Delta, I was living in Aklavik, a hamlet of roughly 500 inhabitants, the large majority of whom belong to either an Inuit group, the Inuvialuit (Alunik, Kolausok,

and Morrison 2003; Lyons 2009), or a Dene First Nation group, the Gwich'in (Slobodin 1962; Loovers 2010). I had been drawn to this Delta because of the stark, and ongoing, transformations that had been reported from the area: economic booms and busts that shook people's careers, aspirations and livelihoods; environmental and climatic changes that literally melted the ground under people's feet, homes and trails; and cultural ruptures, where indigenous identities were being obliterated in some ways, and forcefully redefined in others. I had been – and still am – interested in how social life works under such conditions, and how people carry on and redefine what they do and who they are in the process.

My fieldnotes provide some hints that may help me tackle these questions. Economic fluctuations have not only fostered the continued significance of subsistence hunting, fishing and gathering, but also instilled a sense that progress and prosperity can only come from the outside and local initiatives for economic development are doomed to fail – unless they mimic the ways of the hydrocarbon industry, the military or large state-sponsored infrastructure projects. This means that many Aklavik residents have learned to favour larger vehicles, stronger boat engines, and mining and road construction. Such attitudes are mirrored in the way people discuss bridge projects, erosion control and gravel use: rock and concrete, two ostensibly hard materials that used to be virtually absent from the delta, are now considered the solution to many of the challenges associated with melting permafrost, rampant erosion of river banks, and increasing siltation of channels. And even the ethnic categories in the delta have been hardening and homogenised to some extent, largely in the context of land claim negotiations and implementation, where becoming a participant of either the Inuvialuit Final Agreement or the Comprehensive Gwich'in Land Claim means officially assuming a single and exclusive affiliation with one aboriginal group. This implies ignoring the manifold European, and occasional African or Pacific, heritages that some people are proud to point out in their ancestry, not to mention the widespread cases of mixed Gwich'in-Inuvialuit families.

Appointments and Spontaneity

These summary observations might suggest that life in the Mackenzie Delta is indeed solidifying as a response to its recent volatilities. Rather than meeting uncertain fluctuations and transformations with equally flexible forms of livelihood, mobility and belonging, the opposite seems to be the case, where many adaptations are reminiscent of a military logic of occupation, an industrial logic of large-scale extraction, and a governmental logic of fixed population categories. However, reading through my notes also suggests another theme in my Aklavik fieldwork, which speaks not so much of solidification and occupation, but of my very own trials, frustrations and surprises in the context of trying to accompany people in their daily activities, especially when they leave the hamlet to attend to their various undertakings in the delta. I frequently note how tricky it is to get a hold of people to accompany them, despite their general openness to my project and their explicit affirmation that they would take me along next time they go out. Conversely, I also document a few cases where people spontaneously let me accompany them, or even showed up in front of my place unannounced, ready to take me along on a fishing trip or camp visit. In short, I am sensing a rather pronounced degree of flexibility in the way many residents of Aklavik relate to their plans and other people, quite unlike the solidification that I observed as well.

Before presenting this phenomenon in more detail, and reflecting on what this does to my fieldwork practice, let me explain why I have been so eager to join people on their journeys. Today, most of the Mackenzie Delta inhabitants live permanently in settlements, either in Aklavik or around the fringes of the Delta in Tuktoyaktuk, Inuvik, Tsiigehtchic and Fort McPherson. This was different only a generation or two ago, or at least this is how the story goes. Until the 1970s, these places were trading posts with a mission church, a school and other government institutions like a police station attached. Some people already lived in these places permanently, but most only came to visit and attend celebrations and gatherings, to sell their furs and other products, and to restock with supplies that were not available in the Delta, including fuel, tea and ammunition. They spent the majority of their time in the delta or the nearby mountains and coast in their

various fishing, hunting, whaling or trapping camps (cf. Wolforth 1971). Today, the pattern is reversed: people live in Aklavik, and only visit their camps for fishing trips etc. Most often, they do not stay overnight at their camps, and if they do, they might visit Aklavik for a trip to the store and shower after a day or two. Nevertheless, being what they call 'on the land', and doing on-the-land kinds of things are very highly esteemed among Aklavik residents. Even if people only make it out there occasionally and spend most of their time in the hamlet, many like to think of themselves as experienced and proficient on-the-land persons. Some complain that their day jobs are getting in the way and forcing them to be weekend trappers. Those who do not have day jobs remark that with the current low prices for fur and the expensive cost of fuel and equipment, they can hardly afford to travel through the delta. Yet others are often caught up in the traditional activities associated with centres like Aklavik, especially gambling and drinking, and are left with little money or energy to venture into the delta. Whatever people's reasons for not spending time in the delta, many places 'on the land' and many activities that are associated with them figure prominently in their ideas about who they are and what they do. Therefore, I have been keen to find out what these places and activities are, and – in good anthropological tradition – I have been attempting to do this through participant observation.

Sometimes, this has been remarkably easy. On one of my first days in Aklavik, a woman in her sixties asked me to join her and her nephew on a visit to their camp, where she was planning to check the fishing nets and clean up the camp after a recent event with some youngsters, and could use some help. I have been visiting this camp many times since then, and even been put in charge of driving the boat there, which is a big responsibility. A couple of months into my fieldwork, my wife told me that while I was out, a friendly young man, unknown to her, had called at our house intending to take me along on a trip to the delta. When I asked some of my acquaintances whether it was them or whether they would know who this might have been, nobody had any idea. Still a few weeks later, a man in his twenties, whom I knew mostly as one of the operators of the local water plant, appeared in front of our house at nine o'clock in the evening, announcing that he was going fishing with his older

daughter and a friend, and that I should get in his truck. He had even brought an extra fishing rod and hook for me, and was surprised that I had my own. I for my part was surprised that he was going on a fishing trip by truck rather than snowmobile, but soon found out that the river ice was thick enough to carry his large vehicle, and the snow not too thick yet.

Other trips have been much more difficult to make happen. One middle-aged man from Aklavik, whom I met early on in the fieldwork, was always keen on talking about his muskox hunting trips and his willingness to take me along hunting. However, for the first three months that we knew each other, he never came to pick me up or contacted me before going hunting, even though each time we met he told me about another recent hunting trip he had made. It was not until my second period of fieldwork, and after writing the first draft of this paper, that I got to follow this hunter. There was another man, in his late forties and in charge of the hamlet's road maintenance among other things, whom I talked to at least twice a week. He was usually jovial with a fairly biting sense of humour, and had told me on many occasions that he was planning this trip or another, but it took until a couple of weeks before I left Aklavik in December 2017 before I managed to go out with him, which was an impressive learning experience. Earlier, once I had thought that his reason for letting me down was that he would simply forget our conversations, I had contacted him in the evening before one of our envisioned trips, to make sure we were on the same page. It turned out we weren't, again: he replied that had decided to go to another place than originally planned, and thought it was not safe to take an inexperienced Southerner along at this time of year.

The Challenges of Improvisation

While these instances speak as much about different expectations as about matters of flexibility and rigidity, in other cases I felt stranded due to more complicated combinations of factors. Once, I had talked to a weekend trapper, who promised to give me a call in the course of the week in order to confirm whether he could take me along to his trapline that Saturday. When I did not hear anything from him, I was not overly disappointed, since by

then I had learned that this was fairly normal and did not mean much. I was all the more surprised, then, when I received his call on Saturday morning, telling me that he was getting ready to go and would be leaving in about an hour. Ironically, a couple of days earlier, the person whose snow-mobile I had been renting on other occasions had announced that she would need it that weekend, so I had an hour to organise a ride, which is particularly tricky on a Saturday morning, when many people are still asleep unless they are themselves out with their snowmobiles. After a while, I did manage to get a hold of someone who was willing to rent an old snowmobile to me that he had just fixed up, but by this time, the person who had been willing to take me out was already leaving his house, having assumed that I would not be able to find a ride that quickly. I stayed back again because I would not have caught up with him after fetching the snow-mobile and gassing it up. Later, I learned that my potential host had indeed tried to text me ahead of time, but used a wrong area code; and that my usual snowmobile source had not felt like going out after all, so that the ride had been sitting in front of her house during the entire episode.

While these last examples describe situations where I missed an encounter or a common trip, there have been other moments when I did encounter or accompany a research participant, but still felt that I was not getting what I had been hoping for. During a formal interview with the person responsible for the government's income assistance programme, for example, I did not manage to steer our conver-sation towards the relationship between this form of financial support and on-the-land livelihoods. I had expected that she, as a government employee, dealing with people's economic hardships, and simultaneously a descendant of an established local family, and married to the then chairperson of the Hunters and Trappers Committee, would be in a great position to speak about the synergies and fric-tions of state assistance and traditional livelihoods. But she would either report on the former or revel in accounts of the latter, and I failed to ask the right questions to learn what she knew about how they interrelated.

Now, I am perfectly certain that these kinds of complications, expectations, surprises and frustra-tions are part of fieldwork experiences around the world, not only among hunter-gatherers, and not only in river deltas (cf. Brody 1988:35–38). They do, however, contrast sharply with my notes and memories from previous fieldwork in Northern Finland and Southwest England, where the large majority of my encounters with people was by appointment. Granted, sometimes these appoint-ments were cancelled or delayed, but I usually had a certain idea of what I would be doing in the coming few days. I should add that I am rather sure that no one openly lied to me when they promised to take me along, or actively tried to tease me by picking me up unannounced. I have been consciously trying not to coerce anyone into participating in my research project, so I assume that people would not feel obliged to make promises, in situations where they would rather not. Instead, I sense that those who have the means and skills to make trips in the delta are rather proud of this, and happy to demon-strate to a researcher that they are engaged in such prestigious activities and have presentable camps or productive traplines.

Trapping in the Mackenzie Delta

The more time I spent in Aklavik and experienced people's spontaneity, the more I came to think of my fieldwork as akin to trapping (fig. 8.1). There were multiple reasons for this. First of all, the winter had begun to set in, with first snow in late September, and the rivers freezing over in mid October. This meant that people were preparing to trapping fur-bearing animals, especially lynx, wolves and mink, but also otter, beaver, wolverine and fox. Their winter fur is of better quality than in the summer, and thus fetches higher prices in the auctions. Also, the state-run fur-buying program, which has replaced the manifold private fur traders in the region, starts to buy furs in the beginning of November. As the ice thickens and also smaller creeks become accessible by snowmobile, those who have the time and the means begin to set up their trap lines, sometimes along trails that their parents or other relatives had been using previously, sometimes trying out new routes and locations. This period also felt like a breakthrough for me, since I received more invitations from people to tag along – and some of them even worked out!

When I accompanied trappers along their lines, I learned a lot about the ways they understand animal

Figure 8.1: Bo McLeod setting a lynx trap in the Mackenzie Delta, December 2017. (source: author)

behaviour and trapping techniques, and how they use their knowledge to seduce, convince or trick an animal into capture. For example, I learned that there were many lynx in the delta, which was evident from their near ubiquitous tracks along and across the frozen watercourses that we moved along. Given the vastness of the delta and the fact that most of it is covered in shrubs and small trees, however, it is extremely rate to come across a lynx when travelling. Therefore, trapping them is so effective. Even

a weekend trapper can easily maintain a trapline of 20 – 30 traps, carefully set across or along lynx trails, which are evident from the animals' tracks in the snow if not known from previous seasons. Although each trapper seemed to have their own conviction of how to build the most effective trap, what bait to use, and where the best places are, their traps were all constructed so as to funnel both the attention and the movement of passing lynx into a particular position, where the animal would get caught in a

snare wire or a foothold spring. It was only a matter of setting them up well and then not disturbing the place, hoping that after the snowmobile noise and fumes had disappeared, the lynx would dare to walk along the track again and get caught.

What was also similar with all trappers was that most of their traps were empty when we checked them, which was totally normal for them. To come back with two lynx from a more than seventy-kilometre trip along a line of over twenty traps, for instance, was a success. In some traps, the bait had disappeared but nothing had been caught; in others, smaller animals like squirrels had sprung the trap; and in yet others, mice had been nibbling on the bait, deterring other animals like lynx with their droppings. Sometimes, especially during warmer periods or after heavy snowfall, small watercourses would flood on top of the ice layer, where the water would freeze again, disabling the traps set in the vicinity.

As we checked the traps, my hosts would not only look to see whether or not they had caught an animal, but also make minor adjustments to empty traps, look out for fresh trails in the snow along the way, and set up new traps in places they deemed auspicious. Every so often, they would indeed find an animal in a trap, which always seemed to be a pleasant revelation to them, rather than a deserved harvest. In sum, what became clear to me was that trapping not only rendered animal bodies and furs, but also accumulated a body of knowledge about the animals' whereabouts, habits, preferences and paths.

Ethnographic Fieldwork as Trapping

Let me be clear at this point: when I observe that my ethnographic work has a lot in common with trapping, I do not mean that I aim to deceive research participants into capture, or to subsequently skin and sell their metaphorical furs. The parallels I want to emphasise are more in line with what anthropologist Alfred Gell (1996) had to say about how traps function. For Gell, 'traps can be regarded as texts on animal behaviour' (1996: 27), since they are built as what he calls 'lethal parodies of the animal's Umwelt' (1996: 27). Gell proposes that traps are similar to works of art, because both capture something – animals or spectators – through establishing

a relationship that hinges on their specific design. He writes: 'These devices embody ideas, convey meanings, because a trap, by its very nature, is a transformed representation of its maker, the hunter, and the prey animal, its victim, and of their mutual relationship, which, among hunting people, is a complex, quintessentially social one' (1996: 29).

For me, the critical point here is that setting, checking and maintaining these traps hinge on building relationships that are based on acquiring, and putting to use, knowledge about an intended prey, and thereby to an extent bringing into existence a certain kind of prey. And this is not a purely technical and mechanic issue. Gell (1996: 33-4) illustrates this with the example of eel traps among the Anga of New Guinea, which are constructed much more strongly than would be necessary to catch eels. The exaggerated strength of the traps indexes the superior power of eels in Anga cosmology and ritual. Similarly, in ethnographic fieldwork, our elaborate and ethically extremely sensitive ways of conducting research simultaneously acknowledge and produce the insights obtained from research participants as the single most authoritative knowledge in our endeavours.

Also here I should be clear: rather than trapping trappers as individuals, what I was after in my fieldwork were knowledges and experiences of delta life. But of course, as an anthropologist, I assume that the best way to get at such insights is through shared activities and conversations with these trappers. I should also de-emphasise the trap as an object – on which Gell focuses to juxtapose them against works of art, equally seen as objects in themselves. Rather, the way effective traps – and, ethnographic fieldwork methods – work is not as objects, but as techniques that are able to bring particular movements into a productive correspondence. They create or enable productive confluences and conjectures of movements in the world. Rather than objects, traps and ethnographic methods are processes of knotting existing threats, of narrative, travelling and pursuit. For the trapper, a viable trap turns, for example, the specific inclinations of lynx – following paths, being curious, and being interested in meat – into the conditions of their own capture, when it is placed across or near an existing lynx trail and equipped with some bait or objects that capture the lynx's attention. For the anthropologist, a viable field method turns people's ways of life and learning

into the conditions for experiencing and studying some of this life, and capturing some of the knowledges, stories and activities. In this sense, fieldwork as trapping may be regarded as an ethnographically specific instance of the idea that research design is a form of 'contraption', as Rabinow and Marcus call it (Rabinow et al. 2009).

Flexible Following, Excessive Preparation, and Forgoing Frustration

In this essay, I have hoped to illustrate that in spite of a general solidification of infrastructural, social and cultural patterns in the Mackenzie Delta, a pronounced sense of uncertainty and flexibility remains. Perhaps the point here is that solidification is not universal, but situated, and some of it – for instance the trust in gravel, the fixed ethnic membership, and the reliance on large engines – may in fact be a local means to maintain the scope to remain flexible given new circumstances. One of these flexibilities that I have encountered in fieldwork concerns the ways people do or do not take me along when travelling through the delta, how they seem to change their plans as often as they make them, and how they frequently do things rather spontaneously. I have spent a lot of my time in Aklavik preparing meaningful encounters, often without success; I have been adjusting the ways I approach people and plans; and I have quite often been left waiting for things to happen, given these preparations. This has made me think of my ethnographic work practices as similar to those of my trapper research participants.

In sum, I would like to argue that conducting fieldwork in situations where life is more flexible and uncertain than standard ideas of plans and appointments may suggest, there is no use directly chasing our research participants and their knowledges; rather, it might make sense to devise and maintain traps to find out what we are after. Our methods of following people, stories and experiences in these contexts must be as flexible, and as improvised, as the lives we are trying to understand. Preparing meaningful encounters must take into account all that we know already about the stories and activities that we hope to learn; but just as most traps are empty when the trapper checks them, we must prepare a lot more encounters than we will ever be able to realise. As planning becomes ineffective, preparation gains ever more importance. This also implies that we must learn not to be frustrated when many such prepared encounters do not materialise, and the knowledge we are seeking remains as elusive as the smart wolverines that pull out a trap and steal the bait. ■

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9. Fearing Together, Fearing Alone: Fieldwork under the Possibility of Fire[6]

Sandro Simon

Abstract

In late Summer 2017, around the time of Kenya's general election and when I was starting my long-term field-work, the Tana Delta was shaken by numerous deadly attacks ascribed to the Islamist militant group al-Shabaab, specifically its branch Jaysh al-Ayman, which threw into question and finally prevented my envisioned research on water-related work practices in the area. In this paper, I will recollect my efforts to make fieldwork work against the odds, and, ultimately, my having to abandon it. Specifically, I ponder the epistemic and personal challenges of navigating through different (self-) perceptions and experiences of danger, anxiety and fear in a 'field' that is embroiled with the unpredictable and ephemeral.

The Tana Delta in southeastern Kenya has a longstanding and interdependent history of political marginalization, terri-torial re-organization, development initiatives, socio-economic diversity, and ecological change. It encompasses around 1,300km², and is the home to approximately 100,000 inhabitants, stem-ming from groups with historically distinct origins, livelihoods, and work practices – namely farming, pastoralism, and fishing (cf. Leauthaud et al. 2013). On the ground of multi-ethnicity and multifarious, partly competing lifestyles, and fuelled by political power play, ecological change, and contested land tenure, clashes have erupted around elections in the past, mainly between the two dominant groups, the pastoralist Orma and the farming Pokomo (cf. Smalley and Corbera 2012; Kirchner 2013). This experience is deeply entrenched in the sociality of the delta and is formative for the perceptions and discourses of peace and conflict, on which I will expand below.

In summer 2017, however, the danger was different. Again, elections had paralyzed the country, and fears of violence between different ethnic-political groups were widespread, including in the Tana Delta. But in addition, al-Shabaab had declared their intention to deter people from voting, and had started an unprecedented spate of attacks on vehi-cles and villages across the delta, killing around a dozen locals, travellers, and security agents in nearly ten violent incidents.

From Meta-Data to Emotions

When I was about to embark for fieldwork in August 2017, the first attacks had already happened. When I first heard about them, I feared for my life, thou-sands of kilometres away from 'the field'[2]. After having connected intellectually, I now also connected emotionally, or quite viscerally, with my field 'out there', something I thought would be reserved for the actual ethnographic work[3]. I had entered the 'nervous system' (Taussig 1992), and with coming closer to 'the field', with moving to Nairobi and then to the coast, just 'outside' the delta, this 'nervous system' tightened.

My reaction was to search for reason, patterns, control and, as Taussig (2003: 17) writes, to find 'the underlying logic that will make sense of the chaos. Your disorder, my order'. In the face of ongoing danger, I started to collect everything available on the topic: assessments by experts, offi-cials, friends, and delta inhabitants via meetings,

phone calls, and emails, travel advice and maps, newspaper screenings and Twitter searches – all from a long geographical distance of the 'chaos'. Only after some time did I realize that I was actually applying methods and producing data for my PhD thesis. At first, it felt more like an accretion of metadata, as is often described for data on violence during fieldwork (cf. Lekha Sriram et al. 2009). My
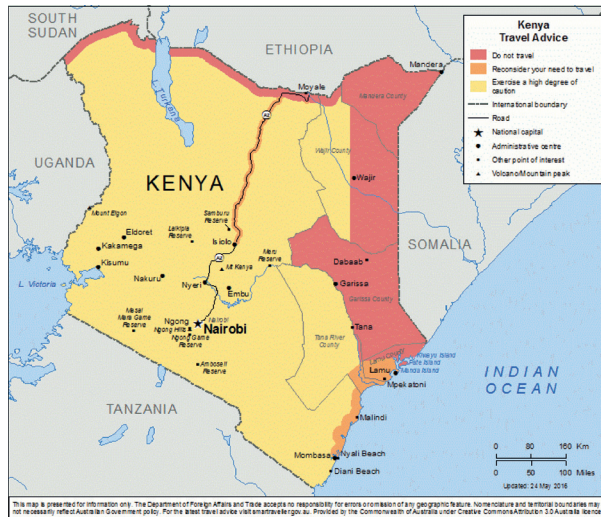

Figure 9.1: Australia's danger map. Australian Government, Department of Foreign Affairs and Trade. Public Domain.
(source: Department of Foreign Affairs and Trade | http://smartraveller.gov.au/Countries/africa/east/Pages/kenya.aspx, 25.09.2017.)

mixed-methods approach was indeed epistemologically 'murky' (cf. Taussig 1992) but also shows how methods serve as 'defence mechanisms' to bolster steadiness in disorienting conditions (Jackson 2010). However, with every new channel of information that I tapped into (maps, Twitter, experts etc.), new layers of chaos unfolded, as in none of these channels did I find a single homogeneous narrative on the danger in the Tana Delta. An example of this is that of travel advice and 'danger maps':

These maps not only show how there are different perceptions of the same phenomena, but also raise questions about their production and representation, and finally, on what we actually do with them, or what they do with us. Maps aim to order space. Consequently, they have a certain politics of production and are, despite their 'objective appeal', inscriptions grounded in the individual, positional lives of their makers and users (cf. Ingold 2000). They index movement (Ingold 2000) or allow for a being on the move from one way-marker to another (November et al. 2010). In the case of 'danger maps', however,

they aim to *deter* the beholder (i.e. the Western traveller) from certain movements, while they keep their sources and their methods secret. While they claim to represent the inaccessible, they evoke an imaginative interpretation rather than a mimetic one. Moreover, in my personal encounter with them,
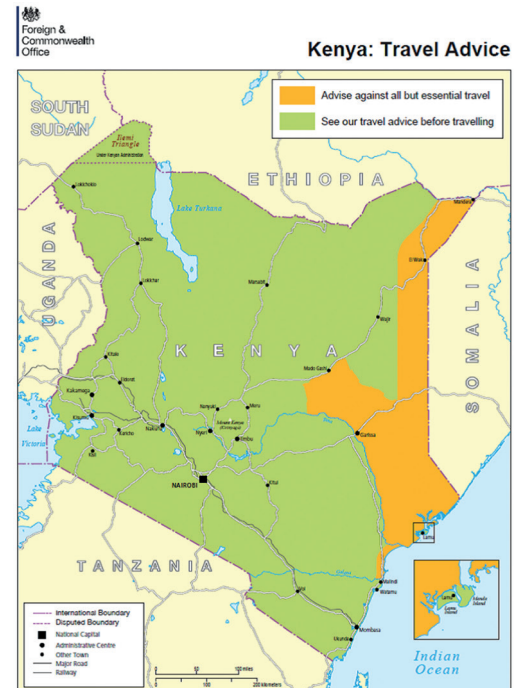

Figure 9.2: UK's danger map. UK Foreign and Commonwealth Office. Public Domain.
(source: UK Foreign and Commonwealth Office Travel Advice and Geo-innovations | https://www.gov.uk/foreign-travel-advice/kenya. Last accessed: 25.09.2017.)

they scared me. Hence, the quest for ordering and the methods I applied not only provided complex, chaotic data that should be 'made sense of' objectively, but also evoked emotions. We might think that academic research methods create rationality, rather than what is commonly perceived as its opposite, emotions (cf. Davies 2010). And probably even as anthropologists, we might assume that, unlike in Participant Observation, we would produce data in our 'pre-research' that contains little of ourselves. So maybe, not only do we do fieldwork while fieldwork does us, but also, as we do 'pre-research', this 'pre-research' can do us.

Towards the Front Line

After some weeks in Nairobi and at the coast, I finally made my move into the delta. Jonathan, my companion and assistant, met me in Malindi, and we

took one of the last minibuses to Garsen, a town of 3,000 inhabitants at the upstream margin of what is declared and mapped as the RAMSAR-protected Tana Delta. Traffic was now structured around the curfew that was put in place in response to the al-Shabaab attacks, and which started at 6:30 pm across the Tana River, Lamu, and Garissa Counties. Shortly after Malindi, we reached the first check-point. Whereas on the way back, we would have to get out of the bus and have our bags searched, here only an identification document was needed. Entering the danger zone was less restricted than leaving it – something I had not expected from what the 'danger maps' had suggested.

The road to Garsen, and Garsen itself, are safe, I had told myself and my relatives, but then again the road led through 'bush' on the one hand, and on the other hand, 'everything after Malindi' was named unsafe according to international travel advice, coloured as 'dangerous' on the corresponding maps, and referred to as 'not Kenya anymore' or 'almost Somalia' by some Nairobians. With our drive towards Garsen, my classification of the topography into different degrees of security finally started to become grounded in experience and practice. Maps were accompanied by mapping (cf. Ingold 2000): a road became a tacit lifeline, both dangerous and a possible escape route; the end of a town (Malindi) an entry and exit; another town, Garsen, a rela-tively safe haven. Later on, a string of villages would become a safety belt, or treeless grassland and the river would become barriers against attackers.

Upon my arrival in Garsen, I was told that the curfew would barely continue much longer, and would be lifted on the proclaimed date; that 'they cannot strike here', and that the attacks occurred 'down there' or 'not in Tana River County but in Lamu County' (the county border passes right through the delta). From the side of governmental officials, security forces and local media outlets, I faced silence and placation. It appeared as if the 'peace imperative' that had pervaded the national public discourse around election time and related to the experience of ethnic violence in 2007 (Wash-ington Post 11.08.17) also held Garsen in its stran-glehold. 'Peace means business, peace means devel-opment, peace means tourism', it echoed from the loudspeakers at the celebration of International Peace Day on September 21, 2017, accompanied by admonitions to respect each other despite the

(ethnic) differences. Not a single public statement about the ongoing al-Shabaab attacks. However, in other, less public spheres of discourse and practice, it soon turned out, the terror was indeed present, revealing ambivalence and contradiction. And so I was for example advised to lodge only in the middle of the town and to stay in when it was dark, while at the same time I was reassured of my safety. Or I was told not to type notes into my phone because it would make people suspicious that I was working with the security forces. And I witnessed how prices rose because trade had slowed down, or how people hesitated to travel. Moreover, I encountered various rumours that there was 'more' behind the attacks. They ranged from notions of weak and unorgan-ized security forces, smuggling, and competition for funding and resources within the security forces, to suspicions about the involvement of ethnically affiliated groups and/or local and non-local bigwigs such as politicians, businessmen, security officers or elders that wanted to 'scare away farmers' in order to access their land[4]. The most prominent narrative was that 'it *would* and *should* be easy to get rid of al-Shabaab, so there must be more to it'.

These narratives could be understood as attempts to assign meaning to apparently meaningless incidents, to create a more stable reality via the discursive (cf. Oldenburg 2010). They appear also to have been informed by the lack of trust, or even the fear, the delta dwellers had towards parts of the state appa-ratus, or their feelings of negligence and vulnera-bility based on a longstanding experience of political marginalization, top-down (infrastructure) projects, police and military arbitrariness, and the prevailing insecurity concerning land tenure and resource extraction. And it seems like there was an attempt to regain some agency while also ascribing agency to someone else (the state), formulating a stance of demand ('do something, help us') and as a first attempt to contain and order the chaos. Further-more, the experience of the displacement of commu-nities that lived in the nearby Boni Forest and were flushed out by the Linda Boni military intervention targeting al-Shabaab hideouts, and the suffering of the communities that had been attacked, reminded people of the clashes in 2012/13 between pastoral-ists and farmers (which I mentioned earlier) where villages were attacked, people killed, and others displaced. Thus, in a setting of mistrust between the people and the state, former experiences of

violence were activated and met with new experiences of a different type of violence. This led me to the impression that people (still) navigated between denial, horror and the quest to 'routinize' violence in spite of being 'routinized by violence' (Oldenburg 2010) and that the Tana Delta was caught in a sort of tripartite liminal stage between the containment or repression, the emergency, and the banality of danger.

Such ambiguous, conflicting, and emergent thoughts and feelings about or towards violence, the individuality and positionality of the experience of violence, and its complexity and multifariousness across scale make violence a 'layered' phenomenon (cf. Oldenburg 2013, Robben and Nordstrom 1995). Accordingly, we, as researchers, could access different realms of violence, for example the political, the psychological or the realm of life on the 'front lines' (cf. Robben and Nordstrom 1995). If we, according to our discipline's aspiration, focus primarily on the realm of life on the 'front lines' we perceive, approach and shift between the other layers from there, from the 'front lines'' visceral positionality. This again entails a specific, 'murky' epistemology that is difficult to trace and disentangle as it, too, is entwined in the 'nervous system'. I for example sometimes caught myself measuring distances on maps and calculating the time that al-Shabaab members would need to cross the delta from point X to Y. Some moments later, I engaged with the development of the security governance of the Kenyan state over time, before I was again shifting towards the 'front-line' narratives around our personal safety, and the logic, patterns and aims behind the attacks. Oscillating between the different realms of violence based on my 'front-line' positionality was thus an everyday, inevitable practice, which reflected and again (re)informed my methodology and my self.

Attuning and Attention

Danger in fieldwork has been divided into ambient, background or anonymous danger – danger that is 'already there' – and situational or presentational danger – danger that is caused by the researcher's activities (Lee 1995, Yancey and Rainwater 1970). This suggests that one can reduce situational danger. Consequently, handbooks on dangerous

fieldwork, following the anthropologist's aspiration to gain 'the inside view', recommend staying close to one's interlocutors, bonding with them, learning from them, and telling as many people as much as possible about what one is doing (cf. Goldstein 2014, Lee 1995, Peritore 1990). Thus, Lee (1995), who wrote the seminal book on fieldwork in danger, states that early on in fieldwork, the anthropologist is more at risk, and that fear makes one inattentive, while Sluka (1990) describes how he underwent an education of the senses and for example learned how to identify police cars from afar via their sound. Other accounts stress the 'volatility' of danger and fear and problematize the fieldworker's ability to become accustomed to them. Green (1994, 1999: 59), for example, notes that 'subjectively, the mundane experience of chronic fear wears down one's sensibility to it', hence also shifting the boundary between the emic and the etic, and that she and her interlocutors were 'swinging wildly between controlled hysteria and tacit acquiescence' (similarly to how Taussig (1992) described it). Oldenburg (2013) recalls how her interlocutors' contradictory practices, relativizing language, and ironic comments signified and constituted 'a normal state of emergency', and how she started to imitate their behaviour in order to tame the challenging conditions of her research. And Hage (2009) states that the more deeply we are immersed in the 'emotional borderline', the more (emotional) effort it takes to remove ourselves from participation and shift to the observational/analytical.

Drawing on these accounts, I would argue that fearing together fosters intersubjectivity[5]. Moreover, when fear is experienced over time, it morphs into something chronic, into anxiety[6]. Fearing over time thus leads to a sedimentation, routinization and habitualization of fear, and, as a co-product, to a loss of attentiveness to fear. This attentiveness, or the observational/analytical, can then possibly be regained and enriched on the very basis of sedimentation, routinization and habitualization (cf. Hage 2009, Kesselring 2015, 2016).

In engaging with the question of how we regain attentiveness, Kesselring (2015, 2016) applies Mauss's (1934) techniques of the body, not to the object of anthropological inquiry, but to the researcher her- or himself. Similarly to Mauss's observation that once a technique is mastered, attention paid to it recedes, our attention dwindles with the

advancement of our ethnographic practice and our experience of intersubjectivity. Mauss does not say that we lose the ability to 'dig out' knowledge that has become habitual or non-predicated, but what we need is a stimulus, something that triggers our attention[7]. And so Kesselring (2015, 2016) proposes two ways in which we can attentively perceive something upon habitualization: first, through exposition to something new – after Schütz and Lukman, 'a new theme' – or, second, through the unmasking of something which was there before as a sort of 'undefined horizon' (cf. Merleau-Ponty 1962). Kesselring calls this 'dislocation' – a break with the sedimented, habitual dealing with what was there before, evoked either by a sensuous-bodily or a cognitive stimulus.

To illustrate this, I would like to start with an experience of anxiety and how it related to others. While fear was a volatile companion on my fieldwork endeavour, anxiety was a steadier one. Latent and murky, it continuously receded in the shadow of my consciousness as well as in my body, for example in the form of palpitation, insomnia or the feeling of being stuck in restlessness. These sensations were not so easily assessable by myself, and difficult to relate to others. And so it was only in retrospect that I came to conclude how I sometimes resonated with and therefore also learned about the restlessness in others; for example when both an interlocutor and I did not want to remain seated at a restaurant table for too long, or when we did not want to stroll about the village while talking, as experienced often on my previous visit, but rather steered determinately from one place to the other. In the realm of the discursive, I noticed 'irregularities' in the form of unfinished sentences, hesitant answers, long pauses or contradictory statements. In the very moment, I was rarely able to pinpoint or verbally address them, but experienced both irritation and tacit empathy. I sometimes had the feeling that my interlocutors detected, and even returned, these emotions. Only later, having shifted my attention in the process of writing my notes (and even more, in revisiting them later on), was I able to relate those 'irregularities' to my interlocutors' anxieties, and reflect on them. The basis to do so was thereby my own experience of anxiety – assembling, among others, hesitancy, flightiness, and ambivalence – which in situ had been hard for me to grasp. Furthermore, to reflect on others' anxiety also let me reflect on my own anxiety.

Reflection, usually perceived as a shift towards detachment, can, conversely, 'suck one in again', as the following vignette shows:

> I just came back from the cattle market [in Garsen]. How could I be so stupid as to show my mzungu [white person] face there? So many people from so many remote places in the delta. There must be someone who is an informant of al-Shabaab. They will observe me, check my routines. But no, I just walked around and talked to people, listened, smelled, felt, and participated in the 'normal'.

> Sandro Simon, Fieldnotes, 23.09.17

In this vignette, reflection and emotion occur together, yet it remains an incomplete representation of something that feels too murky and too big for words. It describes a temporal immersion in the everyday lives of my interlocutors and illustrates how a cognitive stimulus, my reflections in the moment of writing, entailed fear, which then led me to a reassessment of my situation.

Other dislocations were triggered by a more sensuous-bodily stimulus, for example, through a new vista: for our meeting with a security officer, we once took a shortcut, following a small path down the river. Then we reached the Lamu road that crosses through the delta and along which most of the attacks had taken place. As soon as the road came into sight, fear gripped me, only to start ebbing away again when we turned right towards the military checkpoints instead of left towards the 'danger',

When we intersubjectively share our fear, we might also expand our selfhood; if we fear alone, we expand our otherness. Fearing alone takes place when we cannot enter into a satisfying verbal or non-verbal/unconscious exchange about our fearing with others, for example when what we articulate is considered taboo or not relevant in a certain context (cf. Arendt 1958). The lack of overlap of the perceptions and interpretations of danger between two or more people and the following diverging fearing can also relate to positionality, and might especially occur when different people are and/or feel differentially targeted or exposed, as is for example the case with sexual, religious, or ethnic violence. Fear

might also not be shared when the agency-loaded situational danger is dominated by ambient danger, i.e. when a danger is not that immediate and objectively present but rather present-absent, relating to unpredictable actions of unknown actors[8]. Such difficulties in identifying, ordering, and communicating about and making sense of danger might even lead one to doubt one's own perception of reality (cf. Green 1999).

One of my experiences with social context, discourse, and positionality in relation to danger and fear occurred when we were discussing how al-Shabaab targets their victims. Two people in the group were working for the Red Cross, and stated that they felt relatively safe when traveling in their official car, while being generally more at risk than their Muslim neighbours. Somebody else disagreed and reminded us how al-Shabaab had also blindly shot at buses travelling with both Muslims and Christians, and how Muslims suffered not only from the threat by al-Shabaab but also from state repression as well as public discrimination. I again voiced my concern about my being an especially attractive kidnapping victim. Soon it became clear that we could neither fear together, nor speak about it and protect each other. And so our conversation faded out, highlighting how we were only touching on an emotional discourse, and failed to establish a discourse on emotions (cf. Lutz and Abu-Lughod 1990).

In other instances, fearing was something shared. For example, Jonathan and I would often indulge in reminiscences about our formerly widespread motorbike trips through the delta, lauding how safe we used to be. Sharing the persuasion that we could no longer do the same because it was too dangerous, we were thinking back, and this reassessment of our experiences resulted in a shared imaginary of what would hopefully be once again. Our shared past experiences and our common imagination of a future let us also experience fearing together[9]. When Jonathan then once added that if we were to focus research on the southern margin of the delta where no attacks had happened so far, we might be relatively, yet not absolutely, safe, our common imaginative journeying ended abruptly, only to be taken up again another day.

These examples show how fearing (anew) cuts deeply into our emotional configuration and our relations with others. It might disrupt our habitual dealing with the world and demand a more or less commonly organized reconfiguration of the status quo, a renegotiation of the social, and a reassessment of the self. Simultaneously, it can point beyond itself and (re)form our understanding of others and ourselves.

In coping with what we experience, sedimentation, routinization, and habitualization of fear are key processes (cf. Blanchard et al. 2008). Fearing thereby morphs into anxiety and recedes towards the non-predicated or even unconscious, yet bodily. This bodiliness can enable a tacit understanding, which might not be possible with words, which rather divide and distinguish (cf. Jackson 1989). We attend with our body but will also have to attend to our body for an externalization and predication. This can be achieved through a dislocation (cf. Kesselring 2015, 2016). Fearing (anew), when it is not so intense that we freeze, attack or take flight, signifies such a dislocation, (re-)evoking our visceral-cognitive attentiveness. Thereby, fearing, more than anxiety, relates to a consciously apprehensive, clearly contoured object in the world, yet a present-absent threat also relates to our positionality and demands imagination. Consequently, fearing together then depends on shared experience and/or imagination and again fosters sedimentation, routinization, and habitualization – and indeed more fundamentally, but under such conditions extremely challenged, our selfhood and our ability to empathize with others.

Traverse

Ethnographic fieldwork unfolds along the shifts between involvement and detachment, between participation and observation, which are, after Robben (1996), comparable to the psychoanalytic oscillation between introjection and reprojection: we try to introjectively identify with our interlocutors and then reproject them and interpret. In situations of unpredictable and impalpable danger, where we experience anxiety and fear and long for trusting others and ourselves but where we actually experience ambivalence from these others as well as within ourselves, we might also experience what can figure as the antecedent of introjection: projection. Projection is the search for an external source for an internal experience (cf. Freud 1896, in Malancharuvil 2004). It means to actualize and transfer conflicting fragments of the self onto the other in

the quest to (re)gain a wholesome, non-ambivalent self (Klein 1955, in Malancharuvil 2004). Like looking at ourselves in a mirror and slowly coming to terms with what we see, we then usually gradually (re)integrate the projected fragments and also open up to integrate things from others, to introject (Klein 1955, in Malancharuvil 2004).

My most common projection on the 'front line' related to the dilemma of longing for security and at the same time wishing to carry out successful fieldwork. And so I felt relieved and vindicated when someone said, 'it is safe here' in one moment, while in the next moment, I wished that the same person or someone else would say that it is too dangerous and that I should leave. When someone else or even the same person said so, and due to my interlocutors' own ambivalence, this was indeed sometimes the case, I felt again relieved and vindicated. But it did not take long before I wished to hear the safety narrative again. And so forth.

Such shifting projections indicated a longing for both selfhood and a common view of the world (i.e. intersubjectivity) while feeding further into the dilemma of fieldwork vs. security. They assembled with the feelings of fear and anxiety, ambivalence, and (self-)trust and (self-)alienation into a volatile, arrhythmic, and shapeshifting state of being that Hage (2009, after Spinoza 2000) describes as *vacillation* – a product of contradictory strivings for joy, and a state in itself, rather than a regular pendulum movement *between* different states of being that would be comparable to what is called the ethnographer's 'swing'.

My vacillation did not exclude experiences of introjection and reprojection or intersubjectivity and selfhood (as the examples above have shown), yet they too were volatile, fragile and hard to grasp, and mixed up with the experiences of projection, otherness, and the described feelings of fear and anxiety, ambivalence, and (self-)trust and (self-)alienation. And so it took time to detect what was nourishing and what was noxious, to test and hypothesize and finally subjectivize reality – which then appeared unacceptable and hostile (cf. Malancharuvil 2004). To live and live through my projections, my ambivalence, fear and anxiety hence cleared the view of myself, which again cleared my view of others. And so I traversed my liminal state.

I noticed both cognitively and viscerally that I was turning from the feeling of being 'all over the place' and 'stuck in motion', towards the embracing of otherness, and consequently, selfhood. Time was passing by, hope for change dwindled, and the prospect grew that even without more attacks in the future, fear and anxiety would continuously overshadow or undermine my research and prevent me from regaining my feeling of security and the necessary trust in others and myself. And the understanding grew in me that there are alternatives, that I could identify myself with the Tana Delta instead of through it (cf. Hage 2009), and that 'losing' around half a year of my funding period was an outrageous system error, but I would not be intimidated by it. I started to embrace the idea that there was not so much wrong with me, but rather with how I had learned to see ethnography, and with the fact that we hardly ever read about examples of field trips that 'go wrong'; nor are we prepared for such eventualities. And, most importantly, I realized that further fieldwork would endanger the well-being of my interlocutors, my assistant, and myself. The only in situ alternative seemed to be a relocation of my research focus away from human-environmental relations and to abandon participant observation in favour of a more distanced methodological approach. This would, however, still cause my friends, relatives and colleagues constant concern, and challenge our project (and its funding agency), which, like me, did not aim to focus primarily on violence. And while cancelling fieldwork had appeared like giving up for a long time, at the moment I actually let it go, it felt like a relief and I gained pride from it. What a courageous decision! All the work, all the time invested, all the enmeshments – but I could cast it all off, disentangle, let it go. 'You'll figure it out somehow', is all we usually get to hear as preparation for fieldwork. Yes, I did figure it out! And then I went outside and snapped a photo of the freshly washed white bedsheets waving gently in the air. Surrender. Peace.

Still, with my departure, my fieldwork did not just end. I was still following the news from the delta, and stayed in touch with Jonathan via phone and messaging. When he was involved in an al-Shabaab attack two months after I had left, fear gripped me again and I was torn between the joy that he was not hurt, the guilt that I had left him and just 'escaped', and the somehow unsettling confirmation that it was right to leave. A whiff of vacillation again…   ***

Figure 9.3: Freshly washed white bedsheets waving gently in the air, 2017. (source: author)

Attempting to write an account of my fieldwork experiences that is both truthful to myself and useful for others is a balancing act. To account for this, I tried to sheer away from a voyeuristic, narcissistic description of my experiences, and to lay out different analysis approaches, while also finding a representation of my fear that safeguards at least partly its 'savage state' and does not reduce its 'wilderness' to analysable data so that it loses its analytical value (Hage 2009: 77).

Reflecting on emotions is also a reflection on the otherness within us and can enhance our knowledge of 'the other', yet knowing 'the self' does not mean automatically knowing 'the other' (Hage 2009: 62). And so this paper, while trying to shed some light on the particular dealing with danger in the Tana Delta, strives mainly to serve as an autoethnographically grounded contribution to methodology; to our discourse about the challenges of fieldwork in danger, and, more generally, an account of the negotiation between the emotional and the analytical, between the emic and the etic, and between (self-) trust and (self-) alienation in Participant Observation and other methods of our ethnographic endeavour. ◼

Acknowledgements

Notes

[1] This title takes up the name of Nordstrom and Robben's edited volume *Fieldwork under Fire: Contemporary Studies of Violence and Survival (1996).*

[2] I had been in the Tana Delta before for an exploratory field trip. Hence, I had a mental image of the area and had been at some locations of the attacks.

[3] Anthropology has productively revised the binary conception of emotions as socio-culturally constructed vs. emotions as innate or biological (see, among others, M.Z. Rosaldo 1980, R. Rosaldo 1980, Abu-Lughod 1989, Leavitt 1996). Today, we

can understand emotions as something we both experience and do; something that includes the mindful body, the social, material, and semiotic (cf. Scheper-Hughes and Lock 1987, Scheer 2012). Emotions therefore are influenced by and influence the environment, are forms of skillful engagement with the world, which need not be mediated by conceptual thought and often reconfigure relationships (Griffiths and Scarantino 2009). In short, they can be seen as practices (cf. Scheer 2012). As Scheer (2012) outlines, practice encompasses intentional action as well as habituated behavior without much cognitive attention paid. Consequently, on the one hand, the 'inner' and 'outer' sides of emotions can relate to how we 'do' emotion – through the practice of expression, of moving emotions from inside to outside, an ,inner' and 'outer' are created. On the other hand, practice can also create bodily manifestations that relate rather to habits or context than to intentional action. In both cases, we need to attend to the 'inner' experiences such as reflection, feeling or remembering, and express them. This attendance is again emplaced and embodied and can be both habitual/unconscious and intentional/conscious.

[4] Such notions were later also picked up by the national media (Daily Nation 28.01.2018)

[5] I follow Kesselring's (2015) and Förster's (2011) understanding of intersubjectivity as a shared judgment of aspects of the world between two people, or as overlapping perspectives on the lifeworld that entail the possibility of trading places, which emerges through the simultaneity of experience, for example when actors participate in the same practice. Intersubjectivity could indeed describe both a process and a product, but as I am for now primarily concerned with the question of shared or non-shared experience, I cannot contribute to this discussion.

[6] Both fear and anxiety are enacted and experienced with and through our mindful body, yet a differentiation between them appears useful to inquire about attention and habitualization or intersubjectivity, selfhood and otherness. And so I follow the understanding of fear as something directed to an immediate and cognitively classifiable threat, and anxiety as something that relates to an apprehensive or anticipated, vague and often conflictual or ambiguous threat and can have an insidious character (cf. Sadock et al. 2015, Blanchard et al. 2008). Anxiety can arise from, or independently of, fear, and vice versa, and the interdependencies and transitions between them are not clearly defined, similarly to the transitions to fear's aggravations panic, agony or terror. If we speak of fear and anxiety, we must furthermore not forget that these are not absolute terms, as they can have different degrees of intensity and persistence.

[7] Following Dewey (1896), a stimulus or trigger is never ex abrupto from the outside but proceeded by and emerges from an act, a coordination that relies on body, mind, and environment. The 'response' is in fact needed to constitute the stimulus and vice versa, building a cyclic sequence of acts that reference an objective (which can then be the locus of assessment). A stimulus or trigger can thereby still be sensuous-bodily (e.g. via a sound) or cognitive-predicated (e.g. via a thought) as both mind and body are of and in the world. Emotional accounts are not merely responses or reactions but can be seen as '(…) the meaningful cultural activity of ascribing, interpreting, and constructing an event as a trigger' (Scheer 2012: 206). And for the act of attentively perceiving something upon habitualization this means that we always perceive this something from somewhere – from our habituated, emplaced mindful bodies.

[8] In contexts of less present-absent threat, common mitigation strategies together with interlocutors or direct negotiations with perpetrators can be possible (cf. Rodgers 2007, Oldenburg 2010, 2013, Heitz 2011, Dolnik 2011).

[9] Imagination in this case is grounded in (past) common practice and produces a new image as a shared intentional object. Imagination can, however, also assemble existing images and motivate actors to engage in common practice (cf. Förster 2013).

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Back cover: Kurtis Atkinson riding back home after a visit to his aunt's camp, Mackenzie Delta, Canada, September 2017. (source: Franz Krause)