

CHAPTER 9

NOMAD_SCAPES

Mobility and Wayfinding as Resilience
among Nomadic Pastoralists
in the Islamic Republic of Mauritania

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Abstract

In this chapter I investigate the concept of nomad_scape in relation to the Kounta nomadic pastoralists, inhabiting the arid Hodh Ech Chargui province in the Islamic Republic of Mauritania. Through the application of Ingold's dwelling perspective and Deleuze and Guattari's concept of nomadology, I provide an analysis of the interrelated dynamic mobility of humans, animals, water, pastures, and the landscape within what may be termed a disequilibrium environment or, as I propose, a *nomad_scape*. I argue that mobility and wayfinding constitute fundamental aspects of a particular form of social organization, the nomadic pastoral, which represents a unique model of human adaptation and social resilience under conditions of extreme drought.

In my current long-term research project I am aspiring to facilitate a comparative analysis of both rural and urban forms of contemporary resilience with a particular focus on water scarcity, and while national processes of mass sedentarization and urbanization represent important contemporary manifestations of new forms of resilience, a detailed discussion of such is beyond the scope of this chapter. Here, I limit my focus to groups of nomads who have cho-

sen to remain in the rural areas, continually applying their mobile livestock rearing strategies in a constant dialectic with the changing climate and landscape. In the following I wish to discuss the concept of resilience as embedded in practices of engagement among nomadic pastoralists in the arid Hodh Ech Chargui province in the Islamic Republic of Mauritania.

Wayfinding in a changing landscape

Mahmoud pointed towards the horizon, turned towards me and smiled. 'There you see. This is where we are going. Right there. You see. It is not far now, no more than one hour.' This was the first time he spoke in at least an hour. To me there was nothing particular to see in the direction, which Mahmoud had designated. The landscape looked exactly the same in whichever direction I looked: arid, open land, distinguished only by sporadic vegetation in the form of dry bushes and shattered acacia trees. Nothing seemed to stand out or demarcate any form of distinguishable feature or landmark which could be relied on for navigation. I asked Mahmoud how he knew the direction, and he answered: 'We were here two seasons ago, the animals ate well here. The *badyya* is good here. Do you remember we



used to take the animals out to that place for three weeks, Ishmael?’ Ishmael, a young man from the camp replied: ‘Yes, but at that time, it was over there.’ He too pointed towards the horizon, in what seemed to me to be the exact same direction. It all made very little sense to me, thus spurring my curiosity immensely, but I left it at that for the moment, enjoying the walk, the immaculate silence only broken by the sound of our respirations, footsteps, an occasional exchange of words and, of course, the goats moving along in the vastness of the landscape. After what seemed like an hour of walking, Mahmoud stopped and opened his small bag and pulled out his little kettle, while Ishmael began collecting some dry acacia branches. It was time for a tea-break.

This incident took place during one of many days spent walking with the herders Mahmoud and Ishmael during my first fieldwork among a group of Kounta nomads in Hodh Ech Chargui province in the south-eastern part of the Islamic Republic of Mauritania in January 2004.¹ It serves as an illustrative point of departure for the analysis of nomadic dwelling (Ingold 2000:55) or being-in-the-world (Heidegger 1971) which I propose in the following. First and foremost, it gives a number of clues as to how the nomad perceives and narrates his surroundings, and how perception is embedded in practices of engagement.²

As can be interpreted from Mahmoud’s recollection of how they had been in the same area two seasons earlier, and Ishmael’s response that the place, or point, they were referring to had shifted location (Deleuze & Guattari 1980:471), the nomadic perception of the landscape as a dynamic environment is informed not only by changes in the environment, but to a large extent by a constant dialectic between the immediate mastery of tasks such as wayfinding (Ingold 2000:155) and memories of past experiences (Hastrup 1998:121). To know their whereabouts, the herders must be able to connect movements to narratives of journeys previously made, by

1. I have undertaken fieldwork in the area continually since 2001.

2. See also Hastrup (1998:21); Ingold 2000:10; Merleau-Ponty (1962:82); Tilley (1994:13); and Tuan (1977) for elaborations on the notion of embodiment.

themselves and others. Basic navigational skills alone are not sufficient in a landscape which is constantly changing. Wayfinding is social in its essence.

My main argument is that adaptation to arid environments and resilience in face of extreme droughts is primarily a matter of social engagement, here exemplified by the twin concepts of mobility and wayfinding. Rather than merely traversing the surface of a world whose layout is fixed in advance – as represented on a cartographic map (de Certeau 1984:102) – Mahmoud and Ishmael ‘feel their way’ through a world that is itself in motion, ‘continually coming into being through the combined action of human and non-human agencies’ (Ingold 2000:155).³ Wayfinding represents a skilled performance of tasks, which are continually adjusted to the changing environment in response to an ongoing perceptual monitoring of the surroundings, as exemplified by moving about in it (Ingold 2000: 220-230; Pedersen 2009:146-148). Continuously moving through the environment, the Kounta develop their capacity to find their way and estimate the potentiality of different areas (Ingold 2000:230). Their dwelling is contingent upon individual and collective choices motivated by an evaluation of constraints and incentives (Barth 1966:1) first and foremost related to water and pastures for their animals. The Kounta’s perceptions of the environment are mediated through the performance of tasks related to mobile livestock rearing which forms the primary means of subsistence (Bonte & Guillaume 1998:219; De Bruijn & Van Dijk 1995:14-20).⁴ In Ingold’s terminology, the nomadic landscape as a whole can be understood as the taskscape in its embodied form (see also Pedersen 2009).

Through the performance of the daily tasks related to mobile livestock rearing, the nomads follow customary paths, which transport them between different points or places defined by their potential

3. See also de Certeau (1984:102) for investigations of movement through landscapes and cityscapes.

4. The etymological meaning of the term nomadic pastoralist is to be found in a juxtaposition of the Greek word *nomás* (pasturing flocks), akin to *némein* (to pasture) and the Latin word *pastor* (shepherd), indicating the paramount importance of livestock to the nomadic pastoralist livelihood.

for supporting the animals. In the nomad_scape of the Kounta, points and trajectories cannot be separated from each other. They are interrelated parts of the total landscape. I do not find that the one has primacy over the other, as do Deleuze and Guattari (see Deleuze & Guattari 1986:50). What is important to notice is that points are *not* fixed or static. They are rather part of the moving space, or landscape, of the mobile Kounta. At the core of this nomad_scape are the constant, interrelated movements of the primary elements in it: people, animals, water, pastures, and landscape.

The Kounta of Hodh Ech Chargui: Mobility and topography

The Kounta is one of the larger nomadic tribes in Mauritania, spread over a vast area encompassing the Tagânt, Hodh Ech Gharbi and Hodh Ech Chargui regions of central and south-eastern Mauritania. They practice varied forms of livestock rearing, from fully nomadic to semi-nomadic. Relatively few of the Kounta inhabiting these regions have become fully sedentarized. The empirical object of this chapter is groups of fully and semi-nomadic pastoralists living in the extreme south-eastern part of Hodh Ech Chargui.⁵

Hodh Ech Chargui is a remote region in the Islamic Republic of Mauritania, situated in the south-eastern part of the country.⁶ It is mainly composed of desert and dispersed areas of arid and semi-arid bush steppe or savannah. The region is sparsely populated with only a few city structures in the far south of the region, along the trans-national bitumen road which facilitates the transportation of goods between Mauritania and neighbouring Mali. Extreme climatic con-

5. See illustration page 183.

6. Following Hastrup, I qualify remoteness as not just geographical but also conceptual in the sense that 'remoteness' is 'a specific quality attributed to a social space from outside; while from the internal standpoint people have their own (counter-) specification of local reality as the centre of the world' (Hastrup 1998: 186). Here, remote is understood in terms of Hodh Ech Chargui's distance from the capital of Nouakchott, both geographically and in terms of distance from the sedentary nation-state ideology.



ditions, limited rain-fall, and poor soil and vegetation render the environment poorly suited for agricultural cultivation. From an ecological viewpoint it can be distinguished as a ‘non-equilibrium’ or ‘disequilibrium’ environment (Niamir-Fuller & Turner 1999; Raynaut et al. 1997), characterized by extreme seasonal variations in the availability and locality of natural resources such as pastures and water. The notion of disequilibrium stipulates that we are better suited to understand the nature of such areas by accepting that they are dynamic, influenced by change and fluidity, rather than by pre-

dictable variation. As exemplified by the abovementioned case story, the area inhabited by the Kounta is governed by a particularly dynamic topography in the sense that landmarks continually change positions and structure with time. Large sand dunes move, areas that were once fertile become dry and vice versa, wells dry out and new wells are constructed. It all depends on the climate, which varies tremendously.

Hodh Ech Chargui was seriously affected by the large-scale droughts which swept the entire Sahel region during 1968-1973 and 1982-1985.⁷ I understand these droughts as particularly disruptive moments, being the extreme manifestation of the aforementioned disequilibrium environment. Droughts radically reconfigure the environment in terms of availability of pastures and water, forcing the nomads to apply ever more flexible livelihood strategies in order to survive. In Hodh Ech Chargui, these strategies are integrated in a social organization based on flexible mobile livestock rearing,⁸ i.e. a form of nomadic dwelling, in which animals are the fundamental medium of production and reproduction. The character of pastoral migrations of the different groups varies considerably, even within areas within the regions. Regularity and stability vary; cycles (inter-seasonal and in-season pastoral migrations) vary; distance varies; directionality varies, and economic priorities vary. Most often the migrations are elliptical or radial-circular, and insofar as it is possible, the Kounta strive to migrate according to pre-existing migration patterns developed over time.

The following statement by Alrouna, an elderly nomad I interviewed regarding communal land use, illustrates a particular notion of boundless space (Pedersen 2003), while at the same time pointing to a high degree of solidarity and communality within the nomadic pastoralist community:

7. The Sahel is the denomination of an ecological /climatic belt stretching west-east across the African continent immediately south of the Sahara desert – one of the most ecologically unpredictable areas of the world (Raynaut et al, 1997).

8. Mobile livestock rearing is the most common form of pastoralism in the dryland areas of Africa, the Middle East and Central Asia (Pedersen 1994; Scoones 1995).

There are no boundaries here – we can move wherever we want, camp wherever we want, let the animals graze where we want, and get water from the wells we want. Here, in the *badyya*, we share the resources. Everything depends on solidarity (*assabiyya*).

The fact that Alrouna experiences the territory or space as boundless does not mean, as his evocation of the notion of solidarity indicates, that there are no rules regarding access to resources. On the contrary, it is exactly because Hodh Ech Chargui represents a communal territory governed by a large conglomeration of Kounta fractions (*fahd*) that resources are accessible to everybody. Other tribes (*qabila*) are not permitted to appropriate resources in this territory without prior arrangements with the overall head of the Kounta in the region. Similar models of communal land-use are predominant among nomadic pastoralists all over the Sahel region (Bourgeot et al. 1999; de Bruijn & Van Dijk 1995; Thébaud 2002:221-235).⁹ Whereas semi-arid territories often are subject to intense conflict between various nomadic groups and agriculturalists, Hodh Ech Chargui is considerably more homogeneous.¹⁰ Negotiations take place on a communal level and there is a wide appreciation of how the space used by the various segmentary elements of the larger conglomerate is governed by fluidity and overlapping social fields.

In this sense, this mode of human territoriality appears democratic and well adapted to the changing nature of the nomadic landscape, in that it optimizes access to key points in the form of temporarily or permanently localized resources (pastures and wells), so as to satisfy survival, while at the same time minimalizing the probability of conflicts over those resources (Mearns 1993:73; Niamir-Fuller 1999:277). The communal system is largely dependent on flexibility and strategic mobility in large collectively managed areas (Galaty & Bonte 1991:13; Mearns 1993:74).

9. See also Galaty & Johnson (1990) and Niamir-Fuller & Turner (1999:22) for an elaboration on this form of land-use.

10. Hodh Ech Chargui is exceptionally dry and unpredictable in terms of rainfall, even compared to the Sahel region, which is among the most difficult climates for people to survive in (Raynaud et al. 1997).

The Kounta tribe (*qabila*) is organized in terms of segmentary lineages, which permits the maintenance of the autonomy of the families (*haïma*),¹¹ who control the herds, while at the same time ensuring their integration into a larger community structure which guards the rights of access of each of the families to collectively utilized resources. The tribe (*qabila*) designates a large agnatic group which represents the overall economic and institutional frame, guaranteeing the allocation of rights in the form of distribution of pastures and access to watering points in the overall territory (Bonte 1979:204-7; Marchesin 1992:32). We might, for analytical purposes, conceive of the social organization of the Kounta as a concentric circle with the individual and his *haïma* in the centre, and the rest of society ordered in a progressive distance from the centre.

To understand the life worlds and the dynamics of the topographic engagement of the nomadic pastoralists, I divided my time among the Hodh Ech Chargui equally between two main activities: walking with the herders and time spent in the camp.

The long periods spent with the herders when moving further away from camp, tracking for pastures (Niamir-Fuller & Turner 1999) and mapping the movements (Ingold 2000) gave me an understanding of the topography of the space they inhabit and their experience of it (Hirsch & O'Hanlon 1995).¹² In the process of 'topological appropriation' (Tilley 1994:28) I was inspired by de Certeau's image of walking as a constitutive and creative activity of producing meaningful 'places' in the environment rather than merely inscribing physical paths on the landscape (de Certeau 1984: xiii-xiv). This approach, foregrounding the individual and his emplacement in the world, has been further developed as a methodological approach by Gray (2003) and Lee and Ingold (2006), among others. Together these topological methodologies provide an understanding of how 'movement through space constructs "spatial

11. The word *cima* designates both family and tent, i.e. refers to those who live in the same tent.

12. Here, the main references were de Bruijn & Van Dijk (1995); Deleuze & Guattari (1980); Gray (2003); Hastrup (1996); Ingold (2000); Jackson (1996); and Pedersen (2003, 2009).

stories”, forms of narrative understanding.’ (Tilley 1994:28). The long days of endless walking with the herders provided fundamental empirical data to support my later analysis of the constitutive elements of the nomadic livelihood and their intimate connectivity – mobility, wayfinding (Ingold 2000) and livestock rearing (de Bruijn & Van Dijk 1995; Thébaud 2002). In essence, understanding this nomadic ‘taskscape’ (Ingold 2000), which I call ‘nomad_scape’, provided me with clues as to how the nomads perceive and interact with their surroundings.

Mobile dwelling: Dispersal as a means of adaptation

Following Hastrup I believe that ‘The life world of people is established in practice’ (Hastrup 1998:66), and that ‘...most of its defining parameters are invisible and exist only in action’ (ibid.: 88). This understanding is reflected in what Ingold, inspired by Heidegger (1971), has termed ‘the dwelling perspective’, which ‘...explores the implications of the position that awareness and activity are rooted in the engagement between persons and environment for our understanding of perception and cognition, architecture and the built environment, local and global conceptions of environmental change, landscape and temporality, mapping and wayfinding, and the differentiation of the senses’ (Ingold 2000:5).

Dwelling is akin to the notion of livelihood as it is essentially about how human beings relate to their environments while making a living that does not set up a polarity between the subject and his or her environment (Ingold 2000:5). In this sense, it is closely related to the concept of resilience. According to Ingold, the individual perceives the world through the process of ‘enskillment’ (Ingold 2000:22). Skills are defined as ‘...the embodiment of capacities of awareness and response by environmentally situated agents’ (Ingold 2000:5), and when acted out, they become ‘tasks’, defined as ‘any practical operation carried out by a skilled agent in an environment, as part of his or her normal business of life. The environment is made sense of through the performance of tasks, most often social, which in their total ensemble are referred to as taskscapes’ (Ingold 2000: 195). It follows from this that, ‘...the landscape as a whole must be

understood as the taskscape in its embodied form: a pattern of activities ‘collapsed’ into an array of features’ (Ingold 2000:198). This is what de Certeau means when he argues that ‘space is a practiced place’ (de Certeau 1984:117), where historically and culturally situated people create a locality of familiar heres and theres in the same way as speakers act out language systems in the creation of vernacular meanings (Gray 2003:224). My prime interest is analyzing what dwelling entails for nomads, given their mobility through a landscape practically devoid of fixed landmarks.



The camp provides a temporarily fixed recreational place, from which wanderings are performed up to the point when pastures are too far from camp to ensure adequate time for grazing, due to the time spent reaching them and returning back within the day. The individual herders of the camp move in radiant elliptic circles from the centre towards the margin and back again. The walking typically starts around one hour before sunrise and continues until sunset. Herders alternate between taking the animals to the pasture, and taking them to drink at water-points, depending on the distance to the well. Furthermore, to minimize the risk of losing their means of subsistence in the case of severe droughts, the Kounta diversify their

herds, so as to be able to exploit different forms of pastures dispersed over a wide area.¹³

Once the immediate area around the camp has been grazed, the Kounta pack their belongings and mobile homes (tents), and move to an area in which they continue this strategy. Depending on the season, the quality of the pastures, the availability of water, as well as the size of the herds of the different households, the Kounta move camp anywhere between every three weeks and every two months, often splitting up in to smaller groups or merging with larger groups depending on their needs. This changes continually, from season to season and from year to year. This, however, only represents a minor eccentric pattern within the total nomad_scape of the Kounta. The different *āial* live in close proximity with each other, sharing the same water points and to a certain extent pastures. This means that the herders of different conglomerations of families often meet each other, either while grazing the animals or giving them water at the communally accessible wells and watering points.

In order to understand the nomad_scape of the Kounta it is important to first of all keep in mind that a host of mobilities are, so too speak, operational at any given time. Individual actors, families, groups of families, and entire factions of Kounta nomads traverse the landscape in a dense network of predominantly circular trajectories, centred around a temporary centre in the form of their camps. Analytically speaking, these movements are not just horizontal or geographical, but also vertical or social, in the sense that individuals and groups of different status interact in the process of their hori-

13. This corresponds well with André Leroi-Gourhan (1964), who opposed the concentric representations of space, which he attributed to the sedentary societies, with the radiant representations of space practised by the nomads. The former is organized from near to far (from centre to periphery), whereas the latter its organised by trajectories, points of confluence and dispersion (Leroi-Gourhan 1964). Leroi-Gourhan's vivid juxtaposition of confluence and dispersion translates well to my analysis of the nomad_scape of the Kounta. From the camp, which in itself represents a temporary place, the trajectories of the herders radiate out into the nomadic landscape, guided by a pragmatic desire to fulfil the basic need of ensuring pastures and water for the animals. Through this process, animals and people are dispersed in the landscape in dynamic, ever-changing constellations.

zontal or geographic movements. While beyond the scope of this paper, the political dimension of mobility and access to resources is constantly present in the lives of the Kounta, as manifested in their complex networks of alliances, which penetrate and order this existential mobility.

Through their dwelling, the Kounta continually develop their notions of this dynamic environment, through their active engagement in mobile livestock rearing strategies. Their movement is primarily informed by perceptions of where there is pasture and water for their animals. Depending on the nature of the climate in a given season or year, some areas become more interesting than others. As I have argued, the area inhabited by the Kounta is far from stable in terms of climate. Survival depends on flexibility, foresight and mastering demanding skills such as wayfinding in a world where the navigational fix-points are continually changing. Furthermore, commandment of the environment is largely contingent upon memories, meetings and rumours. When moving they meet others who, like them, are moving in a landscape or space which itself is moving.

In this sense, my empirical observations support the notion that the space occupied by nomads is a rhizomatic and dynamic space, which is neither localized nor delimited. It is a space, which is tem-



porary and shifts location according to for example rain and wind (Deleuze & Guattari 1981:474).¹⁴

The nomad_scape: Some concluding remarks on wayfinding as adaptation

As we have seen for the Kounta, and as suggested by Deleuze and Guattari in their essay on nomadology (1980), the nomads dwell in trajectories or itineraries, as much as in territories. These nomadic trajectories do not parcel out a closed space to people, assigning each person a share and regulating the communication between shares. The nomadic trajectories do the opposite, they distribute people (or animals) in open space, that is indefinite and non-communicating (Deleuze & Guattari 1980:471-472).¹⁵

For the Kounta, I argue, the nomad_scape consists of a network of changing focal points from which radiant elliptical mobility patterns disperse the animals within circular areas, which are connected by a multitude of trajectories. Translated into social terminology, the Kounta carry out a way of life in a nomadic landscape consisting of overlapping social and spatial domains, where they belong and feel at home (Gray 2003:231; Ingold 2000:54; Pedersen 2009). This inherent radiant quality of the nomadic space illustrates Heidegger's and Ingold's concept of dwelling, and it also correlates with the implicitly segmentary social system of the Kounta. Through livestock rearing, space is transformed into meaningful places as the Kounta move about in the landscape.

The Kounta continually create places connected by paths or trajectories (Pedersen 2009; Tuan 1977:182) in what Miller, following Leroi-Gurhan among others, has termed *adaptive radiation* (Miller 1965:371) in which '...systems may spread out, searching for space, food, raw materials, or new experience and so encounter other sys-

14. This is what Raynaut et al (1997) and Niamir-Fuller (1999) labelled 'non-equilibrium' or 'disequilibrium' environments with an ecological term.

15. Here we see a reference to the etymological root of the word nomad, nem, or nemein, which refers to a distribution or scattering of animals in open space (Webster's Unabridged Dictionary).

tems or environments they had not experienced before, to which they must make adjustments.’ (Pryor 1975:35). In this sense landscapes are turned into places by human action (Hirsch 1995), and specific places are notionally extracted out of undifferentiated space by becoming imbued with particular meaning by, and for, human sociality and identity (Sack 1986:6).

To recapitulate, for the Kounta place is an organized world of meaning (Tuan 1977:179), or a centre of ‘...human significance and emotional attachment’ (Tilley 1994:15), largely catalysed by movement through a space which is itself in movement: ‘...in dwelling in the world, we do not act upon it, or do things to it; rather we move along with it. Our actions do not transform the world, they are part and parcel of the world’s transforming itself’ (Ingold 2000: 200).

In his study of the Duxa nomads of northern Mongolia, Pedersen (2009) suggests that they operate with a notion of *void* space, which is unqualified and used to pasture the animals. This is in marked contrast to my observations in Hodh Ech Chargui, where places are most often designated by exactly the use of the animals. An important point to make in this discussion is the fact that while the Duxa are heavily informed by their belief in spiritual features of the landscape, the Kounta are not so. In this sense, they are more pragmatic than the Duxa. The Kounta certainly perceive of their surroundings as harbouring underlying, non-visual, potentialities, but these potentialities are understood with reference to pastures and water, not spirits (cf. Hirsch 1995). With reference to the etymological meaning of nomadic pastoralism, there seems to be an inherent contradiction in nomads letting their animals graze in *void* or *unqualified* spaces. One would think it makes sense for the nomad to consider the space used for grazing to be particularly qualified, as is the case of the Kounta, and as exemplified in Mahmoud’s distinction of the place we were looking for as ‘*good badyya*’.

In Mauritania, the word commonly used for open space, designating that which is beyond cities, is *badyya*.¹⁶ The *badyya* is the space

16. The *badyya* thus represents the contrast to what Deleuze and Guattari terms striated space or sedentary space.

inhabited by the nomads. Contrary to the Duxa, the nomadic people of Hodh Ech Chargui, do not operate with the notion of 'void' space in their everyday life. Only a small proportion of nomadic pastoralists ever traverse *void* or empty space.¹⁷ Rather, they navigate within spaces conceived of as pure potentiality (Hastrup 1998; Hirsch 1995) in terms of points or centres defined by their qualities as pastures or watering points.

The Kounta construe places through pausing in their movements. When the potentiality of a particular area becomes evident in terms of satisfying particular biological needs of animals and people, the Kounta pause. A locality then becomes a centre of felt value. It becomes a place imbued with value experienced through the act of pausing in space and time (Tuan 1977:138). When Mahmoud and Ishmael pause to make tea at the spot they have designated as a suitable area for the animals, they produce (or reproduce) a place. The pause reinforces the potentiality of the space and makes it possible for them to remember that particular locality easier next time. They make place out of space.

The ability to understand the inherent potentiality of the landscape becomes even more important during severe droughts. In order to adapt, the Kounta activate not only their internal network of memories and knowledge of the environment, but also their social networks. Often, droughts engender diversions from the mobility patterns and conglomeration of people and animals in areas with water and pasture. This calls for negotiations between the different users of the same scarce resources. For the Kounta, the permanent wells outside the oasis of Oualata are natural abodes. The mass arrival of people and animals to the outskirts of this small oasis during severe drought requires intense negotiation, not only between the sedentary oasis dwellers, but also between nomads. Water is scarce, and systems of controlled access must be adhered to so as to satisfy the needs of all local actors. In the case of prolonged droughts, it is not unusual that a more distant network is activated, permitting

17. The void exists beyond the open space, and only salt caravans and trading nomads transgress the *badyya* into the Sahara.

members of nomadic pastoral families to take up residence in areas outside the Kounta heartland for longer periods of time. Similarly, in times of prolonged drought, herders increasingly make use of alternate trajectories enabling them to access pastures outside drought-struck areas.

To recapitulate, resilience in the case of the Kounta is dependent on flexibility, diversification and intense negotiation of rights to access to resources. Although not a focus of this chapter, permanent settlement of parts of the family in urban areas is likewise a common long-term strategy employed by the Kounta. The continued maintenance of mobile livestock rearing as practised by the Kounta in Hodh Ech Chargui depends on their continued application of flexible strategies, which permit them to adapt their movements to the changing features of the landscape. Today, GPS and other technological solutions are slowly becoming part of these strategies, as is the intensification of networks with sedentary members of the Kounta.

In this chapter I have described and analyzed aspects of wayfinding as an integral part of resilience in the case of the Kounta. My argument is that wayfinding cannot be isolated from other practices of engagement such as mobility, livestock rearing, negotiation, social networks, and indeed kinship. Resilience in this particular case is a complex whole of interrelated features and practices. While not pretending to have discussed the total complex of resilience in drought-ridden areas, I have tried to account for some of the central elements in Kounta's spatial practices that enable them to live and navigate in a drought-prone landscape.

REFERENCES

- Barth, F. 1966. *Models of Social Organisation*. London: Royal Anthropological Institute of Great Britain and Ireland.
- Bonte, P. 1979. Pastoral Production, Territorial Organisation and Kinship in Segmentary Lineage Systems. 203-234 in P. Burnham & R. Ellen (eds.) *Social and Ecological Systems*. London: Academic Press.
- Bonte, P. & H. Guillaume 1998. *Nomades*. Paris: Éditions de la Martinière.
- Bourgeot, A. (ed.) 1999. *Horizons Nomades en Afrique Sahélienne. Sociétés, développement et démocratie*. Paris: Karthala.

- de Bruijn, M & H. Van Dijk 1995. *Arid Ways: cultural understandings of insecurity Fulbe society, central Mali*. Amsterdam: Thela Publishers.
- de Certeau, M. 1984. *L'Invention du Quotidien*. Arts de Faire. Paris: Éditions Gallimard.
- Deleuze, G. & F. Guattari 1980. *Mille Plateaux*. Paris: Les éditions de Minuit.
- _____. 1986. *Nomadology*. New York: Semiotext(e).
- Galaty, J. G. & P. Bonte (eds.) 1991. *Herders, Warriors and Traders – Pastoralism in Africa*. Boulder: Westview Press.
- Galaty, J. G. & D. L. Johnson (eds.) 1990. *The World of Pastoralism*. New York: Guilford Press.
- Gray, J. 2003. *Open Spaces and Dwelling Places: Being at Home on Hill Farms in the Scottish Borders*. 224-244 in Low, S. M. & Lawrence-Zúniga (eds.) *The Anthropology of Space and Place – Locating Culture*. Oxford: Blackwell Publishing.
- Hastrup, K. 1998. *A Place Apart. An Anthropological Study of the Icelandic World*. Oxford: Clarendon Press.
- Heidegger, M. 1971. *Poetry, Language, Thought*. New York: Harper & Row Publishers.
- Hirsch, E. 1995. Introduction. 1-31 in Hirsch, E & O'Hanlon, M. (eds.) *The Anthropology of Landscape: Between Place and Space*. Oxford: Oxford University Press.
- Hirsch, E & M. O'Hanlon (eds.) 1995. *The Anthropology of Landscape: Between Place and Space*. Oxford: Oxford University Press.
- Jackson, M. (ed.) 1996. *Things as They Are: New Directions in Phenomenological Anthropology*. Bloomington: Indiana University Press.
- Ingold, T. 2000. *The Perception of the Environment. Essays on livelihood, dwelling and skill*. London: Routledge.
- Lee, J. & T. Ingold 2006. *Fieldwork on Foot: Perceiving, Routing, Socializing*. 67-86 in S. Coleman & P. Collins (eds.) *Locating the Field. Space, Place and Context in Anthropology*. New York: Berg Publishing.
- Leroi-Gourhan, A. (1964). *Le Geste et la Parole*. Paris : Albin Michel.
- Low, S. M. & Lawrence-Zúniga (eds.) 2003. *The Anthropology of Space and Place – Locating Culture*. Oxford: Blackwell Publishing.
- Marchesin, P. 1992. *Tribus, ethnies et pouvoir en Mauritanie*. Paris: Karthala.
- Mearns, R. 1993. *Territoriality and Land Tenure among Mongolian Pastoralists: Variation, Continuity and Change*. *Nomadic Peoples* 33: 73-103.
- Merleau-Ponty, M. 1962. *Phenomenology of Perception*. London: Routledge & Kegan Paul.
- Niamir-Fuller, M. (ed.) 1999. *Managing Mobility in African Rangelands – The Legitimization of Transhumance*. London: FAO & IT Publications.

- Pedersen, G. 1994. *Afghan Nomads in Transition*. London: Thames and Hudson.
- Pedersen, M. A. (2003). *Networking the Landscape: Space, Power and Decision-Making among the Tsaatang of Northern Mongolia*, in A. Roepstorff, N. Bubandt & K. Kull (eds.), *Imagining Nature: Practices of Cosmology and Identity*. Aarhus: Aarhus University Press.
- . 2009. *At Home Away from Homes: Navigating the Taiga in Northern Mongolia*. 135-151 in P. Kirby (ed.), *Boundless Worlds. An Anthropological Approach to Movement*. Oxford; Berghahn Books.
- Pryor, R. J. *Migration and the Process of Modernization*. 23-38 in Kosinsky K., Leszek, A & Prothero, R. M. (eds.) 1975. *People on the Move – Studies on Migration*. London: Methuen & Co.
- Raynaut, C. (ed.) 1997. *Sahels. Diversité et dynamiques des relations société-nature*. Paris: Karthala.
- Sack, R. D. 1986. *Human Territoriality: Its Theory and History*. Cambridge: Cambridge University Press.
- Scoones, I. (ed.) 1995. *Living With Uncertainty – New Directions in Pastoral Development in Africa*. London Intermediate Technology Publications.
- Thébaud, B. 2002. *Foncier Pastoral et gestion de l'espace au Sahel*. Paris: Karthala.
- Tilley, C. 1994. *A Phenomenology of Landscape*. Oxford: Berg Publishers.
- Tuan, Yi-Fu. 1977. *Space and Place: The Perspective of Experience*. Minneapolis: University of Minnesota Press.