

Between the Plentifulness and the Void:

Historical Anthropology on The Uyghur People's Environmental Perception in Southern Xinjiang

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Abstract

This thesis is a historical anthropology of Uyghur people's environmental perception, exploring the Uyghur people's dwelling experiences in the oasis-desert landscape of southern Xinjiang during the early 20th century. Through the insights derived from historical anthropology and local knowledge, this study applies field visit and documents research. Multiple materials are covered in this study, including (1) Translated Uyghur manuscripts (the Jarring Collection); (2) Chinese records; and (3) Western accounts. The study's result concludes ethnographic details related to the environment, to elucidate locals' experiences and practices in oasis agriculture, the desert environment and the changing boundary between landscapes. Through the concepts of the dwelling perspective and the taskscape from anthropologist Tim Ingold, this thesis argues that the environment is not the mere background of the Uyghur people's daily life. Instead, their actions and perception are embedded in and generated within their surroundings by continual engagement, which is how they maintain a meaningful world position in the arid environment. The historical and anthropological perspectives enable us to understand the Uyghur people's profound connections with their land.

Keywords

Historical anthropology; Human ecology; Environmental perception; Uyghur; Xinjiang; Dwelling perspective; Taskscape.

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I want to give thanks to my parents and sister, thank you for supporting me all the time, no matter where I am. I'm very grateful for Eunice, John, my host and people I met in Xinjiang, it is not easy to describe those deep connections regarding that place and people by a sentence, but they definitely mean a lot to me and always make me feel warm and passion.

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Table of Contents

1. Introduction	1
1.1 Study background	2
1.2 Aim and purpose of the study	4
1.3 Research questions	4
1.4 Notes on the usages of geographical and social terms	5
1.5 Chapter outline and note on orthography	7
2. Theoretical framework	8
2.1.1 Historical anthropology	8
2.1.2 Local knowledge	9
2.2 Conceptions from anthropologist Tim Ingold	10
2.2.1 Environmental perception	11
2.2.2 The dwelling perspective	13
2.2.3 Task and taskscape	14
3. Research Methods	15
3.1 Document research	16
3.1.1 A general description	16
3.1.2 Three principles of material selection	16
3.1.3 Ethnographic content analysis	17
3.2 Non-participating observer with interaction	18
3.2.1 Participant observation	19
3.2.2 The field visit	19
3.2.3 Positionality	21
4. Research materials	22
4.1 The Jarring Collection	23
4.2 Official-related records	24
4.3 Western travelers' accounts	25
5. Findings	28
5.1 On agriculture and the irrigation system	28
5.1.1 The basic formation of an oasis	28
5.1.2 Building the irrigation canals	30
5.1.3 The formation of farmlands	32
5.1.4 The operation of the irrigation system	34
5.2 The desert	36

5.2.1 Traveling in the desert	37
5.2.2 Staying in the desert	39
5.2.3 Companions in the desert	43
5.3 Sense of orientation and the shifting boundary	45
5.3.1 The sense of orientation	45
5.3.2 The shifting boundary	46
5.3.3 Describing landscapes	47
6. Analysis	49
6.1. The dwelling perspective in the oasis-desert landscape	50
6.1.1 The dwelling perspective in the shrine	50
6.1.2 Agriculture and functioning irrigation system	52
6.2 The topology of environmental perception	55
6.3 Regarding the indigenousness	57
7. Discussion	59
7.1 Chinese Central Asia	59
7.2 Lack of practical data on site	60
7.3 Regarding historical materials	61
8. Conclusion	62
References	65
Appendix 1	72
Appendix 2	73

1. Introduction

Arrange your dam before the water has come!

Uyghur proverb (Jarring 1951a: 124)

I woke up in vast and firm tranquility. The mud-built roof was supported by cemented walls and beams made of trunks of aspen. The smell of moist earth, mixed with a slight smell from the half-sheltered latrine outside, permeated the entire atmosphere. My sight shifted from the interior of the rural house to the horizon, where a series of snow-capped mountains of the Tian Shan range ("the Mountains of Heaven") could be seen behind the fresh green jujube and apple plantations. It was a summer day without a sandstorm, after my arrival during a dark night. That was my the first impression of the rural Han Chinese settlement where I stayed for a month in 2011.

Bordering Central Asia, the Xinjiang Uyghur Autonomous Region¹ is the largest administrative region in China. It makes up nearly a sixth of the country's land area. The world's second-largest shifting sand desert, the Taklamakan, is located in the Tarim Basin in the southern part of this region. Dwelling in oases scattered around the desert, nearly ten million Turkic-speaking Muslims—the Uyghur people—have well-developed agriculture and have for centuries played a significant role in interoases trade along the ancient Silk Road.

As a "micro model," so to speak, the oasis where I stayed has the typical configuration in this region for a livelihood based on intense agriculture: Instead of being supplied by regular precipitation, the essential component, water, comes from melted snow in the mountains that becomes streams at the base, creating the necessary conditions for cultivation. Water flows downward into the Tarim Basin, and is led into canals, nourishing a variety of fruits and nuts. Within the oasis, arable lands behind households are connected through a network of irrigation canals controlled by the operation of sluices. Beyond the spaces of human dwelling, donkey carts and small motorbikes travel on dusty roads sheltered by poplar trees, roads that

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¹ According to China's constitution, state-recognized ethnic minorities have the political right to manage their region autonomously.

link the villages and allow for the transport of livestock, goods and agricultural products to the bazaar. It is a glossy green space, an oasis landscape.

Yet, beyond the edge of the green, at the end of the irrigation canals, such a delicately watery complex accompanied by social relations is surrounded by the fringes of a vast area of saline and alkaline lands: the dunes of the Taklamakan. Along with the in-between zone of the desert and lofty mountain chains, from one oasis to another, the oasis-dotted belt in southern Xinjiang extends for more than a thousand kilometers.

1.1 Study background

Within this landscape of mountains, oases and desert, a particular environmental perception seems to be intuitively embodied in the people who dwell here. In contemporary research, Uyghur men who have immigrated from the countryside to the provincial capital to join the labor force are frequently mentioned as feeling disoriented in their urban wandering experiences, because of the detachment from the oasis-desert landscape, which is blocked by the skyline, and their experience-accumulated sense of navigation (Byler 2017a: 7–9).

On the other hand, if we compare the present and the past based on ethnographic and historical accounts, it seems as if there has not been much of a fundamentally drastic change within the geographic and relational formation. The configured connections between human settlements and types of lands in the past were similar to the aforementioned landscape. The affairs of water allocation have always been the prerequisite for agriculture (Bellér-Hann 1997: 99–100, 2008: 104–114; Golab 1951: 187–188; Jarring 1951: 19–23, 1998: 7, 13–14). However, despite much historical and political research on the Uyghur people,² to date there has not been any attempt to systematically explore the human-nature relations and the environmental perception of oasis inhabitants within this landscape of the past (see Thum et al. 2018).

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² On the topic of political controls and ethnic confrontations, see Bovingdon (2002; 2004); on the topic of history of politics, see Brophy (2016), Wang (1999); on the general historical woks of Xinjiang's and Uyghur, see Kim (2004), Kim (2016), Millward (2007), Thum (2014), Schluessel (2016).

There are Uyghur manuscripts and recorded narratives that address the lack of meaning of the desert; conversely, there are those that meticulously elaborate agricultural livelihood within oases (Jarring 1951b: 19-23, 1986: 80–84, 1998). Similarly, many related discussions can be found throughout academic works in various disciplines. For instance, Rian Thum, a prominent historian of the Uyghur people, has mentioned several times the possible implications of the Uyghur people's perception of the landscape in which they live (Thum 2014a: 122–132, 208–209; 2014b: 126).

The only significant work on the historical anthropology of the Uyghur people, *Community Matters in Xinjiang, 1880–1949: Towards a Historical Anthropology of the Uyghur* (Bellér-Hann 2008), does provide a comprehensive study on every social aspect of the Uyghur community in the past. However, in this study, the oasis-desert landscape is treated as mere background. The intricate connections among the people and their perception of the environment are worth further study.

Under the overwhelming political oppression in Xinjiang,³ it seems that the lack of a historical-anthropological study regarding the relationship between the indigenous people and their lands is facilitating the government's designed elimination of Uyghur culture and its unique characteristics. The current situation in Xinjiang not only has to do with the deprivation of personal rights and physical freedom; it is also about restricting the potential to develop any room for interpretation of Uyghur culture and their past.⁴ In other words, when the discussions on Uyghur history and comprehensive reading of local histories are not allowed to occur on any daily

³ Since 2017, the Chinese government has systematically implemented regulations on Turkic-Islamic communities in Xinjiang to enhance the "the harmony and stability of society" through deploying the newest technologies and biodata collection, which even accompany with some controversial means—such as mass internment and reeducation camps (Byler 2017b, 2018; Statement by Concerned Scholars on China's Mass Detention of Turkic Minorities 2018).

⁴ In fact, the systematic censorship is not limited only to academic writings or aiming at scholars of humanities and social science; including natural scientists, hundreds of Uyghur academic researchers have disappeared or been detained without legal procedure and verdict during the last two years (see Buckley and Ramzy 2018; American Anthropological Association 2018; Central Eurasian Studies Society 2018; Ramzy 2019).

occasion,⁵ the resistance triggered by memory and knowledge production becomes more and more crucial and necessary.

This thesis is significantly enlightened by the critical stance of human ecology, which provides a holistic perspective to unfold how human-nature relations, as well as social relations between different societies, are formed by diverse forms of relational dynamics, culturally and historically. Therefore, by studying the historic literature regarding the oasis environment along with ethnographic accounts and documents, in combination with a short-term field visit, this thesis explores a neglected subject. It will focus on oasis residents' deep connections with their land, their engagement in the landscape and their subjectivity formed in the environments of southern Xinjiang, so as to discuss Uyghur local knowledge during the current difficult situation.

1.2 Aim and purpose of the study

As a contribution to the research on indigenous people's environmental perception around the world, this thesis is a case study on the Uyghur people. The aim is to fill the academic vacuum of the social-environmental dimension in contemporary Xinjiang/Uyghur studies, providing a historical-anthropological interpretation of the human-nature relations in the oasis-desert landscape. Hopefully, this study can also broaden the possibilities of the Uyghur people's resistance in any form.

1.3 Research questions

The main focus of this thesis will be on the effects of dwelling in the drastic contrast of the oasis-desert landscape. How did the Uyghur people perceive and experience their environment during the first few decades of the 20th century? How was the boundary between the oasis and the desert defined and transformed through the sociocultural practices of the Uyghur people? In a larger context, how does the perception of environment affect landscape-making practices?

⁵ During the field visit, I found that, from the largest bookstore in Xinjiang to the provincial capital's public library, there is not a single specific monograph regarding Uyghur history and culture that is publicly accessible of the agencies' bookshelves.

1.4 Notes on the usages of geographical and social terms

Located in the geopolitical periphery of China proper,⁶ the constellation of oases around the Taklamakan (Fig. 1) had multiple and intricate connections with Chinese, Central Asian and Mongolian regimes after the collapse of the last local regime, the Yarkand Khanate (1514–1705). The actual exertion of an administration on oasis residents constantly fluctuates in accordance with the internal vicissitudes of the alien government's power dynamic. Therefore, historically, the different usages of geographical and social terms reflect different meanings and perspectives. For instance, the current name of this region, "Xinjiang," was given after the Qing empire re-conquered this area in 1884. The name means the "New Frontier" in Chinese. Thus, any single usage of terms is definitely politically and culturally problematic and contradicts the thesis's concern with local perspectives. Hence, some explanations regarding the terminological principles for the entanglement of the region and people must be given here.

In a geographic respect, there is a set of similar terms—"Xinjiang," "Eastern Turkestan" and "Chinese Central Asia"—that partially overlap with different implications. "Xinjiang," the name the name used by the ruling administration, comprises Tarim Basin in the south and the Dzungarian Basin in the north. This term will therefore be applied as denoting this geographical and administrative region in the most general sense. However, in Western accounts and documents before the 1940s, this region is mostly referred to as "Eastern Turkestan" or "East Turkestan," which has been the extended notion of Turkestan since the 19th century and the official national name for the twice-independent region. This geographical name has a more political connotation that has made it a forbidden word in contemporary Chinese society. Another related term is "Chinese Central Asia," which is employed by a relatively small number of Western researchers, refers to this region as an extension of Central Asia. However, historically, these names were not used by the

⁶ The term "China proper" usually denotes the core residential area of Han Chinese in the aspects of culture, language and administration.

⁷ There are the Islamic Republic of East Turkestan, 1933–1934; and the Republic of East Turkestan, 1944–1949.

locals. "Altishahr," which means "Six Cities" in the Turkic language, is the native name for the region that consists of oases in the Tarim Basin. In this thesis, "Altishahr" will be used as a synonym for "southern Xinjiang" to emphasize the local perspective.

Another necessary explanation concerns oasis inhabitants' collective identity. The current name, "Uyghur," is an ethnic-national concept that first appeared in the 1920s, inspired by a riptide of nationalism and a desire for political independence from several alien empires. Turkic communities were actively engaged in political activities, issuing newspapers and printed products and introducing modern education, in order to explore the possibility of forming a "united-ethnic nation for us" in the early 20th century (Millward, 2007: 206–209; Bellér-Hann 2008: 49–51; Thum 2014a: 176–178; see Brophy 2016). Later on, this concept of collective identity was adopted by the Chinese Republic and the following Communist government as the official category to which Turkic oasis residents in Xinjiang belonged.

Nevertheless, these facts doesn't imply that there was no collective identity before the general recognition of the Uyghur nationality. Historical and anthropological studies (Millward 2007; Thum 2014a, 2018) show that the oasis people around the Tarim Basin had a loose form of collective identity as "Altishahri," the "People of the Six Cities," which was sustained by the coherent forces of publicly reciting and duplicating manuscripts of Islamic saints, as well as long-distance pilgrimages (Bellér-Hann 2008: 38–40; Thum 2012a, 2012b, 2014a, 2014b). By doing so, oasis dwellers demarcated themselves from other Turkic-Muslim communities—e.g., the mountain Tajiks and Kyrgyzs (Newby 2007)—and congregated into a self-circulated "imagined community" in Benedict Anderson's sense (cf. 2006). In other words, the Altishahri identity is the prerequisite for forming the contemporary Uyghur nationality.

⁸ . As for the precise meaning of the "city," Thum (2014b: 126) reminds us that, "the name of any one of the 'six' cities often denoted not just the city but the entire oasis in which the city was located".

^{9 &}quot;It is imagined because the members of even the smallest nation will never know most of their fellow-members, meet them, or even hear of them, yet in the minds of each lives the image of their communion" (Anderson, 2006:
6). Yet, it doesn't imply that such affinity is fictitious; conversely, such nation-based brotherhood does phenomenologically affect people's conception and behaviors.

Different terms will thus be used in this thesis, according to the varying contexts in which the oases' residents are mentioned. The most general ethnic term will be the "Uyghur." When it comes to the viewpoint of the native people, the term "Altishahri" will be employed. In most earlier Western literature quoted in this study, "Eastern Turkis" and "Sart" were the common synonyms. In sum, these different terms all refer to the oasis habitants of Turkic-Muslim communities in Altishahr.

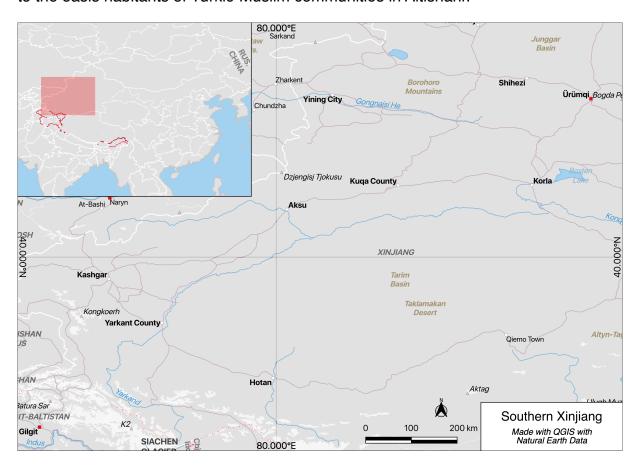


Fig. 1 Map of southern Xinjiang (made by the author, 2019)

1.5 Chapter outline and note on orthography

This thesis consists of nine chapters. Following this introduction, there are chapters on the theoretical framework (2), methods (3), material (4), findings (5), analysis (6), discussion (7) and conclusion (8).

Within some sections, there will be Uyghur terms provided to enhance the explanation. All of these terms will be presented in the American Library Association —Library of Congress system (ALA-LC system) with italic, but not all of them are

annotated with Uyghur Arabic script. Because the Eastern Turkic is very similar to but still different from modern Uyghur, so some terms are unable to be confirmed by consulting the Uyghur dictionary (see Schwarz 1992).

2. Theoretical framework

There are two sections in this chapter. The first one introduces the fundamental framework and viewpoints of historical anthropology and local knowledge, showing how such theoretical perspectives led me to adopt a specific set of methods to collect and analyze the historical materials. In the second section, a collection of conceptions from Tim Ingold will be introduced and explained to indicate how they will be applied as analytical tools.

2.1.1 Historical anthropology

In the founding stage of social anthropology during the early 20th century, anthropologists actively identified themselves by studying non-Western people and their present states (Kuklick 2008a: 1–16, 2008b: 70–75). Consequently, there was a tendency for anthropological studies to focus on every social aspect of communities from a synchronic perspective (see Davies 2008: 193–195; Kuper 1996: 1–65). Such emphasis has confronted surges of inquiries since the 1960s. Western anthropologists gradually realized that, in reality, there is no such thing as completely isolated society "without history" (cf. Wolf 1982). The presumption of the static and synchronic perspective, thus, is problematic in epistemology. Subsequently, more and more anthropological works have engaged in their field's and people's pasts.

Conducting ethnographic studies from a historical perspective (cf. Geertz 1990; Comaroff and Comaroff 1992) can be done by paying "greater attention to the internal developmental dynamics of particular societies over time" (Ortner 1984: 158), as opposed to the absolute distinction of ethnography for "traditional" communities and history for the "modern" world (Comaroff and Comaroff 1992: 6). On the other hand, by virtue of the definition of "raw historical materials" differing from

conventional historiography (Kuklick 2008a: 6), historical anthropology comprehensively employs varying texts and accounts as ethnographic data (Bellér-Hann 2010: 240–246). These texts include diaries, manuscripts and ethnological field notes, and it is very important to coordinate these materials with participant observation in contemporary contexts.

Among these meritorious works, an influential one is Marshall Sahlins's *Historical Metaphors and Mythical Realities* (1981). Sahlins deploys ship logs and local accounts acquired by fieldwork, demonstrating how Hawaiians perceived and interacted with Captain Cook's visits through local mythology and ritual practices. He offers a possible way to analyze how people's practices were culturally manifested and deployed in a specific temporal-spatial setting so as to mediate various encounters. In addition, Sahlins's work also vividly captures how the culture was reciprocally perpetuated and transformed its existing practices and structure after those encounters. As he (ibid.: 7) puts it, "Culture may set conditions to the historical process, but it is dissolved and reformulated in material practice, so that history becomes the realization, in the form of society, of the actual resources people put into play." In other words, the discussions of the interplay between practice, culture and structure in the historical setting are as valid as in the contemporary one (ibid. 67–72). Accordingly, anthropology does have a distinctive capacity to ascend through the once-fixed constraints of synchronic context.

Through multiplying our knowledge and conceptions of history, Sahlins's studies (1981, 1983) suggest that anthropological perspectives could profoundly contribute to the understanding of human society, both toward the past and the present. Subsequently, with the flourishing of historical anthropology, as he (1983: 534) states, "Suddenly, there are all kinds of new things to consider"—more theoretical applications toward the human past are opened up. Following such an inspiring perspective, therefore, historical anthropology enables this study to apply a set of anthropological conceptions to analyze the human-environment relations in the Tarim Basin, as well as the Uyghur people's environmental perception in the past time.

2.1.2 Local knowledge

Before I further elaborate on the anthropological conceptions that can assist us in understanding the Uyghurs' past further. I would like to briefly introduce some insights from cultural anthropologist Clifford Geertz, whose work significantly influenced this thesis in the process of studying historical materials.

Facing the inquiry of "how could we understand people and cultures?" Geertz (1983) proposes the perspective of "local knowledge." The "local" here doesn't refer to the location; instead, it is more about the position (cf. Ingold 1993b: 40–42). People develop and cultivate their systematic understandings of the world from their meaning contexts. That is, the behaviors, expressions and practices that happened in a culture should be situated in and understood from their cultural system. If we attempt to comprehend a specific group of people, Geertz (1983: 58) notes that we have "to arrive at this most intimate of notions (...) by searching out and analyzing the symbolic forms—words, images, institutions, behaviors—in terms of which, in each place, people actually represent themselves to themselves and to one another."

With this approach, the researcher should adopt the shift from "trying to explain social phenomena by weaving them into grand textures of cause and effect" to "trying to explain them by placing them in local frames of awareness" (ibid.: 6). In the instance he (ibid.: 68–70) uses as an example, it is difficult to really enjoy a baseball game if a person doesn't have basic knowledge of it, e.g., "a strike," "a stolen base," or "an inside-the-park grand slam." To achieve a proper understanding of my subject, Geertz's notion of the "thick description" (1973: 3–30) is also applied in this thesis. A thick description of people denotes that the detailed accounts of the subject are not only about the field experiences and people's behaviors, words and practices, but also their contexts as well. Detailed information enables the researcher to construct and interpret the locals' actions and thoughts from the locals' meaning contexts. These insights implicitly navigate my process of examining materials and writings, which is the reason why I elaborate on each theme with details in Chapter 5.

2.2 Conceptions from anthropologist Tim Ingold

Inspired by a series of conceptions from anthropologist Tim Ingold, I attempt to analyze the research findings with the notions of "dwelling," "taskscape" and "sphere"

(Ingold 1993a; 1993b; 2000) so as to provide a better understanding of Uyghur people's environmental perception and activities in the oasis-desert landscape (see Chapter 6). Therefore, in this theoretical section, I will give a brief introduction to these notions.

Before that introduction, it is necessary to mention the frequently-used notion "landscape." As Crumley (2007: 16) suggests, landscape is a term that has been employed comprehensively in many subjects. I apply her definition, a loose but inclusive one, in this thesis. A landscape "is the spatial manifestation of the human-environment relation," and such a notion allows us "to follow changes in the interaction of humans with their environment over some specified amount of time" (ibid.: 17). Moreover, and more importantly, this human-environment relation shall be seen as an endless collection with open boundaries that involves social organizations.

2.2.1 Environmental perception

Ingold's starting point is to attempt to bring the two sides of knowledge together, namely by reconciling the distinction and separation between natural science, biology in particular, and sociocultural science so as to accommodate people's experiences of being situated in an environment in a better way. He proposes that these complementary components should be reexamined, and "we should be trying to find a way of talking about human life that eliminates the need to slice it up into these different layers"; that is, in his words, a kind of "relational thinking" (Ingold 2000: 3).

In the relational thinking of environmental perception, a human is not a self-contained being. The way in which humans perceive the world is not like the step-by-step procedure that includes receiving sensory data, resorting to the knowledge that the person possesses and then acting out the corresponding action. Instead, Ingold argues that a human is making meaning and receiving meaning at the same moment, knowing and interacting with the environment by the very same active engagement (ibid.: 17–18). Furthermore, the action of engagement is relational. A human and his/her surroundings are neither bounded nor fixed entities; they simultaneously develop and change through the relational action itself. Therefore, in

the exploration of environmental perception, it is crucial to consider the relations among the settings that surround humans.

As for the content of the term "environment," Ingold notes that it refers to the surrounding world in relation to a person, which consists of materials and organisms. It keeps reconstructing all the time through ecological relations and is never complete (ibid.: 20). In this respect, his perspective regarding the environment does not see it as "out there" relative to human beings, but rather as a relational thing, seeing ourselves as beings within it.

Further, Ingold tries to connect such a perspective to the discussions of social and cultural respects. He summarizes that the conventional mode of perception presented in social science is the two-stage phenomenon: individually receiving sensation and culturally expressing representation (ibid.: 157–160). All persons perceive sensory data in their daily life and, subsequently, individuals culturally and socially act out their responses. To anthropologists of the British tradition, such actions may be seen as performing along with the social structure; to cultural anthropologists of the American traditions, they may be seen as being carried out and interpreted according to the culture's meaning system (cf. Geertz 1973).

However, for Ingold, such a mode of input-output distinction is not sufficient. He adds that the perception is not merely the sensation, but "a mode of action rather than a prerequisite for action" (Ingold 2000: 166). A mode comprises active and exploratory processes that involve the continual movement, adjustment and reorientation of the individuals themselves in the environment. Thus, it hardly gives a clear-cut separation to the entire relational experience.

In short, he concludes that when it comes to environmental perception, "(p)sychological and social processes are thus one and the same. And the discipline that will be called into being to study these processes, whatever we choose to call it, will be the study of how people perceive, act, think, know, learn and remember within the settings of their mutual, practical involvement in the lived-in world" (ibid.: 171).

This perspective of environmental perception will be applied to my study on the historical anthropology of the Uyghur people.

2.2.2 The dwelling perspective

A salient notion for discussing environmental perception is the "dwelling perspective" (Ingold 2000: 5), which is the perspective that situates the actor in his/her context of the engagements with the constituents of the surroundings. Through inhabiting the world, people perceive the world as a meaningful environment (ibid.: 173).¹⁰ At the same time, the environment is constituted as "an enduring record of the lives and works of past generations who have dwelt within it" (Ingold 1993a: 152).

To elucidate the dwelling perspective clearer, Ingold notes the opposite notion, the building perspective, which divides the world into the real environment and the perceived environment (2000: 178). The former refers to the material world, which is completely "out there"; the latter is the world in an individual's mind reconstructed through organizing the cognitive information from the "outside" environment (Ingold 1993a: 153–154). In the building perspective, a human is able to plan and build things in the real world according to his/her designs in the isolated mind, and such real-perceived distinction is intrinsic and prior to any engagement. In this sense, "the worlds are made before they are lived in; or in other words, that acts of dwelling are preceded by acts of worldmaking" (Ingold 2000: 179).

Yet, Ingold (ibid.: 185–187) argues that the state of dwelling should be prior to the building since the environment has accommodated humans before our actions. Humans have lived and developed in relation to the environment, thereby, humans are able to build things in the environment. In other words, "people do not import their ideas, plans or mental representation into the world" (ibid.: 186). Instead, they generate them within the environment: "Only because they already dwell therein can they think the thoughts they do" (ibid.).

¹⁰ Ingold doesn't deny the significance of materiality. Nor does he agree with the current wave in social science that reduces the human, object and non-human species on the non-distinguished level by the scope of a network (see Ingold 2011: 89–94).

Besides, based on the understanding of the dwelling perspective, Ingold (1993b) indicates that different human modalities of environmental perception bring different ways that humans relate themselves to the world: the mode of "sphere" and the mode of "global environment." In the mode of the sphere, a human actor perceives the world from his/her surroundings first, then extending his/her perception to farther places by exact experiences of interactions and involvements in person, continually forming his/her relations to the world in the way of the sphere. In this mode, the perceiver is a dweller/actor who bodily experiences other objects and environments rather than relying on a map, a globe or scientific theories as to which one is "outside" (ibid.: 32–35). Such a comparison of perspective can assist us in organizing the Uyghur people's environmental knowledge/practices from an insider's point of view.

2.2.3 Task and taskscape

How, then, does the dwelling perspective relate to and lead human actions? How do perceptions and actions affect human surroundings? People, Ingold argues, relate themselves to the environment/landscape through their knowledge of it. The environmental knowledge, which is part of their culture too, is not created from the outside contexts of its practical application; rather, it is formed by the accumulated experience, which "is based in feeling, consisting in the skills, sensitivities and orientations" (Ingold 2000: 25). Subsequently, knowledge leads to human daily practices within their surroundings. In this respect, the skills also are not abilities that could be handed over from a generation to the next, but the abilities that grow from perceiving and interacting experiences with knowledge (ibid.: 5).

Thus, Ingold terms these kinds of situated practice as a "task," which is a "practical operation, carried out by a skilled agent in an environment, as part of his or her normal business of life" (Ingold 1993a: 158); that is, "the constitutive acts of dwelling" (ibid.). The notion of the task here is distinct from the notion of labor, for the task is the conducting of situated practice with skills. Besides, tasks are usually performed by many people working together, and "every task takes its meaning from its position within an ensemble of tasks" (ibid.).

To articulate the inseparable, interlocking relationship between tasks, as well as their spatial-temporal context, Ingold proposes another concept to emphasize the holistic perspective: the taskscape. The concept of a taskscape denotes all the dwelling experiences with tasks as actors dwelling in a landscape, which is "the entire ensemble of tasks" (ibid.). In this sense, a taskscape includes human actions, as well as sounds, smells and any change performed by movement in the whole setting. Thus, it must be temporal but continued. Because a taskscape exists "only so long as people are actually engaged in the activities of dwelling" (ibid.: 161), it is temporal in accordance with the rhythms of activities. But, due to humans' continual dwelling in the world, people keep conducting tasks along with the surrounding conditions. Thereby, the taskscape of a given environment is also continued in motion (ibid.: 162). Consequently, the temporality of the taskscape is social. It lies in "the network of interrelationships between the multiple rhythms of which the taskscape is itself constituted" (ibid.: 160). All the rhythms of tasks form the temporality of the taskscape.

Furthermore, through the concept of taskscape, Ingold indicates that the landscape is "the congealed form of the taskscape," namely, a temporal manifestation of the related features, an array of the configuration of the taskscape in a given moment. Thus, a landscape is never complete (ibid.: 162). Lastly, he concludes that the notions of taskscape and landscape do "enable us to explain why, intuitively, the landscape seems to be what we see around us, whereas the taskscape is what we hear" (ibid.). Only in this way, by examining the temporality of taskscape and landscape, can we understand that they are not two opposing things. Instead, they are paired descriptions of the same environment, the world as a whole (ibid.: 164).

3. Research Methods

This thesis applies the combined methods of document research and non-participating observer with interaction.

3.1 Document research

Studying a society in the past through documentary materials involves a perspective that makes the past events comprehensible in the contemporary context (Davies 2008: 196–197). Hence, there are two aspects of document research that require critical examinations. The first aspect concerns the research approach applied in the thesis. The second one concerns the historical contexts of different documentary sources themselves and their knowledge productions, interrelations and limitations.

In this section, the first aspect will be elaborated. Genres of different historical texts will be elucidated in Chapter 4.

3.1.1 A general description

Document research, a method used in qualitative research, is the method of studying any form of visual materials that were not intentionally and directly produced at the request of the researcher (Bryman 2012: 543). Each document has its own producing background, purposes and effects. And yet, the researcher starts to engage in those pieces of information only in the processes of selecting, reading and analyzing.

In this method, the "documents" refer to textual and graphic sources that are relevant to the researcher's concerns (ibid.; Davies 2008: 197–198). In this thesis, the applied documents include published diaries, manuscripts and published travelogues. Nevertheless, due to the language barrier, the Uyghur manuscripts cited by this thesis were all translated and published by Gunnar Jarring (see 4.1); most of them are full-text translations. Other Western accounts (see 4.3) were derived from the Digital Archive of Toyo Bunko Rare Books and The Gunnar Jarring Central Eurasia Collection (see Appendix 1 and 2).

3.1.2 Three principles of material selection

As one studies various documents, an important question is how one selects and examines them, and by which criteria. Generally, there are three criteria suggested

by social scientists that are employed in this thesis: authenticity, credibility and representativeness (see Bryman 2012: 544; Davies 2008: 198–200).

Authenticity is about the making process and the origin of the document. Its purpose is to evaluate the credence of the text itself, namely, "whether the document is a genuine example of the evidentiary type which it purports to be" (Davies 2008: 198). Thus, if a text does not have traceable references of its context or has not been examined by other scholars, 11 it will not be employed by this thesis.

Secondly, *credibility* is the criterion about "the accuracy and honesty" (ibid: 199) of the document's content, to assess if the text is "free from error and distortion" (Bryman 2012: 544). One possible way to evaluate this is to contextualize the text by comparative perspective and to assess it by the author's purpose and its genre, reckoning who might have special interests in the document and what is likely to affect its content (Davies 2008: 199).

The third principle is *representativeness*, which relates to the evaluation of whether the evidence is "typical of its kind" (Bryman 2012: 544). Similarly, assessment through this criterion heavily relies on the researcher's sensitivity and, practically, making comparisons among different sources is a useful approach.

To assist the selection of historical materials, this program operates with loose principles and conceptional tools rather than a rigid procedure, since the usage of them cannot be detached from each text's background. From a practical aspect, some materials could have been excluded in the very beginning stage, but most of the decisions were made after varying amounts of reading. All selected sources were read through, instead of searching related sections in keywords, so as to have a holistic sense of the Uyghur society.

3.1.3 Ethnographic content analysis

¹¹ This treatment is mainly for Chinese literature since some Chinese texts in the first half of the 20th century lack of basic information, e.g., author, date, purpose. It requires more professional skill to evaluate whether they are fictitious or not, and the scope of this study does not include how the Chinese perceive Xinjiang. So the unexamined texts, especially Chinese ones, are not applicable to this study.

Engaging in selected sources and considering their diverse forms, this thesis applies ethnographic content analysis (ECA) to select themes in the analytical part. ECA is the reflexive analysis of documents by virtue of the ethnographic research approach (Altheide 1987: 65; Altheide and Schneider 2013: 23). Through this process, "the researcher is constantly revising the themes or categories that are distilled from the examination of documents" (Bryman 2012: 557–559).

In ECA, document analysis is conceptualized as fieldwork, that is, "ECA is embedded in constant discovery and constant comparison of relevant situations, settings, styles, images, meanings, and nuances" (Altheide 1987: 68) to let the potential themes emerge and facilitate extraction of the textual meanings. Hence, the aim of ECA is not to create a set of rigid instruction. Instead, it is intended to be a guideline, systematically and analytically, to inspire any further insightful interpretation.

ECA could be conducted in four main steps following the research question: (1) being familiar with the context of documents; (2) becoming familiar with a small but crucial part of the document; (3) generating some potential categories that will lead to the formation of themes and analysis; and (4) applying and revising the initial categories in the process of expanding upon other materials (Bryman 2012: 559).

By doing so, my accumulated knowledge of Uyghur history (see Bellér-Hann 2008 and Thum 2014a) and contemporary experiences in Xinjiang did function well, helping me navigate the thesis through a vast number of documents. Meanwhile, a set of concrete themes did emerge from the documents and could be organized by the practices of steps, which are the analytical themes in Chapter 5. Furthermore, specific Uyghur terms in the texts were checked by consulting a dictionary (see Schwarz 1992).

3.2 Non-participating observer with interaction

The time period that this study is mainly concerned with is the first few decades of the 20th century. However, in order to acquire document materials and assist me in giving a proper interpretation, the contemporary on-site experience still plays a crucial role. A sub-method of participant observation, non-participating observer with interaction, thus serves as the second method for this thesis.

3.2.1 Participant observation

Malinowski (1922: 7), the most influential figure of this approach, depicts it thusly: "[The ethnographer's] life in the village, which at first is a strange, sometimes unpleasant, sometimes intensely interesting adventure, soon adopts quite a natural course very much in harmony with his surroundings." Thus, by means of diverse interactions, "(y)ou learn to know him, and you become familiar with his customs and beliefs far better than when he is paid, and often bored, informant" (ibid.).

By participating in people's daily lives, observing how people manage their daily tasks and relationships, the researcher intentionally engages in various affairs in the local community so as to gain "as complete an understanding as possible of the cultural meanings and social structures of the group and how these are interrelated" (Davies 2008: 77). In the practical field, participation and observation are like a double helix that facilitates a tensional but reflexive dialogue. One may prompt the researcher to reflect the other, and vice versa. Therefore, ethnographic fieldwork is conducted in a "more useful and realistic spiral, rather than linear, model" (ibid.: 82–83).

In accordance with a variety of relational forms, there are many types of involvement for generating materials (see Bryman 2012: 441–444). Generally, I agree with Davies's (2008: 80–82) conclusion that, among diverse reflections and versions, this approach's key components are long-term personal involvement and reflexive consideration in practice and analysis.

3.2.2 The field visit

In February of 2019, I carried out a 20-day visit to Xinjiang, which included short stays in three cities: the regional capital, Urumqi; the Uyghur cultural pivot, Kashgar; and the historical capital during the Khanate period and the well-developed agricultural oasis, Yarkand.

Due to the current circumstances in Xinjiang (see note 3), the regular participant observation was impossible to execute. Therefore, I didn't spend an extended period of time living with the people, and applied the non-participating observer with interaction approach (Bryman 2012: 444) in this thesis. The added term "nonparticipating" implies that I conducted the observation by the core principles of participant observation. However, I had to do so in such a way that I consciously avoided transgressing the government's regulations. Therefore, I didn't visit any rural areas or contact my local friends, in order to protect them from any potential ethical issues and negative effects.¹²

Despite these constraints, through the processes of observations and interactions during the visit, it still provides a juncture that allows me to connect my historical study to a contemporary context. Inspired by the "short-term ethnography" (Bryman 2012: 433, 444; Pink and Morgan 2013), I grabbed any possible opportunity to engage in the common life of local people as much as possible: visiting bazaars, the local livestock market, the few remaining shrines and historical sites; photographing the landscapes of cities and nature; taking public transportation; trying to have conversations on different occasions, e.g., with shopkeepers, taxi drivers, passengers in the same bus/railway carriage. In addition, I visited local institutions and bookstores for collecting related materials (see 4.2).

Most contents from interactions and conversations were noted regularly. When I was in public spaces, I wrote in a small notebook or typed keywords into my cell phone (which is especially useful in a space equipped with total surveillance like Xinjiang). When I was back in my room, I wrote in a diary every day (cf. Emerson et al. 2011). All these efforts may "disrupt the status quo, and unsettle both neutrality and takenfor-granted assumptions by bringing to light underlying and obscure operations of power and control" (Madison 2012: 5-6), allowing me to take a more critical stance in the writing process.

¹² Turkic people who have connections with foreigners or have relatives abroad are most often targeted and send into the internment camp (Kuo 2018).

3.2.3 Positionality

As Madison suggests (2012: 4–7), in social science, positionality is about considering how the relations between researchers and their subjects are organized and presented. Further, it also calls for critical reflections on the researcher's own choices, power position and effects. Such consideration forces us to "[turn] back" on ourselves (Davies 2008: 4), "to acknowledge our own power, privilege, and biases... thereby making it accessible, transparent, and vulnerable to judgment and evaluation" (Madison 2012: 7). Thus, it's necessary to examine my own positionality here.

Prior to this study, I had been to Xinjiang for four times, having spent 11 weeks there in total. Traveled in Xinjiang during the month of the July 2009 Urumqi Riot, ¹³ I personally have a strong commitment to the Uyghur people's contemporary social-political plight. Those deep connections urge me to hold a rather critical attitude toward the pervasive Chinese chauvinism and governmental nationalism in Xinjiang. To a certain extent, such an attitude guides my study, but I'm also aware of that. Therefore, the tension between taking a critical stance and reflecting on being overcritical always exists in my writing process.

Another important aspect of my positionality is derived from my nationality/identity. I'm Taiwanese,¹⁴ and this identity is ambiguous in Xinjiang's context. By appearance, I'm recognized as a Han Chinese under China's ethnic category. However, because I'm not a Chinese citizen, the authorities have to treat me by the quasi-foreign standards. Thereby, in a way, this identity gave me privileges as well as inconveniences during my time in the field.

Currently, Xinjiang authorities treat people differently according to their ethnic identity. For instance, when people enter markets or bus stations, only the Turkic (Uyghur,

¹³ On the 5th July 2009, hundreds of Uyghurs protested the Chinese government's ethnic policy in the provincial capital, Urumqi. Subsequently, the demonstration escalated into a violent riot. Protesters attacked Han Chinese with rocks and knights, setting fire on vehicles. The root caused 197 deaths at least and 1721 others injured.

¹⁴ Because I'm a native Mandarin Chinese speaker, related Chinese literature can be included in the research materials.

Kazakhs, Kyrgyzs) are required to undergo a whole set of security checks¹⁵ (e.g., facial scanning, checking ID). In addition, foreigners, particularly Western visitors, are not allowed to leave cities or tourist sites. Such a system of inspection provides me sufficient privileges that I can freely enter most public spaces without any examination. The authorities consider me a Chinese person from another provinces, someone who likely wouldn't object to the governmental approaches toward the Uyghurs.

Nevertheless, if I do have to show my travel documents, then my Taiwanese identity becomes an inconvenience. For instance, even though I bought tickets with a valid document, the police in Yarkand train station still detained and interrogated me in a small room for an hour, where they reviewed photos on my cellphone and camera, since "here is not the place that a normal Taiwanese should show up." At that moment, the authorities saw me as a foreigner, a potential threat who might object to the things that are happening in Xinjiang and would spread information out to "the outside world."

In sum, during my visit, I tried as much as possible to make good use of my ambiguous identity. Consequently, all these experiences shaped my perspective and position while I was writing this study.

4. Research materials

In the first half of the 20th century, plenty of textual records regarding Xinjiang were made and collected by different institutions and actors around the world.¹⁷ Potentially, these records could help us to explore the environmental perception of Uyghur people during this specific period. The selection of these materials follows the

¹⁵ Once a Turkic is put on government's "blacklist" by any reason, without permission, she/he will hardly be able to travel to other districts, since now entrances of every area all set up with armed checkpoints, which equipped with scanning devices connect to the online database (Special Correspondent [Foreign Policy] 2018).

¹⁶ However, that is a valuable experience for me. Through the process, I bodily experienced the entire standard operating procedure of inspection and also witnessed how polices questioned four other young individuals (all of whom were Uyghur), scrutinizing apps, photos, and records of chats on their cell phones.

¹⁷ For the complete details of materials and collections, see Thum 2018.

principles of authenticity, credibility and representativeness (see Chapter 3). The selected materials of this thesis generally can be included in these three categories: (1) Uyghur manuscripts (translated and published); (2) official-related records; and (3) European travelers' accounts. All of them have been written down or translated into English or Chinese, and they are accompanied by background information of their authors and purposes. This chapter is a general but critical introduction of the

4.1 The Jarring Collection

selected materials and their basic information.

The first source is the Jarring Collection at the Lund University Library, which is the largest Uyghur manuscript collection overseas. Nowadays, since the Chinese government strictly regulates access to Uyghur-related materials, the Jarring Collection is the most important collection for studying Uyghur history.

While he was a doctoral student in Turkic studies at Lund University, Gunnar Jarring (1907–2002) went on a field trip to southern Xinjiang for a year (1929–1930) with the assistance of the Swedish Mission. He studied the local language and collected Turkic manuscripts through cooperation with a native merchant in Kashgar (Jarring 1986). In his following diplomatic career, he continuously analyzed these manuscripts and published related academic accounts and translations (Schlyter 2017; Törnvall 2006).

The unique characteristic of the collection is that an exceedingly high proportion of these manuscripts include aspects of Altishahri social life, agricultural production, popular tales, religious practices and so on. Some were composed by locals, some were transcribed from original texts by Swedish missionaries, but all of them were in the Turkic language. To a certain extent, this collection reflects the missionaries' and Jarring's ethnological interests. How did Jarring obtain them? Put simply, he bought them. Some texts were popular texts that circulated in the book market at that time. For instance, there were many kinds of *risală* (ربستال), a local genre for teaching the proper practices of each industry, which was transcribed in the form of handbooks (e.g., Jarring 1998; see Jarring 1986: 105–111; Thum 2014a: 31–32). In other cases,

he also hired Turkic intellectuals to write down their daily practices and common activities (e.g., Jarring 1951a, 1951b).

Through comparing the private and state-confiscated collections, Historian Rian Thum (2014a: 26-30) addresses that the issue of distortions remains in many Uyghur manuscripts collections in Europe. The diversity of manuscripts is overstated, since Europeans only collected the text which they were interest in. However, the Jarring Collection still has advantage of understanding the local perspective. To date, only a small portion of the collection has been full-text translated into English and published, mostly by Jarring himself. These volumes of translated manuscripts (see Appendix 1) are the chief sources in this thesis, as they document the perspectives of people living in the Tarim Basin almost a century ago.

4.2 Official-related records

This thesis will apply official-related records in Chinese collected from the field visit. The original plan was to make a requests to use the archives of the Xinjiang Regional Archive Administration in Urumqi, particularly for the opened collection of Republic Period documentation, which recorded the official accounts of cultural, social and economic aspects from 1912 to 1949. However, the Archive Administration reneged and decided to reject my application after my arrival, because they were recompiling all historical materials to fit the "current circumstance." City libraries and bookshops likewise had been visited to obtain publications about the local environment and Uyghur history. Consequently, a full set of duplicates of local chorographies was the main gain.

¹⁸ Only two exceptions are cited in this thesis: the Prov. 163 was translated by Eric Schluessel (2014); the Prov. 351 was translated by the project of "Annotated Turki Manuscripts from the Jarring Collection Online" (see Appendix 1).

¹⁹ Bargaining back and forth with them for three days, I communicated with three different bureaucratic levels in the Archive Administration. They insisted that the archives were in the process of "re-scrutinizing" and "recompiling," and "it is not in particular against you [your Taiwanese identity], just because they are in the process of re-scrutinization". "Re-scrutinization" was the keyword frequently used in their statements, and its purpose was to "fit the current [socio-political] circumstance" in Xinjiang. Those interactions and rhetoric per se also could be serviced as supplementary materials which unfolded the authorities' attitude toward the histories of Xinjiang and Uyghur under current context.

Historically, the Chinese bureaucratic system has had a long-term, significant tradition of local historical writing in the genre of chorography. Among this kind of literature, *Xinjiang xiang tu zhi gao*²⁰ (Ma et al. 2010) is the latest and the most comprehensive collection of Xinjiang chorographies before the establishment of the People's Republic of China (1949). It was compiled from 1907 to 1910 and covered the 42 of the 44 administrative units at that time (Ma 1989).

As previous research (Newby 1999; cf. Lin 2003) suggested, in the context of the remote province, chorography is a textual genre for the ruling elite to facilitate their governances and integrate the locals into the imperial order and Chinese "civilization". Therefore, it serves the local government by reserving the basic information and figures of local situations, including statistics (e.g., the composition of the local population and industries) and the configuration of infrastructure, which provide the necessary background information for this study.

Nevertheless, due to the political purpose, the chorographies of Xinjiang normally record the local communities as the alien nations in the Chinese "new frontier," describing them through a superior tone. Even though, the Han Chinese population were the immigrants and absolute minority, who were commonly reluctant to interact with Turkis. For instance, in the chorogarphy of Guma, it notes that the Turkis are "unable to communicate in [Chinese] language and have no literacy, [they] have unstable temper, the weak is extremely cowardly, the strong is overwhelmingly warlike" (Ma et al. 2010: 376–377; translated by the author from Chinese).

4.3 Western travelers' accounts

Lastly, and fortunately, there are many published Western accounts scattered around several academic institutions in Nordic countries; these accounts are the third material source for this thesis.

Compared with the contemporary limited access, southern Xinjiang was once the accessible western frontier of China, which bordered other European empires (British

²⁰ 新疆鄉土志稿, The Draft of the Chorographies of Xinjiang.

and Russian/Soviet) during the 1900s to 1940s.²¹ At that time, the Altishahri society had relatively frequent interactions with western visitors, including explorers, archaeologists, missionaries, diplomats and geographers²² (Dabbs 1963). During this particular historical period of multiple encounters, publications in Europe contained a considerable number of first-hand accounts regarding Europeans' activities in Xinjiang and their encounters with locals.

Of course, the Western perspectives are neither omniscient nor neutral. Employing volumes of Western texts, I'm aware of their possible limitations. In a larger context, Westerner's travels in Xinjiang can be seen as the endeavor to extend their existing interests, and their writings reflect varying assumptions (Forsdick 2014). Some Western authors did focus on landscape, local culture and certain interventions from Europeans in detail. Yet that same concentration might have mired them in the ecstasy of self-indulgent narratives, thus separating the local people's subjectivities from the landscape and their social setting (see Pratt 1992).

For instance, when it comes to the key and frequently-mentioned agency in southern Xinjiang, the Swedish Mission in Kashgar and Yarkand (1892–1938, sent by Svenska Missionskyrkan [the Mission Covenant Church of Sweden]; see Hultvall 1981), only positive impressions are included in these accounts, parsing the pleasure of seeing "these missionaries fighting for their high ideals" (Ambolt 1939: 120). However, native Uyghur communities had more sophisticated and nuanced views toward these Swedes. Mostly, they appeared to have been grateful for Europeans' generous aids with regard to education, medication and printing techniques; yet, at some point, they kept muttering that these foreigners were all the "thieves of religion" (Jarring 1975: 12).

Nevertheless, these works still can represent a kind of opinions which experienced local culture (Forsdick 2014: 314), serving this thesis's multiple approaches as

²¹ Historically, this timescale corresponds to the political regimes of late-ended Qing Dynasty (1644–1912) and Republican government (1912–1949).

²² During that period, the British Consul-General in Kashgar, the Kashgar Russian Consulate, and the Swedish missionary stations in Kashagr and Yarkand were the nexuses of Western visitors (see Teichman 1937: 151–152). All the travelers cited by this thesis had been visited one of these agencies.

meaningful sources. After selection, I focus on the texts that have been translated into English, as well as the works that were acquired in the Nordic region. These texts include expedition's reports and travelogues from The Gunnar Jarring Central Eurasia Digital Library,²³ the personal diaries of Gustav Mannerheim²⁴ and Paul Pelliot,²⁵ and Owen Lattimore's publications (see Appendix 2).²⁶ There are, of course, other potential sources remained, including the archives of the British Consulate General in Kashgar (Fig. 2)²⁷ and the Sven Hedin collections.²⁸ However, because of the constraints of time and length, it was not possible to use all these sources in this thesis.



Fig. 2 The British Consulate General in Kashgar. Now this building is an abandoned Chinese restaurant and lack of maintenance (Photo by the author, 2019).

²³ A private book collection of Gunnar Jarring, it collects publications from western explorers, diplomats and researchers in Xinjiang during the first half of twenty century. The texts and photographs have partially been digitalized by the Swedish Research Institute in Istanbul (for full catalog, see Swedish Research Institute in Istanbul n.d.; Schlyter 2017).

²⁴ The Marshal of Finland, he carried out an expedition across Asia from 1906 to 1908 as a Russian military officer (Jägerskiöld 1986). His diary and meticulous maps have been published in English (Mannerheim 1969).

²⁵ French sinologist, Paul Pelliot conducted his academic investigation in the north-western region of China from 1906 to 1908. His diary and notes was published in 2008 and was translated into Chinese from French in 2014.

²⁶ American scholar, his expedition, from Inner Mongolia to Kashmir, carried out during 1926-1927.

²⁷ Preserved in The India Office Records, the British Library, London.

²⁸ Held by The Sven Hedin Foundation and The Museum of Ethnography, Stockholm.

5. Findings

In this chapter, the descriptions of the Uyghur people's environmental perceptions and engagements will be presented and discussed (further analysis will be presented in Chapter 6). These findings are organized by three themes that frequently emerged from research materials: (1) the agriculture and irrigation system; (2) the desert; and (3) the sense of orientation and the shifting boundary.

Also noteworthy is that agriculture and inter-oasis moves are common and significant experiences for the Uyghurs, but their livelihoods are not limited to these. Other informative but non-environment-related records, e.g., commercial activities, aren't provided by this study.

5.1 On agriculture and the irrigation system

He who lies flat on his back [the rich], eats bread loaf He who hoes with a kătmăn [the poor], eats the fruit of oleaster

Uyghur proverb (Jarring 1985: 40)

5.1.1 The basic formation of an oasis

Streams flow down from mountainous ranges into rivers, creating water conditions to form oases for developing further reclamation. Along the edges of the Tarim Basin, rivers eventually run downward and are collected and gradually absorbed by the desert centered in the huge bowl. That's the basic configuration of the oasis-desert landscape in southern Xinjiang (Fig. 3).

Within the realm of an oasis, rural communities with miles-long fields congregated around the city unevenly, but without an apparent boundary (Kemp 1914: 11). The bazaars and farmlands could be located on either side of the city's wall. An oasis is like a whole continuum (cf. Lattimore 1975: 165–166). Hence, when Altishahri talked about their *shahr* (city), they didn't specifically refer to the city area only; they could have been referring to the whole oasis, including the rural areas (Thum 2014b: 126). They dwelt in the same realm.

On both sides of the walls, supplying water was undoubtedly a crucial task. Inside the wall, taking water from the pond was the first task for households in the early morning (Ambolt 1939: 113). Even though the ponds were usually stagnant and fed irregularly (Etherton 1926: 135), this demand expanded to business and involved extensive human labor. Uyghur intellectual Qasim Akhun noted that in the 1910s, "(a)ll water to be used in the household is carried there in small wooden buckets. In every town there are hundreds of people who earn their living by carrying water" (Jarring 1975: 23). Was this proportion sizable? In Qasim's time, Jiashi County comprised his town (Artush) and other three townships, and the county's total population was nearly 99,000 people (Ma et al. 2010: 348).

In the other part of the oasis, the mass area of farmlands, the key facility for water supply was the irrigation system. These irrigation systems were noted by several European travelers as "the most noticeable feature" (Kemp 1914: 12) as a caravan approached an oasis from the desert (Ambolt 1939: 2; Etherton 1926: 45–46; Mannerheim 1969: 44). Jarring (1986: 113) described the environment in Kashgar's countryside in 1929 in this way: "On both sides of the road were embankments planted with willows for the purpose of blinding the soil. Every irrigation unit was surrounded by embankments. The road was covered by a deep layer of white dust and crisscrossed by an infinite number of irrigation canals." Indeed, as American scholar Owen Lattimore's noted (1975: 159) in 1943, the reported length of canals in Xinjiang was 36,000 kilometers, and 70 percent of the water amount flowed into the Tarim Basin.

Similarly, local manuscripts also emphasize the necessity of the irrigation system. In the *risală* of agriculture—the handbook of agriculture in Uyghur—the irrigation system was depicted as the "fundamental prerequisite" (Jarring 1998: 7). According to official record, essentially, the entire population's livelihood relied on it (Ma et al. 2010).²⁹

²⁹ For instance, according to the official record of 1906, nearly 98 percent of the population of Yarkand (162,229 people), the largest oasis at that time, were peasants (Ma et al. 2010: 354).



Fig. 3 A Han Chinese settlement, the snowy range sat on the northern side of the arable lands (Photo by the author, 2011).

5.1.2 Building the irrigation canals

How did the Altishahri utilize the crucial resource—river water—by building an irrigation system? A German, L. Golab, provided a very detailed account (1951). Actually, Golab's description is still the only available source on this professional technique. In the initial stage of planning the courses of the irrigation network, the commission would conduct a visual survey of the terrain on horseback. The planning process heavily relied on their accumulated experiences, especially when it came to mapping out the branches. The commission would "look for a level passage, more or less parallel to the mountainside, which the canal can follow" and then mark the courses by heaps of stones (ibid.: 190).

Before the excavation socially engaged thousands of workers, the "master of the horizontal" would be invited to execute the final and precise measurements. Like in the initial investigation, the master didn't need any device; what he needed were his eye, body and his toe. He lay on the ground near the head of the canal, and his assistant stood at the end of the canal; then the master aligned his eye, toe and his assistant's head to measure the proper gradient of the sectional canal (ibid.: 192).

³⁰ This approach, conducting a certain practice "along the mountain's direction," is very common in Altishahri texts (see 5.3). It seems to suggest that such relative coordinates were the conventional and effective sense applied in Altishahri daily life.

The perfect and professional result would be "no greater fall is allowed...in order to make the water reach as far as possible, and also to avoid the risk of a swift current overflowing its banks" (ibid.). Golab (ibid.: 193) particularly wrote that such a native approach was more accurate than Russian refugees' technological tools.

As the construction was completed, river water was introduced into *eriq* (قصيرت ; in some materials, this word was recorded as *ariq*), the main water canal. Afterward, the *eriq* was divided into many *ojek*, small water canals (Fig. 4), which ran through the field unit (Jarring 1951b: 19) or flowed into *loba*, the dugout dam to the side (Ambolt 1939: 2). Generally, the end of the downstream ditch was almost at the end of arable lands adjoining the barren. Out of the connection of water network, the only water bodies were scattered ponds refilled in spring by melted ice, people's livelihoods in which usually appeared in extreme poverty (cf. Mannerheim 1969: 80–81).

How long could a canal be? When he approached the oasis Yarkand in 1906, Carl Gustaf Mannerheim, a Finn who served in the Russian Army at that time, noted a settlement on the downstream of canals cultivated many years previously: "The water has been led a distance of about 160 li^{31} from a river (...) For every mou, 32 the population is bound to give a day's work to maintaining the irrigation system" (1969: 61). The water, according to this note, was introduced through canals for nearly a hundred kilometers. These main canals in Altishahr were mentioned frequently by Pelliot (2014) and Mannerheim (1969) as landmarks. Nowadays, the "eriq/ariq" is the very common suffixe added to the official name of many counties in Xinjiang.

Interestingly, the Uyghur people's livelihood heavily relied on the water from rivers. There was a considerable number of records regarding the river-crossing ferries and pieces of description of fishing in rivers and dams (Jarring 1998: 63–64). However, there were no descriptions regarding sailing in the river. Swedish archaeologist Folke Bergman once had an interesting discussion with locals about the possibility of sailing downstream through the waterway. The Turkis in the oasis Charchan,

³¹ Chinese unit of distance. In the 1900s, one *li* was equal to 576 meters.

³² Chinese unit of area. One *mou* is equal to 667 square meters.

however, expressed their confusion at such a scheme. Sailing was not a common option for transportation, they did not have any experience of navigating on the river and there was no boat in that oasis (Bergman 1945: 66).



Fig. 4 Contemporary waterway (Photo by the author, 2011).

5.1.3 The formation of farmlands

During the early 20th century, the Islamic religion continued to play a dominant role and was a source of systematic knowledge within the region. The *risală* of agriculture begins by stating that the heritage of all mankind is "to cultivate the soil and carry out agriculture" (Jarring 1998: 13). The descendants of Adam and Eve have to accept the tasks given by God, namely earning a livelihood by tilling the soil. And each piece of earth is capable of being transformed into farmlands "like the garden of Paradise" through such human responsibility (ibid.: 13–14).

However, no matter to what extent the Islamic teaching did motivate people's engagement with reclamation, the expansion of arable lands was a vital activity to the households' livelihood and the oases' economy, which also associated with varying social actors. The Uyghur manuscript from Guma, it was noted that the action of reclamation was usually carried out through the cooperation of various social actors. For instance, when a melon planter and laborers planned to plant melons in some uncultivated lands together, the planter would be the representative of leased lands

from the owner of the fields, then he would parcel out the lands to farm workers (Jarring 1951b: 37–38). Such a mode of agriculture was quite similar to the typical approach in the 17th century, when the Yarkand Khan granted wastelands to Sufi leaders and his followers who immigrated from Central Asia in order to enhance the development of the oasis (Kim 2016: 26–29). Through this mode, lands were possessed by numerous small landholders (Etherton1926: 141–142). Plenty of agricultural crops were planted in southern Xinjiang: maize, cotton, millet, flax, hemp, wheat, barley, melon and lucerne—all of their farming methods were recorded in detail (Jarring 1951b: 19–33, 45–50, 1998: 14–15).

The most common approach to watering crops was flooding irrigation (Fig. 5). In accordance with this approach, the general configuration of farmlands was recorded as follows: from the *ojek*, there are openings, *eghiz* (ثبغنى), with sluices for controlling the amount of water flooding into the *etiz* (ثبغنى), the basic land unit of irrigation (Jarring 1986: 142). Each *etiz* is walled and surrounded by *qir* (قتر), the edges of each field, in order to prevent water from running away (Jarring 1951b: 19, 1998: 16–17). Beside the fields, in some cases, there would be a *satma* (ساتانا Ambolt 1939: 2; Jarring 1986: 165), a sort of shed where the workers could rest during the hottest hours of the day and keep an eye on the canal to make sure "the water was released into the ditches at the right times" (ibid.).

Nevertheless, irrigating a field required particular knowledge. The water amount for each land unit was measured by the watering time, and the time was calculated by walking around a specific land unit or the motion of the sun or stars (Golab 1951: 197; cf. Lattimore 1975: 165). Moreover, the water flow had to be controlled as uniformly as possible, since a strong current would uproot the plants (Golab 1951: 197). An ideal result was the water evenly covering the field and the air bubbles that came up out of the soil ceasing.



Fig. 5 Area of irrigating units and their earthy edge (Photo by the author, 2011).

5.1.4 The operation of the irrigation system

The irrigation system functioned from late spring to the early autumn (Ambolt 1939:2; Li 2003: 27), in which the irrigating water ran day and night. River water divided into canals and minor channels (Etherton 1926: 45), the timetable of allocation was the result of public negotiation. Basically, the length of watering time and the amount of water for each household were in accordance with the household's land area. Generally, water rights were even more fundamental than land ownership (Lattimore 1975: 162). If any dispute occurred, *mirab băgi* (مسراب بسهكسي), the officer who was locally elected and in charge of irrigation, would arbitrate water affairs (Jarring 1989: 51, n. 21; Pelliot 2014: 78; Lattimore 1975: 165; Li 2003: 17; cf. Golab 1951: 197–198).

Of course, the social practices of water distribution should not be idealized as a silver bullet for seeking a prosperous oasis society. The mismanagement would bring different social problems. In a case of Charkhliq, a Swedish visitor recorded that the rich people had a good relationship with the irrigation official, who consequently "had their maize-fields properly flooded three times a year, while the poor had their fields

³³ According to Islamic law, people who first applied water to land have the right to land and water. Despite the facts of those fair principles, however, the powerful figures in the community who invested capital and launched the reclamation usually claimed the water rights (Lattimore 1975: 163–164).

³⁴ Trading and circulating water rights seems uncommon in southern Xinjiang. This study didn't find a case resembling the case in Morocco by Geertz (1972).

watered with the surplus" (Bergman 1945: 72). Also, the irregular interval of water inflow might cause the large amount of pools stagnant, inducing the outbreak of malaria (Etherton 1926: 90).

In fact, in Kashgar and Yarkand, the water disputes happened so frequently that both the British Consular and the Chinese authorities were exhausted from resolving the quarrels which were unable to be reconciled by the local organization (Etherton 1926: 45; Mannerheim 1969: 69). Channeling water from neighbors in the night was the typical case,³⁵ which was countered by the villagers' watch; sometime it would develop into open hostility between villages (Etherton 1926: 45).

Certainly, except for the regular function of the irrigation system, Altishahri had to invest in other efforts to maintain the water supply and soils in their lands. For instance, Bergman (1945: 66) noted that locals "lavished much care on their avenues of Lombardy poplars," which bordered the irrigation canals, through "[wrapping] bast or some similar material around the trunks near the ground" so as to prevent the trees from any damage (see Ambolt 1939: 4; Mannerheim 1969: 79-80; Schomberg 1933: 138).

Similarly, the irrigation supply relied on gravity; water interrupted by silting was a serious issue (see Lattimore 1975: 157–158). The maintenance of canals required people's engagement. The repair of canals was a task mandatory to every household, the rich and the poor, peasant and craftsman; people were required to engage because everyone relied upon and profited from the flowing water (Golab 1951: 196). However, rich landowners usually hired men and animals to do their work for them.

³⁵ During my stay in 2011, for several times, my host watched his fields to make sure of his share of water in the midnight. I also witness a fight caused by a misarrangement of water allocation in the neighborhood.

a canal, which entitles him to a 'kătmăn of water,' enough to irrigate 10–14 acres" (Lattimore, 1975: 163). That is, for a peasant who engaged in the collective construction or maintenance of an oasis irrigation system, his labor investment would be calculated and rewarded by the unit of kătmăn. Besides, among descriptions of the labor input in agriculture, especially in proverbs and popular sayings, the image of kătmăn was culturally employed as the symbol of poor workers who earned their living by temporary work (Ambolt 1939: 3–4; Jarring 1985: 40).



Fig. 6 An irrigated land and a *kătmăn* (Photo by the author, 2011).

5.2 The desert

"The Turki hates the desert. It is only one step from the town to the desert but he cannot bear to take that step," British explorer Schomberg (1933: 20) wrote during his trip from the watery oasis-belt to the Taklamakan. It's probably a biased assertion because Uyghur manuscripts seldom have expressions in terms of their perception of and thoughts about the desert. Yet, it also could be a starter to help us explore the experiences in the desert. Since the contrast does visually manifest in the landscape's formation, it does so too in Uyghur discourses of oases and their outer space.

Various negative impressions regarding the vast area were conveyed by westerner accounts: void, purposeless, soundless. However, this doesn't imply that the desert is

a space where human activities were non-existent. Shrine visiting, trading caravans, management and cooperation with animals, all of those desert-related experiences will be reconstructed carefully in this section.

5.2.1 Traveling in the desert

Before entering the desert, every European visitor had been disturbed by its rhythm and sight. The drift-sand was depicted as "a plague" (Bergman 1945: 38) because at night, the accumulated amount of sand within a tent could be 30 centimeters in height. On an expedition led by Swedish explorer Sven Hedin, Ambolt (1939: 1) stated that, "(w)herever the eye turns, it meets nothing but sand, heaped up into soft sand dunes, magnificent to look at, but terrible to travel over." Similar opinions recursively occur in documents.

The same travelogue notes the preparation for a desert-crossing journey was noted. Since the caravan's Turkic guide, Churuk achon, was a man who "insisted on everything being done according to the ritual" (ibid.: 117–118), a white lamb was slaughtered and skinned before the stowage. The frizzy skin was cut into thin strips, wrapped around each donkey's neck; the fat of the tail was used to make bread, the meat was cooked. Subsequently, the meat was piled up on this bread, and a large number of carrots laid on some other bread; the sniffing donkeys were arranged in a round circle with their heads turned inwards; they "knew that their share in the feast was coming" (ibid.). Then, a Mullah prayed for the safety and protection of the whole caravan. Once the ritual was completed, "(t)he vegetable were shared out among the animals, the bread and meat among the men" (ibid.). There is no further explanation of the ritual to be found among historical materials. The circumspect attitude toward both travelers and their animal companions is explicit in this case. But, this attitude doesn't imply that Uyghur people had a specific attachment to their livestocks (this point will be explained in 5.2.3).

As for the experience of traveling in the desert, the unbearable heat in the summer is the most significant part. Every advance was "to plow through heavy sand under a broiling sun" (Kemp 1914: 17) for hours. Without any sign of human, animal or vegetable life, there was no sound of any creature, and "[there was] nothing to relieve

the sepulchral silence" (Etherton 1926: 145). Such constant movement and the surrounding environment may bring the sense of a stable picture. However, there was also a disastrous side that included many threats.

In the Uyghur narrative, mirages were called "the devil's urine," and it was expanded in a bodily-examining way: "if you are walking in a desert in day-time, some water will become visible in some direction of the road. But if you walk for a while and look towards the place where water had been visible earlier, then there is nothing. This we call Devil's urine" (Jarring 1951b: 171).

The quivering vision on the horizon could distort into other attracting scenes; even the experienced carter might be misled by the overwhelming delusion. The caravan of missionaries Cable and French's caravan once lost their way in the desolate scene, because their guide urged them to approach "the tents, the herds, and the pasturing flocks" (Cable and French 1942: 294–295) on the prospect.

Another risk is storms. Kinds frequently mentioned kinds by Uyghurs are whirlwinds and sandstorms. Whirlwinds were the ordinary phenomenon in the desert, and people generally believed that a *jinn*, "evil spirits," lived in each whirlwind (Ambolt 1939: 28; Jarring 1979: 10, 1986: 113–114). During his shrine-visiting trip in 1929, Jarring met a series of whirlwinds and made a brief description of encountering a storm: "The sky had turned violet-blue, and after a while, it changed to yellowish-red. Whirlwinds sucked up the dust in spires which looked white against the violet-blue background (...) The air was so full of dust that we could hardly see a few meters ahead" (1986: 113-114). If a child lingered outdoors when a whirlwind passed by, he/ she would become an *avak*, a term for children possessed by evil spirits (Jarring 1979: 10–11). Afterwards, such children required a series of treatments to remove the spirit's effect.

However, the sandstorm was the real terror of every caravan. They were normally called in Uyghur as *Qara boran* (قصارا بسوران) or *seriq boran* (سسېرسق بصوران)—the "black storm" and the "yellow storm". *Qara boran* was the most dreadful one that occurred in the realm of the desert, in which all objects were obscured, and it had the invincible

power to uproot tents and expel animals (Ambolt 1939: 40–43).

In addition, the scene of a raging storm was so vivid to Uyghurs that *boran* became a specific term to describe a particular landscape in Altishahr. In his diary, Swedish explorer Sven Hedin noted the usage of this term: in order to describe the scale of a lake, Turkis would apply the term *boran köl*, the "stormy lake". This term means that a lake's "opposite shore was vaguely visible as if there was a storm with ensuring haziness" (Hedin 1896: 593, quoted in Jarring 1997: 84). In other words, the Uyghurs used the temporary phenomenon (the storm) to describe the dimension of another relatively slow-changing landscape (the scale of a lake).

The last important factor of inter-oasis travel is water supply. An experienced guide is able to estimate the consumption of the caravan and also make good use of remaining waterbodies at the edges of the desert. As the landscape comprises alkaline earth, how did they assess whether a waterbody was drinkable?

According to several European accounts, Turkis used a different set of criteria from the scientific sense: the point was more about whether the water was "clean or not," rather than "safe to drink or not." To ascertain this, they said: "It doesn't matter, when the water has flowed three steps Allah has cleared it" (Ambolt 1939: 119), or "if water has been flowing over three stones or if it has formed seven whirls or ripples it is considered clean" (Jarring 1979: 20). The cleaned water could then "be used for all purposes" including drinking (ibid.).

It is common in Islamic society that things are socially categorized as cleansed/uncleaned according to Islamic laws, instead of biologically scientific logic. But in this case, the standard practice seems to depend on the flowed distance and surface state of the waterbody.

5.2.2 Staying in the desert

The desert is not a place void of any traces of humanity, and the most significant activity of lingering in the desert is the visits to the shrines of Islamic saints.

In the Taklamakan, there are vast numbers of tombs seen as shrines. Among those Islamic saints, some of them came to Altishahr for divine purposes, some of them were natives who converted to and revived Islam and some launched wars against Buddhists (Thum 2014a: 41–42). Altishahri would cross the desert and make pilgrimages to shrines from their own oasis, conducting worship and reciting the saint's story on manuscripts³⁶ collectively in the desert surroundings. Historical research suggests that such experiences of pilgrimage play a crucial role in the forming process of Altishahri identity (see Chapter 1.4).

Indeed, these visits in a way can be regarded as the local alternative of the *Hajji* (Jarring 1986: 112), the pilgrimage to Mecca. However, this activity has multiple social meanings to Altishahri. Besides praying and expressing their sorrow for a saint's death, people came to shrines for different purposes. For instance, during the period of saint's commemoration, beggars came for the communal feast (cf. Jarring 1987), women stayed at the shrine in order to ask for pregnancy, and the sick lamented and sought for a cure (Jarring 1979: 15–16).

Additionally, a large number of people from different classes and backgrounds would stay at the shrine for days. Many people's chief motive was to enjoy entertainment,³⁷ such as singing, playing instruments and dancing in groups. In Uyghur manuscripts, the locals admitted that they went to a shrine to have fun because "its climate is extremely pleasant. People who have entered it have no desire to leave" (Jarring 1951b: 174–177). Uyghur intellectual Qasim added that the saint's shrine was also tacitly acknowledged as a rather tolerant space for interacting with the opposite sex: "Young people of both sexes use these occasions for meeting each other" (Jarring 1975: 18) Actually, Qasim himself met his future wife on such an occasion (ibid.: 18, 23). The mixing of classes and ambitious social boundaries made the shrine a

³⁶ The manuscripts of saints' stories can be concluded as a kind of local specific genre of historical writing— *Tazkirah* (تازكىراخى). Generally, each shrine has its own *tazkirah*, and the tomb-keepers safeguard the hand-written script, leading visitors to worship (Thum 2014a: 41–51).

³⁷ In contemporary ethnographic research, these mingling activities held in shrines also include smoking hashish, wrestling, cocks fights, and gambling (Harris and Dawut, 2002: 112). Apparently, not all these practices conform to the Orthodox Islamic laws, but ironically, since the 2000s, the government shut down all the shrines in Xinjiang and confiscated the *tazkirah* for the reason of "unrooting the radical Islamic fundamentalism" (see Thum 2014a: 120-122).

permissive space in which people were allowed to explore, expand and reorganize their social networks.

Among the constellation of shrines, the most prominent and famous one is the Ordam Padshah shrine. Located in the southeast desert area of Kashgar, it is the tomb of Ali Arslan Khan. His father, Satuq Bughra Khan, was the first ruler in the Tarim Basin who converted to Islam (Etherton 1926: 281; Jarring 1935: 349–352, 1986: 117–118; Schomberg 1933: 161). At the prescribed time for pilgrimage, tens of thousands of people would march towards the desert and stay at the Ordam Padshah shrine (Jarring 1986: 112). This place and other related holy tombs in the same area comprised a shrine system that was the destination of locals and many Westerners as well. Therefore, I will give a brief description of the spatial formation of this shrine. I use this case to illustrate how the shrine was formed out of the manifestation of human-nature interplay through the Uyghur people's constant engagement with their surroundings.

A British consul in Kashgar, Etherton visited the Ordam Padshah shrine in 1921. He noted the wooden structure of the place, which "is crowned by the most curious religious monument extant, for it is a sheaf of sticks and poles, more than one hundred feet in circumference at the base, and towering to a height of upwards of fifty feet" (Etherton 1926: 282). Similarly, Jarring (1986: 119) described how, during his visit in 1929, the huge structure of the broom-like poles was taller than the surrounding dunes. It was so salient in the landscape that it could be seen from miles away.

In fact, some shrines had domed mausoleum or stone-made shelter. The essential components, however, are banners and rags, poles and sticks. They are the common features of all the shrines in the Taklamakan. Each pole is contributed by a pilgrim. People brought the tallest poplar trunks they could find, attached flags, banners and rags to their poles, and then carried them across the desert (Jarring 1935: 351–352, 1986: 120). Wealthier people "often deposit[ed] poles and beams of comparatively large size which ha[d] been brought from afar," Etherton (1926: 282) wrote. The scale of the structure varied in proportion to the prestige of the shrine (Jarring 1935: 351).

Regarding the Ordam Padshah shrine, Jarring indicated that the splendid collection of flags was flapping in the wind, so as to expel the wandering evil spirits (*jinn*), and the poles functioned as the support for the extraordinary pile for withstanding the storms (1935: 351-352). He didn't mention any reference to such a contention, though. Only the British traveler Schomberg documented an intuitional answer from a tomb-keeper at the same shrine in the same year, who said that, "[All] efforts to raise a monument worthy of Ali Arslan had miraculously failed, and that the only enduring memorial to him was found to be the bundle of flags and poles" (Schomberg 1933: 161).

Fortunately, many Uyghur manuscripts, *Tazkirah*, give instructions for the pilgrims to lead their actions in the shrine. Historian Rian Thum studied and translated them and excerpted a characteristic section from the *Tazkirah of the Four Sacrificed Imams* (cf. Jarring Prov. 349): "Whoever is in need and makes pilgrimage to this blessed tomb, and enlivens the place, and makes the pots boil, and makes the lamps burn, and gives prayers and praise, their needs in the world and in the afterlife will be satisfied, and taking a place in the shade of Their Holinesses the Imams they will receive [the saints'] intercession" (Thum 2014a: 117).

He indicates that the common, well-attested parts were the instructions of praying, the boiling of pots and the burning of lamps, and these descriptions vary little among the manuscripts (ibid. 118). At this point, interestingly enough, many Europeans also noted the practice of "making the pots boiling."

Adjoining the Ordam Padshah shrine, there was a small settlement populated by around 400 people, who earned their living by preparing food and water for pilgrims and small-scale cultivation (Jarring 1935: 352–353; Schomberg 1933: 161). Many accounts mentioned that there were several huge cauldrons, with a diameter of nearly two meters and 1.5 meters in depth, used by the villagers for cooking (Etherton 1926: 282; Jarring 1935: 353, 1986: 121–122). Yet, only Jarring attempted to give an interpretation. He stated that the existence of the huge cookware might be relevant to the Uyghur people's notion of death and spirit. According to ethnographic

records of Swedish missionaries, Uyghurs generally believed that the spirits³⁸ of the dead remained in or near the tomb until the day of judgment, and these remained spirits had a particular need for strong olfactory stimulation, especially the smell of boiling meat and fat (Jarring 1979: 8). In this sense, Jarring (1935: 353) suggested, cooking by the cauldrons might not just serve for the needs of pilgrims; it also satisfied the saint's desire.

However, I would like to introduce another aspect in order to consolidate Jarring's point. I suggest that the whole set of practices shall be understood in relation to the environmental surroundings of the holy tomb, namely the constant erosion and storms. These practices, including the place-making process by bringing poles and flags and producing a strong smell to accompany the spirits, could be seen as the skillful actions that make a dwelling place from the desert, in which the living and the dead can congregate, as well as the actions of active engagement with the environment.

Therefore, I argue that the notion and sense of dwelling is a crucial component for Uyghur people, both in their lifetime and in the period of limbo, in the oasis as well as in the desert. This point will be elaborated together with other findings in the next chapter.

5.2.3 Companions in the desert

Animals play significant roles in Uyghur social life in agriculture and traditional medicine (see Annotated Turki Manuscripts from the Jarring Collection Online [Jarring Prov. 351] 2016). Certainly, they are also the keys to caravans by carrying humans and commodities, for the desert is not a place for lingering except when visiting shrines. In Xinjiang, donkeys and camels are the most common companions of people crossing the desert.

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 $^{^{38}}$ Culturally, Uyghurs believe that each person is endowed with a spirit called roh ($_{99}$), which is comprised of two types: the fixed spirit, which attaches to the body permanently; and the flowing spirit, which can leave the body of a sleeping person, and even a dead person. The flowing spirit remains alive until the Day of Judgment (Bellér-Hann, 2008: 362–363, 368; cf. Dautcher, 2009).

The donkey is the main species for transporting seasonal vegetables and fruits between townships. A Turkis would normally drive up to 20 donkeys, demanding their strength immoderately and recklessly because donkeys were cheap and could be easily purchased in any town (Cable and French 1942: 159–160).

Conversely, the camel is a sturdy traveling companion with an entirely different disposition that requires more consideration for its mood. In the market, the tip for choosing a healthy camel is to check the state of its toes. The good one would hold up its first and middle toes and would be able to walk for ten days without water (Ambolt 1939: 88). A calf calved in the caravan would be raised up with its mother. Once it learned to follow the trail, the carter would adjust its burden regularly to develop its strength until it could carry the full load (Cable and French 1942: 162). Practically, the master of the caravan had a set of knowledge to evaluate the capacity of each camel. As he was loading up, a camel always showed its grumbles, growls and resentment "until the moment when the beast suddenly becomes silent" (ibid.); then the burden is heavy enough.

In addition, human's relations with camels are more intricate than with other animals in this part of the world, due to the necessity of sentimental involvement. Cable and French noted that some camels had the so-called "revolutionary spirit" and revolted against authority and refused to be subjected. Thus, the revolutionary one instigated its peers to resist any demand, halting the march (ibid.: 163). In some extreme cases, the carter would just release the discipline-breaking one to restore the whole caravan's order (ibid.). Such a disposition is also expressed in Uyghur proverbs, for instance, "If you cause a camel to dance, it will spoil a melon-field." That proverb is a simile that means, "if you order a man who doesn't know how to do the work to render you a service, he will destroy it since he is not able to do it" (Jarring 1951a: 124).

By the same token, maintaining the morale and positive mood of camels was crucial to travel. Once a camel died of limited supply, the pessimistic atmosphere would spread among the others, and the circumstance would become fatal (ibid.). In his desert-crossing march, Ambolt and his team drove 30 camels from Aqsu to Khotan in

1931. An exhausted camel died halfway, and subsequently there were 28 more despairing deaths on the rest of the trip and within a few days after their arrival (Ambolt 1939: 88, 94–95). In short, compared with a donkey, a camel is a powerful yet emotional creature. Hence, The cooperation with camels as companions always is with tension and requires more related knowledge.

5.3 Sense of orientation and the shifting boundary

Being in the landscapes of oases and the desert without a map and compass, Uyghur people obviously had their own approach to make the sense of environment and its changes, perceiving landmarks that were "hardly noticeable to a European" (Ambolt 1939: 50). Certainly, these senses were not "inborn," nor should they be understood out of the environmental context.

I have not found any directly plain explanation about the dynamic process of the oasis-desert landscape and the locals' perception toward it. Nevertheless, we still can make conclusion via European accounts, descriptions of related topics, as well as words' usage in Uyghur.

5.3.1 The sense of orientation

Jarring brought back piles of ethnological texts written by Maqsud Hadji in the Turkic language. Amid the descriptions of Guma's agriculture, an oasis located in the arid area between Yarkand and Khotan, there is a common phrase employed to express the formation of cultivated lands through the relative location of the mountain and the desert. When it came to the planting plans of different crops, people would describe that, for instance, the millet should grow "in the direction of the desert" (Jarring 1951b: 28), and the flax should be planted "in the direction of the mountainedge" (ibid.: 29), and, comparably, the hemp "grow in the direction of Moja and Zanguy". How could we understand them, the paired directions of desert and mountains?

I suggest that this way of expression reveals the Altishahri's sense of orientation, which can only be explained by the living experience in the Tarim Basin. For oasis

inhabitants, the mountain is visible from their point of view in their towns or villages (cf. Byler 2017a: 7–9; Golab 1951: 190). This is true whether it is the Tian Shan range, the Pamir Mountains or the Kunlun Mountains. Furthermore, the opposite side of the snow-capped mountains is always the desert, the Taklamakan, due to southern Xinjiang's geographical-material formation. After checking the land formation of Guma through the chorogarphy composed in 1908 (Ma et al. 2010: 379–380, 503), it can be confirmed that, geographically, the "direction of the desert" is in the northern and northeastern sides of the township; the "direction of the mountain-edge" is in the southern and southwestern sides.

Moreover, Moja and Zanguy³⁹ are the names of villages on the southwestern and western sides of Guma. They are the fixed locations perceived as coordinates for orientation. Therefore, through these three parallel expressions, we can note that a valid description of location could be stated by different forms of coordinates. That is, the relative coordinates were employed with the fixed coordinates to indicate a particular location. The desert and mountains became the landmarks of orientation.

5.3.2 The shifting boundary

The noticeable contrast of oasis and desert is the most common feature noted by travelers (Ambolt 1939: 7; Mannerheim 1969: 58–59; Schomberg 1933: 138, 140). But, in southern Xinjiang, the whole environment changes from time to time. The demarcation of the desert and cultivated areas is not a fixed boundary because of the storms and the sand brought by the wind. In some cases, such a line doesn't even exist, but rather an assemblage of diverse lands manifests heterogeneous appearances along with different climate, water and vegetable conditions.

Etherton (1926: 277) gave a vivid depiction of the "invading" progress of shifting sand toward a community: "Settlements have been engulfed by a gradual process of encroachment. At first the walls of the houses have kept them off; then, gradually overcome, the courtyards have been invaded, until with the successive storms (...)

³⁹ They both are villages (Mannerheim had visited these places in 1906; see Mannerheim 1969: 81–84). Moja is located 55 kilometers away from Guma in the southeast; Zanguy is on the east side of Moja for 35 kilometers away (Ma et al. 2010: 378–379, 381); They belong to the same canal system (ibid.: 380).

the sands have risen over the roofs and completed the work of destruction." The inhabitants situated in this dynamic "can watch the growth and abandon their settlements" in the corresponding time (ibid.: 144). In his wording, the desert is a hostile threat toward humans, as well as a place that contains the settlements that had been buried beneath the sand (ibid.: 130, 143–145). By the same token, locals stated that "the buried cities should reappear in a more or less perfect condition as when first overwhelmed" (ibid.: 144) at some future point.

Similarly and interestingly, during my trip from Kashgar to Urumqi by train with berths, I had a discussion with two Uyghur college students who described the desert in a similar way. When I mentioned my previous visit to the desert with profound wonder, they seemed to feel strange about this topic and were unfamiliar with that space. Then, I asked, "is there anything in the desert?" Because of their previous attitude, I thought they might just say, "there is nothing," but they replied, "there are some old towns, but no people live in there now...like the outskirts of a city." I asked what they meant by that, but they just shrugged their shoulders and emphasized that there were no people there anymore. Then our conversation shifted to their student experiences in coastal provinces. My very preliminary understanding is that the desert is somehow perceived as a space outside the conditions of dwelling; it was once part of the dwelling space in the past, but not anymore. The linkage between the desert space and the narrative of Uyghur past experience might be a potential topic of study.

However, in Uyghur materials, the issue of the advancing desert was addressed and readressed by countering practices. Lands require cultivation, otherwise, "(a)II kinds of weeds and brushes will grow up however fertile it may be" (Jarring 1998: 13). Repairing and extending the canal system (see 5.1.4) is another necessary engagement. Skillful labor input is required to prevent the canals and farmlands from suffering due to the shifting sand.

5.3.3 Describing landscapes

There is no clear picture provided by the texts to illustrate how Uyghur people perceived the shifting boundary and the changing landscape. However, the words employed by them to depict geographic conditions can shed some light on their perception of the changing landscape.

In the realm of an oasis, the many spaces were portrayed as *avat* (تاۋات), the state of flourishing and bustling due to being full of people (Jarring 1997: 45). *Avat* could mean the well-managed condition of a cultivated and inhabited place, such as a village or farmlands, as well as a prosperous place, such as a bazaar.

Out of the reclaimed area, the irrigated lands and settlements were randomly adjacent to shrub zone—*djangal* (Pelliot 2014: 65); loose woodlands with excellent pasture—*toqaj* (Jarring 1997: 474; Schomberg 1933: 218); hard-shell alkaline lands —*tati* (Pelliot 2014: 93, 113); then, finally, sandy lands—*qumluq* (قصورة Jarring 1951b: 175, 1997: 384–388). Once there was a cape-like land surrounded by other types of lands, that piece of protruding land was called *modschuk* (or *modjuk*), the "projecting cape or headland" (ibid.: 295–296), the branch that had different properties than its surroundings.

Sometimes, the very same place had different specific names for describing its states. If, for example, a depression was without salty water, it was a *bajir*, a dry depression that "consists of smooth, saline, sterile soil, resembling the dry bottom of a lake" (Hedin's diary vol. 88: 517, quoted in Jarring 1997: 56). Once it was waterlogged, it was called *dash* (الحاش), "a pool detached from a river, with salty and bitter water, and it may get dry from time to time" (Hedin's diary vol. 88: 517, 560, quoted in Jarring 1997: 126; Schomberg 1933: 20, 51).

The specific terms for various landscapes were so numerous and meticulous that some Western travelers were reluctant to note further details. For instance, Schomberg noted that the *toqaj* area was usually divided into varied sizes. Each piece had a name and all of them were categorized, allocated to Turkis for grazing, but no traveler would be able to figure out the demarcation of these pastures (1933: 218). The knowledge of locations may of course seem meaningless to an outsider,

but it is meaningful to locals. A certain amount of local knowledge is required to perceive and categorize the oasis-desert landscape, and such environmental perception is embodied in the Uyghur people's wording and constant engagement with the environment.

6. Analysis

There is a consensus among studies of Uyghur history and culture that the oases in the Tarim Basin is a flourishing belt interrupted by vast barren. As Rian Thum concludes his study of Uyghur manuscripts that, "(t)he region was usually described [by Altishahri] as a series of points on the landscape, rather than continuous space" (2014b: 126; cf. Thum 2014a: 122–132). However, despite that fact that historians and anthropologists all mentioned such environments, the oasis-desert landscape is mostly treated as mere background. The descriptions in academic texts on Uyghur social activities are usually detached from the environment, and seldom attempt to explore the human-nature relationship, nor attempt to connect social-cultural activities to Uyghur people's surroundings.

Based on the findings of this study, this consensus does manifest and result from Uyghur people's environmental perception. That is, the Uyghur people's activities and perceptions connect to local landscapes unevenly. I argue, however, their practices and perceptions should not be understood by detaching them from the surrounding environment. From the dwelling perspective, Uyghur people's activities should be understood in a broader setting, namely their environment and their relational attachments with it.

Therefore, I suggest that anthropological concepts from the dwelling perspective (Ingold 1993a; 1993b; 2000) could broaden the current scope of historical anthropology on the Uyghurs, providing a better and holistic understanding of the human-nature relations in the Tarim Basin, as well as Uyghur people's deep connections with lands.

6.1. The dwelling perspective in the oasis-desert landscape

Two significant cases from Chapter 5 will be analyzed here by applying the concepts of "dwelling," "taskscape," and "sphere" (Ingold 1993a; 1993b; 2000). These two cases are not merely a single action or practice, but an array of practices conducted and happening in a specific temporal-spatial environment. They are the activities around Uyghur shrines (see 5.2.2) and the agriculture and functioning irrigation system (see 5.1.2-5.1.4).

6.1.1 The dwelling perspective in the shrine

How should we understand the senses and experiences in the Uyghur shrine surrounded by the desert?

By the notion of landscape (Crumley 2007: 16-17), namely the spatial manifestation of the human-environment relation, the shrine can certainly be seen as a landscape that had a series of actions happen around it. From the vital march to having fun in the area, all these actions are the interactions of humans with their environment.

Visually, the most significant one is the wooden complex of poles and flags. As I described in 5.2.2, the structure is contributed by pilgrims, collectively and regularly, because that is "the only enduring memorial" (Schomberg 1933: 161) that can withstand the desert setting. That is to say, the appearance of the shrine in a specific moment is the temporal outcome of the interactions of strong erosion, consolidation by pilgrim's pole and rag and storm's assault. It's a landscape.

The shrine-making process did not rely on a one-time design construction but a continuing period of time of involvement. All these human efforts are dedicated to creating and marking out space from the shifting sand dunes, and the presence of the broom-like pile must be extraordinary and distinctive (for the effects of shifting sand, see 5.3.2). Uyghur people imprint a spectacle in the material composition of the desert as the spatial manifestation.

However, as the evidence recorded in various materials suggests, the ways that Uyghur people experienced their time in the shrine are not limited to the action of changing the landscape's formation. It should also include sharing a communal feast, dancing and singing together, and, as Jarring and Uyghur manuscripts suggested, the smells of boiling food, sounds of flapping flags, shimmering light of burning lamps and the sounds of praying (Jarring 1935: 351–352, 1979: 8; Thum 2014a: 117–118). All of these were acted out and were perceived by Uyghur pilgrims at the shrine.

Making sounds in a soundless space, boiling greasy meat in the space with a lack of supply, shedding light to accompany the saint—that's how they maintain a meaningful world from their situated position in the arid environment. Through these senses, the desert is not a whole-same void, at least not all the spaces are owned by the void. I suggest, thus, that the notion of "taskscape" can provide a more inclusive scope to accommodate these sensory experiences that cannot leave material imprints in the surroundings so as to understand experiences in the desert holistically.

The saint's tomb is a taskscape. It encompasses all the dwelling experiences with tasks when actors dwell in the landscape; it is "the entire ensemble of tasks" (Ingold 1993: 158). By virtue of the notion of a taskscape, I argue that the temporal but crucial experiences of Uyghur people can thus be integrated with their other efforts into the same taskscape. That is to say, the mentioned senses made by actions and perceptions, to a certain extent, all have a common purpose—serving the saint's spirit in the shrine. If we understand the shrine only as a landscape, then, it is hard to apprehend how significant these task-made senses are in the same picture, e.g., the "boiling of pots and burning of lamps." If we understand the shrine as a landscape as well as a taskscape, then the spectacle of the flag tower, the thick smells of cooking, the sounds of evil-spirit-expelling flags, praying and reciting, all experiences are included in the same scope, just as the Uyghurs experienced.

Consequently, the Uyghur people's spiritual perspective and their practices are articulated jointly by the space of a shrine. As Ingold (1993a: 155) notes, "(a) place owes its character to the experiences it affords to those who spend time there—to the

sights, sounds and indeed smells that constitute its specific ambiance. And these, in turn, depend on the kinds of activities in which its inhabitants engage." Through deepened engagements in the taskscape, therefore, the shrine is a dwelling of the living and the dead within the desert.

Furthermore, if we borrow Ingold's (1993b: 32–35) perspective on "global environment," zooming out our scope from a single shrine to a whole shrine system in Altishahr, we would have a picture from the overlooking perspective—a larger taskscape: dot-like taskscapes scattered around the Tarim Basin, Uyghur pilgrims travel across the desert in the mode of the sphere (ibid.), from one shrine to another. In addition, in Altishahr, each saint has his/her specific period of commemoration. Thus, these taskscapes/shrines must be temporal in accordance with the rhythms of activities. This temporal characteristic makes the experience of a pilgrimage become the involvement of participating in the temporality of different taskscapes/shrines. It is a social and collective experience in the environmental perception of the oasis-desert landscape.

Many historians suggest that the experience of making a pilgrimage and staying in shrines plays crucial roles in the forming process of Altishahri identity (see Chapter 1.4). At this point, therefore, I suggest that the Uyghur people's environmental experiences might also be significant for the formation of the Altishahri "imaged community." This suggestion is the same as my main argument: the environment, namely the surroundings of humans, needs to be brought back to the discussion of human activities.

In sum, the concept of a taskscape can complement the notion of a landscape in the case of Uyghur shrines. This perspective inclusively accommodates varied experiences and senses in the surroundings as a whole.

6.1.2 Agriculture and functioning irrigation system

How can we understand the operation of the canal system and various agricultural practices in a better way? What are the human-environment relations around water, land and crops?

From the perspective of historical anthropology, there are numerous descriptions regarding agricultural conditions and human actions in Chapter 5. In the beginning, the reclamation and the construction of canals were carried out in the proper site and direction, which were navigated by the sense of orientation (see 5.1.2 and 5.3.1) to fit the terrain's level pattern. Subsequently, from field preparation to forming proper farmland, each phase required specific knowledge and skills (see 5.1.3). In the growing season, more irrigation-related tasks emerged, including arranging seasonal steps of watering, controlling the length of the watering time and bringing water for household consumption (see 5.1.4).

Nevertheless, those practices should not be treated as separate, procedure-like steps. I suggest that they should instead be understood from a relational perspective and Ingold's concept of the sphere (1993b). In the relational mode of the sphere, from reclamation to watering fields, different knowledge/practices are employed in the same surroundings that people gradually shape into a configuration of the environment. Also, through bodily experiences and perceptions, such local perspectives are meaningful to the situated inhabitants because they maintain the "active, perceptual engagement with components of the dwelt-in world" (ibid.: 40). In other words, by treating mountains and the desert as visible coordinates and reckoning the amount of water, environmental knowledge is acquired, accumulated, revised and applied by involving directly with the world. Thereby, their oasis experiences are a continuum rather than fragmented procedures; they dwell within the oasis, instead of dwelling on it.

Besides, for people dwelling in the oasis-desert landscape, the task of accessing water was never for a single farmer nor a household; it was a public affair of several communities. Although the irrigation system might function as a "haphazard system" (Schomberg 1933: 228), it is inevitably social and involved in the interactions of various stakeholders.

Through periodical dredging and repairing, the management of the irrigation system and the calculation of *kătmăn* (the concept that combines units of labor, land and water) can be seen as tasks, the ensemble of constitutive acts of dwelling (Ingold 1993a: 158). The agricultural oasis with a functioning irrigation system, of course, is a taskscape, namely the array of experiences in the temporal-continued scope (ibid.). I propose that the application of theoretical perspectives here has two implications.

First, the case of southern Xinjiang can enhance our understanding of the taskscape further, especially through the shifting boundary between oasis and desert. The "congealed state" of the landscape (cf. ibid.: 162) is relatively hard to find in this area. To perpetuate their livelihoods, people have to engage in their surroundings by performing skilled tasks and perceptions actively. Thus, the efforts of tasks and the force of shifting sand are present in the same scope of the taskscape, manifesting their engagement on the landscape's edges. The construction of taskscape and landscape is always in motion.

Despite that, the scene has been seen as neither inherently "natural" nor entirely "artificial." However, the boundaries of the oasis-desert landscape are neither fixed nor disappeared. As a part of the taskscape and landscape, they are continually shifting, interfered with by human engagement with their surroundings. Therefore, to Uyghur people, it is naive and self-blinding to claim that there is no distinction between reclaimed lands and the desert. They are involved in changing the boundaries by performing tasks; that is, they actively repair channels and regularly uphold the distinction. Otherwise, the cultivated area would rapidly be altered, and their settlement might become a part of the "old town" on the outskirts of the desert (see 5.3.2). Such is the boundary between the space that is filled with dwelling experiences and the space that is outside the mode of the sphere—the human relational experiences.

Secondly, I suggest that the calculation of *kătmăn* (see 5.1.4) can demonstrate how a taskscape is related to/performed with a social organization.

The calculation of *kătmăn* implies that the temporality of a task (the practice of digging) is connected to another task's temporality (the practice of irrigating) within the same taskscape. Furthermore, such a relation is recognized and supported by the community. In other words, the temporality of the taskscape⁴⁰ here is exactly social, and here we have a concrete and embodied example of "the network of interrelationships between the multiple rhythms" (ibid.: 160). The calculation of *kătmăn* is the network of interrelationships; it is a manifestation of the temporality of the taskscape. The social organization was interwoven with the taskscape.

From the relational perspective of the sphere to the oasis taskscape, the case of Uyghur agriculture and irrigation has shown how local knowledge and skillful tasks were congregated into a taskscape. We can conclude that if we only focus on either the practices of knowledge or the operation of social organization, isolating them from the environment, then we might lose the whole picture. It's always insufficient to discuss tasks and living experiences without the environment where they were generated. The surrounding environment is not only a background; instead, it is the very foundation of human activities and social organization.

Lastly, this case is definitely not a unique one around the world.⁴¹ However, like the shrines, the notion of a taskscape enables us to understand oasis inhabitants' practices comprehensively and inclusively. Historically and contemporarily, through this holistic perspective, we can better understand the Uyghur people's multiple connections with the land.

6.2 The topology of environmental perception

In the previous section, I elaborated on the dwelling perspective in the desert and the oasis. They seem separated in my analysis, but I would like to add a point in this section that, to a Uyghur, they are embodied in the same experienced body.

⁴⁰ Ingold defines a taskscape as "the entire ensemble of tasks" (Ingold 1993a: 158), and the temporality of a taskscape is "the network of interrelationships between the multiple rhythms of which the taskscape is itself constituted" (ibid.: 160).

⁴¹ For example, the irrigation system in Bali, Indonesia (Geertz 1972; Lansing 2006) and the canal construction in ancient China (Elvin 2004: 115–164) are both prominent on a larger scale.

In Chapter 5, there are many records of the relational expressions and practices of their environmental perception and engagement, to make sense of their surroundings. They employ some specific and bodily experiences to describe their relationships to some other relatively strange environments. For instance, numerous European accounts record the barrier of asking a Turkis about the distance to the oasis they were heading to because their answers are always obscure. A Turkic traveler stated the distance to Kucha in this way: "It is just as far as it takes to boil a pot of rice" (Schomberg 1933: 224–225). Similarly, with the application of the term, boran (see 5.2.1), the storm, the Uyghurs use a visually stimulative scene of a temporal weather event to describe terrain with a relatively slow-changing feature.

Besides the *kătmăn*, another example is the measurement of the amount of irrigated water (see 5.1.3). There is a certain amount of water for each *etiz*, the field unit. Moreover, the amount of flow is calculated by the time of walking a certain distance or by perceiving the motion of the sun and stars. Therefore, the whole irrigation process involves at least two different sets of knowledge: the knowledge of controlling water flow, which would fluctuate according to the season; and the knowledge of counting a section of time.

From the dwelling perspective, they had dwelt in the world, but they also have to make sense of the dwelling through the knowledge and practices of the fact of being-in-the-world (see Ingold 2000: 168–170, 185–187). All these cases all are the ways of expressing and measuring time and space; they are also the means of making sense of dwelling. The Uyghurs apply the relationship that is close to their experiences to facilitate their understanding of the relationship that appears distant.

Furthermore, those relational expressions are associated with bodily experiences. For a person who dwells in southern Xinjiang, the dwelling experiences in the desert and the oasis are not separated but interwoven within the same body, which undergoes the taskscape of the canal system and shrine setting. From his/her point of view, he/she perceives the surroundings with uneven distribution of experiences: some are intimate, dense and close; some are sore, strange and distant. Therefore, the case of the Uyghurs can enrich Ingold's notion of the "sphere" as well. From the

locals' point, i.e., the mode of the sphere, the world is relational but composed of different densities of relations with different spaces. This configuration of relationships reflects the varied density of tasks in different spaces.

Besides, some other recorded spaces can also be understood in this mode. For instance, there are numerous descriptions about houses that depict how the locals spend considerable efforts to make their homes a comfortable space by decorations and social activities (Schomberg 1933: 21, 70; Cable and French 1942: 167–169, 171; cf. Dautcher 2009). They also enjoy extravagant feasts in their dwellings instead of working hard, particularly in the melon season (Ambolt 1939: 3–4; Mannerheim 1969: 47; Schomberg 1933: 203–204; Teichman 1937: 137–139). Most of the Europeans solely view such behaviors as the disposition of laziness. However, I suggest that, as the experience of having fun in the shrine, this should be understood in the dwelling context as well. That's the way they enjoy the dwelling per se.

In sum, although this thesis discusses and analyzes Uyghur people's environmental perception in oasis and desert context separately. But we should remember all these entanglements are binding/merging in their daily life, which is accumulated, renewed by their bodily experiences and perception.

6.3 Regarding the indigenousness

Through the above analysis, we could have a historical understanding of the Uyghurs as an indigenous community with deep involvements with the oasis-desert landscape and the perceptions developed in it. On the other hand, those environmental connections appear to be associated with the claim to the "indigenousness" of the Uyghurs.

Such historical links and indigenousness seem to imply that when it comes to land rights and environmental issues, the Uyghurs have more righteousness than other ethnic groups in Xinjiang. Indeed, many contemporary Uyghur oversea or exile groups do attempt to articulate the Uyghur indigenousness through emphasizing that their "blood" can be traced back to the Huns (Almas 1989 and Wali 1988, quoted in

Wu 2010: 154–156), therefore, the Uyghurs should be the only group of the owners of Xinjiang.

How should we place this thesis in relation to the indigenousness? How should we address or readdress it? That is, when I emphasize Uyghur indigenous knowledge/perception of their surroundings, what kind of underlying stance am I arguing? This inquiry is regarding the contemporary implications of this historical anthropology study, especially in the context of ongoing ethnic tension.

I suggest that Ingold's (2000: 132–151) comparison between the "genealogical model" and the "relational model" can help me to articulate my stance explicitly. For Ingold, the genealogical model assumes that, " (...) the generation of persons involves the transmission of biogenetic substance prior to their life in the world; that ancestral experience can be passed on as the stuff of cultural memory, enshrined in language and tradition; and that the land is merely a surface to be occupied, serving to support its inhabitants rather than to bring them into being" (ibid.: 133). In contrast, the "relational model" stresses that "both cultural knowledge and bodily substance are seen to undergo continuous generation in the context of an ongoing engagement with the land and with the beings—human and non-human—that dwell therein" (ibid.).

To a certain extent, the genealogical model serves as the underlying assumption of the ongoing Uyghur independent movement. Yet, the articulation with genealogical tendencies is problematic on historiographic and archaeological aspects, as well as its political statements. For instance, they appeal for eliminating Han Chinese immigrant in Xinjiang and ignore that Han Chinese immigrants also have formed their own dwelling experiences in Xinjiang within the last century (see Cliff 2016; Schluessel 2017).

Certainly, as their deep involvement with the environment is the historical fact, there is no doubt that Uyghurs are indigenous people in this area. Nevertheless, on the respect of Uyghur indigenousness, I suggest that the articulation of the relational model, as this thesis's findings and analysis, will be more convincing and evidential

than the assertion by genealogical model. The Uyghurs are indigenous because they continually and reciprocally alter and generate knowledge/practices through their involvements with the environment. They dwell in the oasis-desert landscape and cultivate their environmental perception and engagement within their surroundings.

Meanwhile, under the ongoing policies in Xinjiang, the shrines in the desert have been shut down (Kuo 2019; Thum 2014a), the distribution of water is becoming inequitable (Cliff 2013), the common form of morality have been interpreted as the behavior of religious extremism (Byler 2017c), the authorities have drastically interfered the Uyghur people's connections with land for decades. Namely, I argue that the uprooted and the deprived ones are not so much regarding the distinct genealogy, but more about people's embodied experiences, perception, and ways of living. Therefore, governmental violence and the elimination of Uyghur culture should be preferably redressed and condemned through the approach of the relational model.

In this sense, for the Uyghur communities in Xinjiang, their indigenous knowledge and practices should be seen as the possible way-out and forms of resistance by maintaining and practicing engagement with the surroundings consciously (cf. Byler 2017a). With the profound historical relations to the environments, Uyghurs should have the right to maintain their deep involvement in Xinjiang with respect and dignity.

7. Discussion

In this chapter, I will discuss how the findings can relate to other discussions in the Central Asia study and reflect on the two chief limitations of this thesis. All three points include suggestions for further research.

7.1 Chinese Central Asia

Since the Uyghurs have more of a resemblance to Central Asian people than Chinese people in language and other aspects of culture, more discussions might emerge by placing southern Xinjiang as an extension of Central Asia. On the other side of the Tian Shan range and the Pamir Mountains, the consumption and distribution of water in the Ferghana Valley also involves social relations at varying levels. Like in Xinjiang, using water through canals is always a social affair.

In historical studies, the management and maintenance of the canal system require collective mandatory works as well. Some irrigation-related terms in Uzbek even have very similar pronunciations and meanings to the words in Uyghur (Abdullaev and Rakhmatullaev 2015). In the contemporary context, water allocation is the daily task between upstream and downstream communities and has been seen as an issue of ethnic group conflicts and the prior affair of development (Bichsel 2005; Sehring 2007; cf. Bichsel 2011). Moreover, social relations based on water distribution are involved in the intricate process of making national borders (Reeves 2014). In Kyrgyzstan, waterbodies and saint's tombs have prominent roles in multiple human-environment relations (Féaux de la Croix 2011).

This broader context can provide a comparative perspective of this study. It can be a diachronic and synchronic comparison. A comparative study needs to start from each case's context and definitely requires many endeavors. However, the perspective of treating Xinjiang as a part of Chinese Central Asia can bridge Central Asian studies and Chinese studies and contribute more insights.

7.2 Lack of practical data on site

Indeed, there are many limitations to this thesis. The most crucial one is the fragile connections with contemporary society in southern Xinjiang. Historical anthropology's advantage provides a perspective from which to open up dialogues between a society's past and present, historical data and current ethnographic materials. The lack of the latter may lead to a possible problem of misinterpretation.

"What are the exact meanings of oasis and desert to the Uyghurs?" "How can we assert that the relations of the canal system and shrines were meaningful to them?" "How could these cases of individual perception (i.e., a set of actions in the

engagement process with the environment) be claimed as a kind of collective perception/culture?" I always feel that my work is insufficient when I ponder those questions.

By cross-examining the recorded matters from different sources and understanding them with all my knowledge of Uyghur and Xinjiang, I have done my utmost to make sure that my interpretations are as fair as possible and grounded in the facts from the materials. But there is always room for improvement. If there were an opportunity to integrate with a complete participant observation on site, this study's arguments would be more precise and convincing.

However, it is a common issue for all current studies on the Uyghurs and Xinjiang (cf. Thum et al. 2018). The state's controls seem almost insurmountable in every daily aspect. What most studies can rely on are the diverse connections with the locals and their life in an indirect form, or a researcher's fragmented experiences there. That also is the reason why I insisted on paying a short-term visit during this study, although I could not really conduct the participant observation in a proper form.

7.3 Regarding historical materials

Another limitation of this thesis is the language barrier and the constraints of time. Consequently, I didn't include all related texts in this study, and I was unable to read archives directly in languages other than English and Chinese.

There are numerous documents that have been examined by historians but not yet reviewed from the environmental perspective this thesis is based on. For instance, in the Jarring Collection, many Uyghur manuscripts' contents seem very promising:⁴² a portion of Prov. 400 is about the handbook of camel-drivers; Prov. 53 is the handbook of rainmaker; Prov. 370 is the handbook of magic; Prov. 2: 2, 396: 4, 400: 5, 406: 2 are different versions of the handbook of agriculture (see Jarring 1986: 103–111, 1998: 7–9).

⁴² All of them are collected in the Lund University Library.

In the early days of the 20th century, there were many local Turkis who cooperated with or served the British Consulate General and Swedish missionary station in Kashgar. For instance, Muhammad Ali Damollah, Abdu Vali Akhon (Jarring 1998: 7) and Maqsud Hadji (Jarring 1951a: 1, 1951b: 1–2) were all key figures who worked as language teachers and translators for the European agencies. Amid the Swedish church documents in the Swedish National Archive and the British Library, records regarding these people represent a potential thread to discover more local perspectives.

As for other Western travelogues, the Digital Archive of Toyo Bunko Rare Books and The Gunnar Jarring Central Eurasia Collection have a complete literature list and collection that could be consulted by future research (see Schlyter 2017; Swedish Research Institute in Istanbul n.d.).

Therefore, in my opinion, compared to the possible scale of applied materials and analysis, this thesis is just a minute attempt. It definitely has plenty of parts that need to be and can be improved by integrating with other documents in the future.

8. Conclusion

This thesis began from inquiries concerning the indigenous communities, such as, how did Uyghur people perceive their surroundings? How did their environmental perception and activities relate to the oasis-desert landscape in southern Xinjiang? Moreover, how do these understandings enhance our knowledge of the Uyghur people's past and deep connections with lands?

Through the insights derived from historical anthropology and the perspective of local knowledge, this study has attempted to answer those questions by exploring documents from multiple languages and collections. Corresponding to southern Xinjiang's history in the early 20th century, materials from Uyghur manuscripts (the Jarring Collection), Chinese literature and Western accounts were applied.

Ethnographic details related to the environment were presented. In the realm of the oasis, agriculture is the main livelihood and the most significant approach to engaging in the natural surroundings. The reclamation of farmlands, the operation of canals and water distribution are all intricate and meticulous works that require specific knowledge and skills. On the one hand, the desert is a vast space with unbearable heat, whirlwinds, sand storm, mirages and evil spirits; thus, it requires multiple different kinds of knowledge to ensure that a caravan can safely pass through. The only space with dense human activity is the shrine, the Islamic saint's tomb. Before the government's prohibition, the Uyghur pilgrims conducted diverse social activities in the shrine for the needs of the living and also for the dead. Dwelling in the oasis-desert landscape, the Uyghurs have their specific perception of orientation and senses of shifting boundary blended in their language expression.

This thesis systematically analyzes these findings through several notions of dwelling perspective derived from anthropologist Tim Ingold. I propose two cases of the concept of taskscape: the shrine in the desert and the function of the irrigation system. In the case of the shrine, I argue that the scope of the taskscape better enables us to accommodate the Uyghur people's different senses generated in the desert's surroundings than the landscape. In the same scope of the taskscape, it includes the wooden construction with flags piled up by collective actions and the "boiling of pots and burning of lamps." Therefore, importantly, Uyghur people's spiritual perspective and practices are articulated jointly by the space of shrines. As for another case, by organizing the agricultural knowledge and practices by the mode of the sphere, I suggest that our understanding of theories can be enhanced through the shifting boundary between oasis and desert, as well as the causation of the *kătmăn*. The calculation of *kătmăn* is the manifestation of the temporality of the oasis taskscape intertwined with local social organization. Also, the relational perspective of the environment shed light, allowing us to explore the relations between their various bodily experiences and environmental perception and providing a more distinct picture of the configuration of relationships in the landscape. In sum, through the notions of "dwelling," "taskscape" and "sphere," we have a more precise contour of the Uyghur people's environmental perception and the experiences of being in the oasis-desert landscape in the past.

All these interpretations and analysis imply that the Uyghur people's profound connections with the environment should be understood from their situated position in the arid setting. I argue that, in this case of the historical anthropology of the Uyghur people, the environment is not just the background of social practices; their actions and perception are embedded in and generated within their surroundings by continual engagement, which is how they maintain a meaningful world position in the arid environment.

Lastly and hopefully, as the state has conducted more and more constraints for Uyghurs, a greater understanding of the Uyghur people could bring more possibility of resistance. May this thesis contribute to and participate in this necessary movement.

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Appendix 1Information of Uyghur Manuscripts

Name	Manuscript's Collection Number	Author	Year of the original text	Translator	Publicat ion Date	Type of the original text	Genre of the original texts	Type of the publication	Source
Materials to the knowledge of Eastern Turki: tales, poetry, proverbs, riddles, ethnological and historical texts from the southern parts of Eastern Turkestan. Ethnological and historical texts from Guma	-	Maqsud Hadji	1935	Gunnar Jarring	1951	Manuscript	Ethnological and historical texts	Full-text translation	-
Materials to the knowledge of Eastern Turki : tales, poetry, proverbs, riddles, ethnological and historical texts from the southern parts of Eastern Turkestan. Folk-lore from Guma	-	Maqsud Hadji	1935	Gunnar Jarring	1951	Manuscript	Folklore	Full-text translation	-
Gustaf Raquette and Qasim Akhun's letters to Kamil Efendi: ethnological and folkloristic materials from southern Sinkiang	Gustaf Raquettes arkiv och brevsamling, Vol.3	Gustaf Raquette, Qasim Akhun, Kamil Efendi	Unknown (between 1900-1938)	Gunnar Jarring	1975	Manuscript	Ethnological texts	Excerptions with translation	Gustaf Raquettes arkiv och brevsamling (Lund University Library)
Matters of Ethnological Interest in Swedish Missionary Reports from Southern Sinkiang	-	G. Ahlbert, D. Gustafsson, L. E. Högberg, Sigrid Högberg, G. Palmberg, G. Raquette	1907-1934	Gunnar Jarring	1979	Church's documents and reports	Ethnological texts	Excerptions with translation	Unmentioned
The Moen Collection of Eastern Turki (New Uighur) Proverbs and Popular Sayings	Jarring Prov. 521 (Proverbs)	Unknown (collected by Sigfrid Moen)	Unknown	Gunnar Jarring	1985	Manuscript	Proverbs and Popular Sayings	Excerptions with translation	The Jarring Collection
Dervish and qalandar: text from Kashghar	Jarring Prov. 31, 78	Muhammad Ali Damollah	Unknown (between 1920s-1938)	Gunnar Jarring	1987	Manuscript	Ethnological texts	Full-text translation	The Jarring Collection
The thiefless city and the contest between food and throat: four Eastern Turki texts	Jarring Prov. 460, 56, 302	Unknown	Unknown	Gunnar Jarring	1989	Manuscript	Tales	Full-text translation	The Jarring Collection
Agriculture and Horticulture in Central Asia in the Early Years of the Twentieth Century with an Excursus on Fishing: Eastern Turki Texts with Transcription, Translation, Notes and Glossary	Jarring Prov. 207 (Handbook of Agriculture)	Muhammad Ali Damollah and Abdu Vali Akhon	1905-1910	Gunnar Jarring	1998	Manuscript	Pamphlet	Full-text translation	The Jarring Collection
The World as Seen from Yarkand: Ghulām Muḥammad Khān's 1920s Chronicle Mā Tīṭayniŋ wāqi asi	Jarring Prov. 163 (History of Eastern Turkestan)	Ghulām Muḥammad Khān	1930's (?)	Eric Schluessel	2014	Manuscript	History	Full-text translation	The Jarring Collection
Digital facsimile and transcription of manuscript Jarring Prov. 351	Jarring Prov. 351 (Handbook of Medicine)	Abdu al-Hamid	1929	Annotated Turki Manuscripts from the Jarring Collection Online (ATMO)	2016	Manuscript	Medical text	Full-text translation	The Jarring Collection

Appendix. 2Information of Travelogues

Book	Author	Publication	Date in Xinjiang	Genre	Purpose	Country	Landguage	Occupation	Source
Across Asia from West to East in 1906-1908	Carl Gustaf Emil Mannerheim	1969 (2nd ed.)	1906-1908	Diary	Expedition (for military investigation)	Russia	English	Russian Army	Digital Archive of Toyo Bunko Rare Books
Carnets de Route: 1906-1908	Paul Pelliot	2008 (2014 in Chinese)	1906-1908	Diary (private)	Archaeological Expedition	France	France (translated into Chinese)	Archaeologist	Guimet Museum
Wanderings in Chinese Turkestan	E. G. Kemp	1914	1912	Travelogue	Travel	United Kingdom	English	Explorer	The Gunnar Jarring Central Eurasia Collection (Digital Library)
In the Heart of Asia	Percy T. Etherton	1926	1918-1922	Regional analysis/ Travelogue	Diplomat	United Kingdom	English	British Consul- General in Kashgar	The Gunnar Jarring Central Eurasia Collection (Digital Library)
Pivot of Asia: Sinkiang and the inner Asian Frontiers of China and Russia	Owen Lattimore	1975	1927	Regional analysis/ Travelogue	Expedition	U.S.A	English	none (afterward, scholar of China and Central Asia)	General Publication
Peaks and Plaina of Central Asia	R. C. F. Schomberg	1933	1927-29; 1930-31	Travelogue	Travel	United Kingdom	English	Explorer	The Gunnar Jarring Central Eurasia Collection (Digital Library)
Travels and Archaeological Field-work in Mongolia and Sinkiang: A Diary of the Years 1927-1934	Folke Bergman	1945	1927-1934	Travelogue, organized from diary	Scientific Expedition	Sweden	Swedish (translated into English)	Archaeologist	The Gunnar Jarring Central Eurasia Collection (Digital Library)
Karavan: Travels in Eastern Turkestan	Nils Peter Ambolt	1939	1928-1933	Travelogue	Scientific Expedition	Sweden	Swedish (translated into English)	Geologist	The Gunnar Jarring Central Eurasia Collection (Digital Library)
Return to Kashgar	Gunnar Jarring	1986	1929-1930	Autobiography	ph.D Fieldwork	Sweden	Swedish (translated into English)	ph.D student	General Publication
The Gobi Desert	Mildred Cable and Francesca French	1942	1930	Travelogue/ Ethnographic records	Travel	French	English	Missionary	The Gunnar Jarring Central Eurasia Collection (Digital Library)
Journey to Turkistan	Eric Teichman	1937	1935	Travelogue	Diplomat	United Kingdom	English	British diplomat in Beijing	The Gunnar Jarring Central Eurasia Collection (Digital Library)