

The Barbed Walls of China: A Contemporary Grassland Drama

DEE MACK WILLIAMS

ETHNIC MONGOL HERDERS IN NORTH CHINA have traditionally enjoyed a distinctive cultural landscape. In contrast to the way dense population and intensive agriculture strictly regimented land-use practices among Han Chinese, dispersed settlement and mobile stock-herding permitted Mongol society to operate and evolve under much different spatial and ecological horizons. Such deep-rooted orientations still resist facile alignment with alien standards now imposed by Beijing, disguised as they are in the language of economic development.

I do not mean to portray a simplistic antagonism or rigid historical dichotomy between settled Chinese cultivators of the plain and mobile pastoralists of the steppe. A large body of literature makes clear that the two groups interacted with regularity and complexity (see Lattimore 1962; Barfield 1989; Jagchid 1989; Di Cosmo 1994). But while Mongol herders and Han farmers may have lived in perpetual interaction with each other for centuries, the fact remains that they did not live together. Even after military and political subjugation, Mongol grassland communities maintained pockets of distinct space and life-world right into the Communist era. While the stereotypes of difference can be overdrawn, there is no denying that significant experiential alternatives have remained palpable. Nor is the longevity of difference surprising. As Khazanov (1994, lviii) has noted: "Pastoralism is not only a way of making a living; it is also a way of living, dear to those who practice it."

Contemporary pastoral residents of eastern Inner Mongolia now find themselves caught between a mobile past and a sedentary future, living within the expanding insecurities of an unsustainable present. Anxiety feeds from many sources, but ultimately derives from two related processes: a declining natural resource base threatened by shifting sand dunes and population pressures, and the disruptive influences of recent government initiatives to "rationalize" animal husbandry production. For the present generation, no change has been more disruptive than the unfamiliar spatial discipline which a government-directed enclosure movement has introduced on national rangelands over the last fifteen years.

The author is a Visiting Fellow at the East-West Center, Program on Environment, Honolulu, Hawaii. Grants from the National Science Foundation and the Committee for Scholarly Communication with China made this research possible. Columbia University and the East-West Center funded the analysis and writing. A word of thanks is due to James Reardon-Anderson for assistance with field placement, to Alatanbagan for help during fieldwork, and to Michael Dove for constructive comments on an early draft of the manuscript.

The Journal of Asian Studies 55, no. 3 (August 1996):665-691.

© 1996 by the Association for Asian Studies, Inc.

In the process of decollectivization, the central government has declared its interest in quickening the replacement of traditional pastoral peoples with commercial livestock producers. Policy initiatives attempt to turn an extensive system of open-range grazing into an intensive production regime based upon enclosed pastures, irrigated forage production, stall feeding, machinery, improved breeding, and chemical fertilizer. The first step was to terminate communal forms of ownership and land tenure. Over time, the deceptively simple medium of barbed-wire fencing has launched nothing short of a “topomorphic revolution”¹ in small communities across the northern grasslands. That is, rangeland privatization and parcelization has prompted changes in the structure of local space that dramatically reshape the ecological environment and redefine access to community resources. With regard to the physical landscape, private enclosures tend to exacerbate widespread problems of land degradation and ecosystem decline. With regard to the social landscape, enclosures have broadened disparities of economic wealth, leading to new problems of economic stratification and community fragmentation.

I contend that the rangeland household enclosure initiatives are informed by a long history of central government antagonism with the grassland environment and its native inhabitants. Discussion will show that Beijing considers the mobile herders of Inner Mongolia and their arid-steppe homeland to be long-standing obstacles in the path of national progress, scientific rationalism, and economic development. To Chinese officials and scientists, they are a land and people “in the way” of modernization—obsolete and disposable in their traditional constitution. Yet, the reorganization of space that is necessary to facilitate the flow of regional and global capital through rural Inner Mongolia requires appropriation at local and personal levels that sometimes provoke native challenges and creative assertions of identity. Just as “nationality” or “ethnicity” may be said to exist, a people’s sense of space and sense of place may be said to exist and to influence social action in ways that are worthy of the attention of social science.

Herding households on transitional grasslands experience an identity crisis when multiple transformational pressures converge to disrupt their traditional life-world. The environmental nature of the crisis—rapid spatial reconfiguration and accelerating ecological degradation—only intensifies the already strong cultural inclination of residents to pay close attention to their physical surroundings. Local landscape thereby achieves a heightened capacity to function as both a material and a symbolic arena in which residents collectively and individually respond to the question: who are we, and to what environment do we belong? In particular, fence, grass, and sand have become highly charged community symbols upon the landscape. Residents clearly pay attention to them to think about themselves and their social relations.

This article presents a village-level case study to reflect upon contrasting Han-Mongol patterns of land use and perception. After a brief introduction to the fieldwork setting, I first review some emergent theory about the role of landscape perception in social identity. I then discuss both traditional and contemporary environmental preferences and perceptions of Mongol herders in contrast to the dominant Chinese national discourse. I also relate indigenous Mongol perceptions to strategies of daily

¹Walter (1988, 23) introduced this term to describe a “radical shift of topistic structure, a fundamental change in the form of dwelling together . . . [that] conceals, interrupts, or breaks the old forms, causing new structures by patterns of exclusion, enclosure, and dissociation.” Topomorphic revolutions transform traditional common living spaces into more complicated geographic systems of segregated zones.

resource management, and consider the practical ramifications of a restructured rangeland. Along the way, I show how landscape features function as potent symbols of expression for local residents while they actively renegotiate their collective and individual identities.

Field Setting

My familiarity with the enclosure movement in eastern Inner Mongolia is based upon anthropological fieldwork conducted over a period of twelve months between the summers of 1993–94 in Nasihan Township (*sumu*) of Wengniute County (*qi*), Chifeng City Prefecture (*shi*). This area is located about 500 kilometers northeast of Beijing in the triangle of land formed between the Xilamulun and Laoha rivers. Nasihan Township is situated in a desert-steppe environment in the western portion of the Keerqin (Horqin) Sandy Lands, where sand soil and moving dunes occupy 90 percent of the regional landscape (NSRZ 1991, 1). The total rangeland area of Nasihan Township is roughly 613 square kilometers, but local officials consider only 51 percent of the land to be at least marginally useful for livestock production. The climate is arid, with mean annual precipitation usually ranging between 300 and 500 millimeters. My host unit was the Shenyang Institute of Applied Ecology within the Chinese Academy of Sciences. It operates a small grassland ecosystem research station in the area to monitor weather patterns, to conduct experiments, and to help stabilize moving sand dunes.

I engaged in participant-observation and household interviews throughout the entire township, but most of my contact occurred with residents of Wulanaodu village (*gacca*), where the research station is located. In 1993, Wulanaodu had a population of 740 people divided among 174 households. The population is 98 percent ethnic Mongol, and speaks both Mongolian and Mandarin, although I communicated with residents in Mandarin only. The people still earn 87 percent of their income by raising cows, sheep, goats, camels, and horses. The cash economy remains small, however, with a per capita net income of only 400 *yuan* per year (approximately 50 USD). Nasihan Township thus ranks among the poorest in all of China. Because of the advanced state of land degradation and other historical circumstances, Wulanaodu is a community where the proliferation of household enclosures is relatively advanced.

In 1958, the village received national recognition as a model pastoral commune. Residents report that Mao himself praised the village in a speech from Beijing, and ceremoniously awarded it a symbolic red star of merit. Thereupon, the community voted to change its name to Wulanaodu, which in Mongolian means “red star.” The fame later served to gain the collective certain advantages, such as subsidized fence wire for the purpose of enclosing reserve meadows for winter hay production. It was in large part a result of this subsidized wire that elite households had the early opportunity upon decollectivization to confiscate public assets and assert their own private enclosures. Their experiences with spatial reorganization therefore anticipate somewhat the transformations that may just now be starting, or yet to occur, in other pastoral areas of China.

Landscape Perception and Interpretation

An abundance of research across many disciplines over the past two decades has drawn attention to the subjective dimensions of land use and resource management.

Theory suggests that humans relate with their physical environment in reciprocal ways that are far more complex and intriguing than previously imagined. The field of environmental psychology has developed a "transactionalist" view of human-environment relations, which holds that humans do not apprehend environmental reality directly, but through a highly refined interpretive process (see Gibson 1979; Golledge 1991; Garling and Golledge 1993). Learned predispositions (attitudes) emerge to facilitate consistent responses to familiar environmental stimuli. The model essentially hypothesizes that human perceptual thresholds may be differentially structured, with likely correspondence to dominant social structures.

Concurrently, the discipline of cultural geography has developed a large body of literature organized around the concept of "landscape." Landscape generally refers to the subjective life-space that encompasses both material and symbolic interactions between humans and their dwelling places. In theory, subjective landscapes extend beyond individuals to create larger nested domains of agreement, such as "vernacular regions" in which particular social identities correspond to localized environmental meanings (Jackson 1984; Norton 1989, 119–22). These meanings may differ sharply at times, either within or between competing social groupings, and between entire political economies (see Cronon 1983; Silver 1990). Landscape preferences and contested interpretations of landscape thus constitute social boundaries of political significance. In the words of Jackson (1984, 148) "A landscape, like a language, is the field of perpetual conflict and compromise between what is established by authority and what the vernacular insists upon preferring."

From the field of ecological ethnography, numerous empirical studies have emerged that indicate significant differences do sometimes exist between insider and outsider perceptions of physical environments (see Dove 1985, 1994; McGovern 1988; Zimmerer 1993). The point is not that some native peoples may be less than fully observant of their environment, nor merely that state officials can easily misapprehend unfamiliar terrain. Rather, these studies indicate that certain aspects of environmental perception for an individual of any culture exist prior to actual experience of the environment, and in fact help to shape interpretations of that experience.

Within the field of environment behavior studies, Rapoport (1983, 39) has written that "there are conditions under which environments (such as landscapes) can become critical to the survival of cultural identity." He hypothesizes that the potential for local landscape to act as a signifying system would be especially pronounced during periods of "high criticality" (1982, 191–92), such as rapid environmental change or pronounced stress on food resources, or simply whenever a society seeks greater security in the face of change. Crisis promotes greater attention to symbols within the environment that help to clarify social identity and channel communication processes. Landscape cues help to locate people in both physical and social (hierarchical) space, but even more to the point, they also help to preserve group cohesion.

One of the more fruitful interpretive frameworks to emerge from this direction of thought is that of "place consciousness," or "place attachment." Cultural symbols of place associated with a particular cultural community are known to ground intersubjective experiences of identity and meaning for local residents (see Cosgrove and Daniels 1988; Duncan 1990; Low and Altman 1992). Local sense of place never stands alone, however, but is in constant conjuncture and opposition to other places and other scales, especially the national and the international. For modernizing societies around the world, recent penetrations of a globally structured political

economy have brought an unprecedented challenge to local identities and the symbolic cohesion of traditional communities.

The various intellectual currents described above have all contributed to the contemporary interest in local subjective interpretations of environmental meaning. As an analytic construct, landscape studies render false the separation between material and symbolic domains of human activity so routinely assumed within the dominant political-economy paradigm of most resource management studies. In short, environments are increasingly conceptualized as cultural productions—processual artifacts of the evolving tension between symbolic and material forces in a specific locale. Widening circles of contemporary social theory hypothesize that landscape formation can be influenced as much from local ideologies as it can from the political economy, or from the physical forces of nature itself. As Duncan and Duncan (1988, 123) wrote, “it can be argued that one of the most important roles that landscape plays in the social process is ideological, supporting a set of ideas and values, unquestioned assumptions about the way a society is, or should be organized.”

Cognizant of this broad body of theory, I believe the spatial revolution underway in Wulanaodu village provides an excellent opportunity to investigate some of the hypothetical parameters of subjective landscapes—to test whether differential perceptions exist, whether they have any significant implications for resource management at the household level, and whether they demarcate any symbolic communication between groups with wider political implications. The discussion will show that culturally determined and ideologically informed spatial and ecological perceptions are indeed highly relevant to the way contemporary rangeland policies are both shaped in Beijing and contested in the local practices of daily land use.

Han Spatial Identity

In contrast to the seemingly boundless, uninhabited, and unregimented expanse of the steppelands, the great agricultural plain of North China has been meticulously partitioned, controlled, and shaped down to the last square meter. The Han Chinese clearly value intensive spatial regimentation. In part, this “fear of the infinite” is a legacy of the Confucian mind-set, which pursued cosmological harmony as much through thoughtful architecture and land use as through ritual and etiquette (De Riencourt 1958, 79).

Imperial China was an agricultural civilization that conceived of time and space in bounded and discrete increments, represented architecturally by the circle and square. Time was no abstract homogenous stream, but an accumulation of definite, closed, discontinuous periods, seasons, and epochs. Space was likewise conceived as an unending accumulation of fixed locations (De Riencourt 1958, 78). Cosmological order of time and space was maintained through Court ritual that centered the universe upon the Emperor in Beijing and gradually dissipated maximum density outward toward the peripheries of civilization to be consumed by chaos at the frontier (79).

The outer extremities of the empire were thus demarcated by an elaborate system of fortifications and walls that have captured the imagination of the world. It is extremely difficult to separate history from myth with regard to interpreting the Great Wall and the multiple significations it has evoked among the Han Chinese over centuries (Waldron 1990). Nonetheless, any reasonable starting point must concede that the massive structures have been important and dynamic ideological markers in space.

The positions of the outermost great walls have expanded and contracted through history, so that areas on the outside in one period might be on the inside in another. The system of outer walls was never a permanent or tidy barrier separating mobile herders from sedentary farmers, or even Han Chinese from northern tribesmen. The imposing barricades functioned more like a screen than an envelope, because they allowed for economic and cultural exchanges. Still, the outermost great walls of Inner Mongolia have followed, approximately, the edges of two soil zones: the interior being arable, while the exterior being more vulnerable to drought, crop failure, and erosion (Lattimore 1941, 127). The walls also clearly served as a visible ideological marker of domesticated space. In the words of Wakeman (1975, 71), "to the Chinese it marked the border between civilization and the barbarian hordes . . . that successively threatened native dynasties. To the nomads it was a barrier that challenged and beckoned. . . ." Anderson (1983, 26) once observed that premodern states typically defined themselves as cultural and political "centers" which governed within territorial continuums that eventually dissolved into competing allegiances: "borders were porous and indistinct, and sovereignties faded imperceptibly into one another." Relative to that general standard, the Great Wall system of China must be viewed as a rather remarkable delineation of cultural and territorial space, however permeable it may have been.

The frontier walls were not strictly military defenses, but also direct instruments of agricultural extension. From the time the first Great Wall was unified during the Qin dynasty, a unique "farming-garrison" system was introduced to keep it operational. This involved the massive resettlement of civilian farmers into frontier areas, both to bolster the military garrison and to allow regional self-sufficiency in food supplies. In this way, irrigation systems were established and pasture conversion developed swiftly (Cheng 1984, 210). But the walls not only helped to extend the practices of agriculture; they also provided a forum by which to perpetuate the essential tradition of forced labor that made Chinese intensive agriculture possible in the first place (Lattimore 1941, 128–30). In this sense, the frontier walls served ideological as well as military purposes.

Nested within the frontier walls, Imperial China was a land characterized by stable city walls and diminishing space. Chang (1977, 100) has observed that walled cities were the major landmarks of traditional China, with a proud and distinctive morphology that, despite gradual evolution of form, remained remarkably static through history. The Samuels (1989, 204) describe how space was further controlled and domesticated within those outer city walls:

The Confucian city, like the Confucian house and Confucian society, was highly regimented. Its layout and structure, epitomized by a seeming endless maze of walled compounds within walled compounds within walled compounds, were imbued with the signs of power, authority, and hierarchy, and nowhere more so than in the austere formality of imperial Beijing.

Of course, the relentless spatial regiment so characteristic of Imperial China has not evaporated over the last half century. Meyer (1991, 4), in describing the architectural history of Beijing, has offered the following insightful commentary on Han spatiality:

"Wall" is what makes China, wall makes the city of Beijing, the Imperial city, the Forbidden City, and all subsidiary units down to country town, village, and private home. Give any Chinese some loose bricks and he will build a wall, a gate, and hire a gatekeeper to prevent the outsider from entering.

Walls are important to the Chinese because, over and above practical consideration (preventing thievery, resisting attack, and the like), the wall is the line clearly drawn between what is significant and what is insignificant, what is powerful and what is not powerful, who is kin and who is stranger, what is sacred and not sacred. The Great Wall is the symbol of China par excellence. Traditionally it marked off civilization from barbarism; today it still marks off the "sacred land" from the rest of the world. . . .

Today walls are still a ubiquitous feature of the Chinese landscape. Even though a poor country, China lavishes an incredible amount of money on building walls where a non-Chinese would think them totally unnecessary. They are still much in favor in rural villages, and in the cities they now usually demarcate factories, businesses, schools, offices, and the other "work units" of socialist society. The Chinese passion for walls reflects their passion for clarity in human relationships, signifying an individual's identity and place within society. The Marxist revolution has in no way diminished the Chinese love of a wall. It is only that they are now built in different places, and define different units of meaning.

Even today, the cultural power of the "wall" runs deep in the national psyche. The Chinese themselves perceive the Great Wall as their greatest cultural relic and symbol par excellence (Cheng 1984, 17), though the nuances of that symbol are sometimes hotly debated. The Great Wall has alternately represented both the glory and tyranny of a Confucian heritage for centuries. Under Communist leadership, the Wall has been the object of public scorn (especially during the Great Leap Forward and the Cultural Revolution) at least as much as it has been the focus of patriotic adoration. Under restoration, it has represented the promise of a modern Socialist future, and it sometimes serves as the token of an indestructible national spirit (Luo and Luo 1986, i).

Whether viewed in a negative or positive light, the myth of the Great Wall still maintains a powerful hold over the imagination of Han Chinese, who cherish their walls, their partitions, and their regimented space. Today, the landscape is still divided into a million interiors and exteriors. Despite the declaration of an Open Door policy, barriers both visible and invisible dominate the landscape and perpetuate the ancient *neibu* mindset that has always separated Us from Them—Chinese from foreigners, Han from minorities, party members from nonmembers, senior officials from rank and file.

Han Ecological Identity

Han spatial orientations have involved an ecological counterpart. For centuries, Chinese literati viewed and described neighboring seminomadic peoples and their native homelands in the most disparaging terms. The people were considered to be "human-faced and animal-hearted," while the steppeland environment was "unfit for [truly human] habitation." Land and people were perceived in reciprocal images of savagery. "Just as their nature marked the limits of human character, their homeland was thought of as the edge of the world" (Waldron 1990, 39). The Chinese language employs numerous terms to signify the unfamiliar ecological zones of the northern frontier: *huang* (waste), *kuang* (vast), *wu* (overgrown), *ye* (untamed), *qiong* (impoverished), *xu* (emptiness). All of them are negative, and convey a strong sense of malevolence. "Huang" is the most common and comprehensive single term applied. Meserve (1982, 61) has explained its subtle connotations:

Huang is “wu,” land neglected, full of weeds, poor, vulgar. Huang, like “ye,” is wildness and savagery, while the vast expanse that is also expressed in “kuang” adds to the menace of huang. It is land uncultivated, a land of drought and famine. Huang expresses the horror of devastation and desolation. . . . License in pleasure, total disregard of man or things, reckless excess—all are embodied in huang. It is time wasted. And huang can also mean a covering for a coffin—like “xu”—carrying with it the shadow of death.

Khan (1995, 4) has noted that “huang” implies moral deficiencies as well. The term suggests an absence of domestication and civility. Consequently, any land use that restructures or transforms open rangeland can only be ameliorative. “Thus, the positive term ‘kai’ (open) is used to refer to the action of preparing a virgin land for farming: kai huang—to open up wasteland.” This sense of pastoral depravity is further reinforced in the language by other idioms, such as “kui xin liang.” The term literally means “ill-conscienced grain.” It is meant to dishonor the herdsmen who live off of grain which they have not labored to produce (Khan 14–15).

The power of such language has played a significant role in both motivating and rationalizing Han colonial incursions into Inner Mongolia over the last century. Migrating farmers poured into border regions under the authority of a government policy that bore the title “construct the frontier” (*jianshe bianjiang*). Near the end of the Qing Dynasty, government officials were eager to alleviate mounting political instabilities that resulted in part from widespread famine and hunger for land. Incrementally, they allowed Han colonization to expand across traditional Mongol rangeland. The influx intensified after 1911, when the new Chinese Republic declared that all Mongol lands belonged to China and that land titles were henceforth invalid unless ratified by local Chinese authorities (Lattimore 1934, 105; Jones 1949, 61). By 1924, when the railway line was extended from modern-day Zhangjiakou to Hohot and Baotou, land-hungry Han settlers immigrated by the millions, scattering Mongols from their most fertile grazing pasture. The population of Inner Mongolia in 1912 was roughly 2.04 million, with a ratio of 1.3 Han to every Mongol (Ma 1984, 111). By 1990, the total population rose to 21 million, with a ratio of 6 Han to every Mongol.² The migration policies gave teeth to a traditional Han perspective that any frontier lands which can be productively cultivated rightfully belong to the Han. Lattimore (1962, 417) reported:

Wherever the Chinese came, the Mongols had to get out. They suddenly found themselves stigmatized as a “backward” people, “too primitive” to take up the new Chinese agriculture—although they had not been too primitive to take up the old “mixed” border economy. An entirely artificial line was drawn between “civilized” agriculture and “primitive” pastoral economy, dependent on livestock. To be a nomad was a kind of social crime.

The derogatory Confucian attitudes were only strengthened by Marxist orthodoxy after 1949. The Marx-Lenin-Mao line of political thought held that natural rangeland

²There are several historical complexities that such broad generalizations do not take into account. One is the fact that the territorial boundaries of IMAR have not been static through time. Another is the fact that since 1979 many residents who formerly registered as Han began to change their ethnic classification to Mongol in order to take advantage of new privileges for national minorities, especially exemptions from the one-child policy.

has no intrinsic value as a resource because it embodies no labor.³ Land of no value can hardly be “degraded,” no matter what the manner of exploitation. To central authorities, even marginal farmland was better than natural pasture, as the “grain first” policies of the collective era continually made clear. In particular, national campaigns during the Great Leap Forward and the Cultural Revolution greatly reduced the amount of productive rangeland available to minority pastoralists. Regional statistics from Inner Mongolia indicate that 21 percent of total rangeland was lost to agricultural production between 1953 and 1979 (Longworth and Williamson 1993, 305). On a national scale, an estimated 67 million hectares of high-quality rangeland were converted to grain cultivation during the two campaigns (NRC 1992, 48).

Beijing has tended to view the native traditions of indigenous people to be as “worthless” as the land. The Marx-Lenin-Mao model of hierarchical social evolution held that different types of economic activity correspond to different levels of social advancement. Hunting and gathering was the most primitive form, followed by mobile pastoralism, followed by sedentary agriculture, followed by industrial society with its class contradictions that eventually precipitate the socialist state. From this point of view, the interests of the minorities were best served by rapid assimilation (Deal 1984, 23; Connor 1984, 428–30; Tapp 1995, 198). Just as agriculture could only raise the value of the land, sedentarization could only raise the cultural level of the people.

Mongol Spatial Identity

In stark opposition to traditional and contemporary Han perceptions, the pastoral Mongols have historically loved the open steppe and its spatial freedom. Phrases taken from a classic poem written by an ancient nomad from the northern frontier effectively capture the aesthetic sentiment of an alternate spatiality.

As a great yurt are the heavens
Covering the steppe in all directions
Blue, blue is the sky
Vast, vast is the steppe
Here the grass bends with the breeze
Here are the cattle and sheep.

(cited in Jagchid and Hyer 1979, 10)

The same landscape that would exhilarate a nomadic poet would drive a Han poet to despair. For example, Honey (1992, 4) has recorded the sentiment of a Taoist sage who once left his homeland and familiar customs to seek counsel with Chinggis Khan. On his travels he became as obsessed with space as he was with food and clothing:

The land has no trees nor vegetation—only barren grasses; The sky produces ridges
and mounds that swallow large mountains. The five grains do not mature (for food

³This cultural perception is not necessarily accurate. Mongol herders have historically manipulated and/or managed the appearance and structure of “natural” rangeland through a variety of techniques such as selective grazing, mowing, fallow land succession, and anthropogenic fire.

but provide fodder to) produce milk and kumiss: Now in hides and furs, and in a felt tent, I can only break out in smiles.

Traditional Mongol spatiality is rooted in a landscape characterized by mobility and mutability. Mobility is the very essence of herding. Whether on the plains of North America, the savannahs of Africa, or the steppes of Central Asia, pastoral peoples around the world have always needed to move their animals regularly in response to the inevitable spatial and temporal patchiness of grassland resources. But herders and their animals are not the only things moving in their environment. The landscape itself shifts and moves out from under their feet as powerful forces of wind and water erosion transform the terrain day by day.

Production tied to mobility and mutability in such a direct fashion requires and instills an expansive spatial orientation. In nomadic societies, all aspects of social organization are conditioned by and subordinated to constant movement in open space. Every component of traditional Mongol culture—diet, dress, housing, labor, family form, marriage, fertility—functions in service of mobile stock-herding (Jagchid and Hyer 1979, 56; Pasternak and Salaff 1993, 170–97).

For Mongols of Northern China living beyond the Great Wall, enclosed land was sometimes treated as a despised symbol of the cultivating Han civilization. The destruction of walls and other physical barriers has therefore frequently been an act of meaningful social expression. Even as Imperial rulers of China, the Mongols (in sharp contrast to native dynasties and even the foreign Jin and Qing dynasties) never condoned the traditional Confucian tight regimentation of space and never themselves set about the business in any earnest fashion.

In earlier historical periods when spatial distinctions were more pronounced, Mongol assertions of power always involved the complete destruction of city walls. Chinggis Khan and his armies zealously eradicated any built structure on the landscape that was associated with settled agriculture. Grousset (1967, 245) reported how thoroughly and deliberately space was liberated under his command.

Towns were destroyed from pinnacle to cellar, as by an earthquake. Dams were similarly destroyed, irrigation channels cut and turned to swamp, seed burned, fruit trees sawn-off stumps. The screens of trees that had stood between the crops and invasion by the desert sands were down. The handiwork of thousands of years was leveled to steppe again; orchards were laid defenseless to the driving, all-penetrating sandstorms from steppe or desert. These oases . . . were nothing now but arid steppe, this by the nomads' aid making all once again its own.

The invading nomads could not imagine a useful purpose for either the agricultural populations or the tilled land that they conquered. Grousset (280–81) summarized their attitude: "Better to kill off all these useless folk who could neither tend a herd nor travel with them on their nomad migrations, better burn the harvest as they were destroying the towns, let the land lie untilled and be restored to its dignity as steppe." Mongol confiscation of agricultural land for grazing continued in North China for more than a century after conquest (Schurmann 1956, 29).

Certainly this attitude was not just driven by aesthetics. Embedded within their violent assertions of spatial preference, Mongol warriors had a clear tactical and political-economic incentive to restructure the ecologies of rival sedentary societies. Still, after successful conquest, the majority of the population preferred to remain in their traditional habitat north of the Great Wall, where they could preserve familiar

social and economic relations (Khazanov 1994, 245–48). Mongol armies were more interested in extortion than colonization into unfamiliar landscapes.

Chang (1977, 75) reports that even after establishing their empire over China, the Mongol founders of the Yuan Dynasty (1280–1368) were “unsympathetic to walled city construction.” For a time, the Mongols prevented the Chinese from building or repairing city walls in order to display their power. Moule (1957, 13) cites Marco Polo to make the same point: “When the Yuan annexed the Sung they forbade the building of city walls throughout the Empire in order to display its unity, and the inner and outer walls were levelled by the inhabitants day by day.” What walls the Mongols did leave standing simply deteriorated during the thirteenth and early fourteenth centuries, so that subsequent Ming rulers faced quite a task of restoration. Once the Mongols were finally expelled, the Ming dedicated the next two hundred years to rebuild urban fortresses and the Great Wall itself, “lest remnant forces return from the north” (Cheng 1984, 7).

Even after the Yuan Dynasty, certain organizational features of Mongol nomadism helped to shape a traditional cultural system that remained firmly grounded in distinctive spatial characteristics. The Mongols practiced a Eurasian steppe variety of seminomadic pastoralism that was characterized by extensive land use, seasonal change of pasture, and supplementary production from agriculture and/or hunting. Their migrations were usually regular, linear, meridional, and fairly stable, with well-defined temporal schedules of movement that did not involve great distances (Khazanov 1994, 50). In regions of Inner Mongolia, the total distance of seasonal migrations rarely reached 150 kilometers (Lattimore 1951, 73). Most households migrated to the same summer campgrounds year after year, and returned to an even more permanent winter location sometimes only a few miles apart (Lattimore 1962, 420). Contrary to negative caricatures, they did not practice an “aimless pursuit of water and grass,” as the Chinese popular idiom implies (*zhu shui cao er ju*).

Mongol Ecological Identity

Traditional Mongol society reciprocated the Han disdain for alternate lifestyles. Prior to collectivization, Mongol herders of eastern Inner Mongolia maintained a degree of cultural contempt for neighboring farmers, their sedentary lifestyle, and their intensive land use. For example, Jagchid and Hyer (1979, 316) have documented the Mongols’ extensive style of cereal production and the local attitudes that motivated it. In Nasihan and the northern territories of what is now Chifeng City Prefecture, residents used a special sickle with a long handle so that they could stand upright while cutting grass. Seeds were then broadcast by hand, and the herds displaced to other pastures until fall harvest. According to the authors, “this type of agriculture shows the attitude of the nomadic or pastoral Mongol who needed some agricultural products, but did not want to dig in the dirt or stoop in the back-breaking manner necessary when using the short-handled sickles of the Chinese farmer.” They wanted the same cereal produce, but felt compelled to preserve a separate (dignified) identity. Lattimore (1934, 77) specifically reported the hostile traditional attitudes toward intensive agriculture:

The Mongol who settled down did not do so because he felt it was a step up in civilization; he was resigned to it as a makeshift. In the same way, at the present time, the successful Mongol is the man of tents and herds. If the Mongol settles

down, it is because he has been crowded by Chinese colonization until there is no room for his herds. Nothing that he gains can compensate him for the feeling of loss.

The Mongolian language, no less than Mandarin Chinese, reveals important clues about traditional attitudes toward resource utilization. Whereas the Han looked upon cultivation as "opening up wasteland," Mongol herders traditionally viewed the same activity in strongly negative terms. They called it "gajir qagalaqu," or "shattering the land" (Khan 1995, 4). Lattimore (1934, 65) also reported the traditional Mongol perspective on moral depravity and land use as informed by native vocabulary:

The term "hard" is used of Mongols and the term "soft" of Chinese. These terms do not stand only for physical robustness, but for the moral "hardness" of the man who lives in the saddle and makes his camp where he pleases, as against the moral "softness" of the man who is in bondage to the land he tills or the merchandise in which he deals, to his goods and his comfort, the safety of his roof and his walled town.

Like Han farmers, Mongol herders traditionally nurtured their own spatial and ecological preferences. For both groups, cultural land use preferences are rooted in the very practical concerns of optimal food procurement. In arid regions, institutionalized mobility ensures the greatest access to a variety of key resources which are both ephemeral and required in differential quantities throughout the year. Though much has changed in the last half century, distinctive routines and perceptual thresholds still exist and inform local land use decisions.

Settled, Not Sedentary

As Mongols have increasingly practiced a more settled version of pastoralism over the last century, herding communities have made obvious adjustments in their traditional lifestyle and cultural forms. For example, throughout Wengniute, yurts gave way to mud-brick homes several generations ago, and cultivated fields have come to dissect many pastures. Though the once totally dominant experience of mobility has been significantly modified, the daily practice of free movement in open space persisted in most of rural Inner Mongolia right up to the era of decollectivization. In areas like Wulanaodu, where household enclosures have proliferated rapidly, pastoral communities now struggle to maintain a distinctive, though evolving, spatiality that continues to define social practice and to set herders apart from Chinese farmers.

In contemporary Wengniute county, mud walls that are ubiquitous throughout the western farming communities abruptly vanish as one travels eastward and passes into pastoral townships. Of course, fences now crisscross the wide open pastures, but these areas still communicate their own sense of vernacular space. The built structure on the landscape, though settled, by no means guarantees a sedentary existence. For example, the fences still scream impermanence in their every aspect. Typically, they contain few sturdy posts, only broken tree limbs and odd planks of wood stuck into the ground to support a few strands of sagging wire. At times, whole sections of fencing lean or even lie trampled on the ground as livestock wander across. Wire is often broken or missing.

To a Western observer it seems that many residents do not know how to set a post, run a fence-line, or use the equipment properly. But then alternate thoughts

arise: perhaps their heart is simply not in the work . . . or more likely, perhaps indigenous ideas of fencing just have greater tolerance for permeability than outsiders think appropriate. In my experiences as a fellow pedestrian with village residents, I observed that natives expect to cross any fence in their line of motion by pushing the wires below their waist while stepping over. It is too burdensome (and demeaning) to search for the gate. They are quite put out when fence wires are insufficiently slack to accommodate their desire to pass. As they see it, a fence should corral livestock, not humans. From this perspective, the indigenous fence actually reinforces the gestalt of mobility, rather than constrains it. The gestalt is reinforced in another way as well. Fences act as a mechanism by which grass can be passively transferred from one location to the next. Residents watch this happen all the time.

Beyond the fences, the gestalt continues. The majority of houses are still made of mud, with an estimated lifespan of only ten years. They are constantly mended and rebuilt. Abandoned and dilapidated house structures are a common sight in the area; they often stand just a few meters from newly constructed replacement dwellings (which can be erected within a week). Indeed, the entire village landscape remains highly mutable, with structural changes that imply more than just tinkering in the yard. A windbreak goes up here and is torn down again after two days; a cow-shed disappears overnight; a prominent tree is removed and an entire village road displaced in the flurry of a morning of work. The most dramatic changes around the homestead occur in preparation for winter. For example, temporary wooden shelters for livestock are built or expanded, ensilage depots are reconstructed, heavy screens of woven willow twigs are strategically erected to channel windflow, and dung and wood-fuel is stockpiled high beside the house. Adjustments to these seasonal structures go on all winter long before they are removed again at the beginning of spring and a different set of transitory features predominate. To an outsider in search of orienting landmarks, the whole setting has a surreal volatile quality.

Along with the transient landscape, the people of Wulanaodu themselves are involved in a parade of movement that goes on year round. They frequently move their animals, their children, and their supplies back and forth between village center and distant pastures. They constantly scavenge for willow twigs and cow dung to burn in their homes for heat and cooking fuel. They peddle their hides and surplus produce among neighbors. They routinely (several times a month) journey by mule-litter at least twenty kilometers round-trip into the township headquarters to purchase home supplies and foodstuffs. During autumn months they are especially mobile. Horse-drawn carts circulate everywhere, delivering family labor to cut hay in the reserve meadows, then transporting the tied bundles back home. In the month of September, I observed that some families made more than thirty round-trip cart deliveries between their homes and the hayfields some four kilometers away. After that, all winter long, the hay must be transported again to the livestock stationed far out on the range. This arrangement is not exactly nomadic, but neither is it settled. Rather than move their animals to fresh seasonal pastures as Mongols have done for centuries, Wulanaodu residents now essentially move the grass to the animals. But they still move.

Persistent Perceptual Thresholds

Furthermore, the traditional ecological attitudes of Mongol herdsmen still exist in Wulanaodu and manifest themselves in subtle ways. Salient discrepancies of

perception emerged when I began to contrast the language of Han scientists at the Research Station against comments elicited from local residents. Contrasting use of the Chinese term “huang” (waste) provides one clear example. I have already indicated the negative associations of that term within the general context of a national frontier discourse. The itinerant Han scientists in Wulanaodu consciously sustain that discourse in their daily work. Indeed, the director of the Research Station frequently expresses their operational goals in the region by stating a simple slogan: we must turn “yellow” (*huang*) into “green” (*lu*)—that is, turn sand into vegetation. The slogan conveys a pun because the Chinese phoneme “huang” can mean both “yellow” and “desert.” From his ethnic perspective, local rangelands are both aesthetically unpleasing and agriculturally useless. In contrast, Wulanaodu herders use the same term *huang* with more positive connotations. They use it to discriminate “living sand” from “dead sand.” They perceive that sand which appears yellow can sustain vegetation, while sand which appears white will not. Therefore, only white sand deserves to be considered infertile, though it also has a certain utility. Yellow sand, to their way of thinking, remains “alive” with potential.

Another significant contrast involves the way resident herders routinely assert the value of landscape diversity. Height and density of grass is seldom their only consideration in evaluating rangeland preferences, as it was when I queried personnel at the Research Station. The presence of trees, hill slopes, and even patches of sand are explicitly considered desirable. Grass is good to eat, residents acknowledge, but animals also need browse matter, moisture, shade, protection from wind, and exposure to many kinds of forage, both within a single season and in variable quantities throughout the year. In fact, to them the relative value of a given pasture will always depend upon the season of use. Traditionally, for example, a suitable winter pasture could do without water (it was provided by snow), but absolutely required a good wind break. Suitable spring pastures required position on the southern slopes of a hill, where snow melts and grass grows quickest. Summer pastures required access to water, grass, and salts, while autumn pastures primarily required particular grasses that promote lactation and fat buildup (Szykiewicz 1982, 22). Landscape diversity is a critical dynamic of seasonal pasturage, but it also determines the quality of grazing within each season, especially in the summer when an abundant variety of grasses is necessary to assure good lactation and thick fleece growth. A recent study by Fernandez-Gimenez (1995, 10) has confirmed that landscape diversity (both between and within seasons) is consistently valued among herders all across Mongolia.

In relation to the Mongol value of landscape diversity, I was especially struck by how often residents responded positively to the presence of dune sand. As I probed their comments, I learned that many herders consider sand a necessary and valued resource on the landscape. First and foremost, they assert that sand helps to regulate the body temperature of their livestock. They believe it helps to keep them warm in the winter and cool in the summer. Yet, it is not really the thermal properties of sand itself that Mongol herders value so much as the greater function of shelter that the dunes provide. Mobile sand dunes and the jagged terrain formed by widespread erosion processes help to protect animals from excessive exposure to both wind and sun. They can find refuge on the leeward side of any mound, or wallow among the deeper topographical depressions. This land structure provides an absolutely critical asset for stabilizing microhabitat temperatures in a region that has so few tree-stands and otherwise offers such little shelter. (Only thirteen households in the village have constructed permanent [stone or brick] shelters for their livestock.)

Even more intriguing, residents view and utilize sand as a factor of production in its own right. Goat herders of northern China have long engaged in a practice that is known locally as “can shazi” (adding sand). When they shear their goats in late April to collect the fine short hairs from which cashmere is produced, local herders universally grind sand into the shocks of hair. They do this to inflate the weight of their produce and thereby increase their market earnings. They have developed a method that efficiently binds sand to hair so that even after the shocks dry out, the sand will not separate. The sand that is most prized for this purpose is the fine white sand that cannot sustain vegetation growth. Thus, even though the sand may be “dead” in terms of biological fertility, it is not barren in this economy.

In Wulanaodu, dune sand also functions to some degree as a symbol of livelihood identity. For example, during household interviews, I asked people to explain why Mongols tend to live in areas characterized by sand. No respondent ever challenged the premise of the question. Most of them answered by reference to human and animal population growth. Others made veiled references to the biases of the national political-economy, Han colonialism, and historical experiences of ethnic exploitation. I was surprised, however, when a few respondents specifically asserted that their ancestors had pursued the sand as a preferred environment. From their point of view, residents have not suddenly found themselves living in a desert-steppe environment today merely because they overgrazed the range, but because the utility of the diverse landscape had long ago beckoned herdsmen to settle in the area. Conditions on the range have since deteriorated, they concede, but people and land have mutually selected each other through a deliberate historical process. In this sense, residents legitimately consider dune sand to be the constituent element of a preferred home environment and life-style.

Considering their unique material and symbolic perspectives, it is not surprising that contemporary Wulanaodu herders do not generally share the same stark view of their environment as either the Han research scientists or the Chinese State. One indication of their respect for the land is the prevalence of faith in its resiliency. Many members of the community, including some of the most educated and elite, express the opinion that even landscapes that are totally dominated by moving dunes can be restored to “full productivity” (*huifu shengchan nengli*) within a mere three years time. The average estimate of recovery time for all village respondents was 5.9 years. In contrast, five out of eight respondents among the Han scientists at the Research Station said that sand-covered landscape would require more than fifteen years to restore a stable vegetation cover. Their average estimate of recovery time was fourteen years, or nearly two-and-a-half-times longer than the view from native perceptions.

Enclosure Policy

Grassland degradation was already quite advanced when the long process of decollectivization began in the early 1980s. But Chinese officials hoped to protect against further ravages expected to follow from minority herders grazing private livestock on public range. They introduced the “double contract” household responsibility system of management, whereby local production brigades distributed land use rights (in 1984), as well as animals (in 1981), among independent herding families.

Privatization of rangeland resources was supposed to be just the first step in a long series of adjustments intended to “rationalize” the animal husbandry sector. Li

Yutang, Director of the Grassland Division of the Ministry of Agriculture in Beijing, has outlined the basic reform strategy: first, distribute animals to private households; second, distribute grazing lands; third, assign carrying capacities for each plot of land; and finally, implement incentives and sanctions to enforce a sustainable balance between animals and vegetation at the household level (NRC 1990, 33; Li Yutang 1992). Fence wire was the favored medium to fix people and animals in space, although implementation of policy goals remains subject to the initiative and financial capabilities of each household.

A great deal of social momentum for rangeland parcelization has come from grassland scientists within China, who clearly support the recent proliferation of household enclosures. The following statement is representative of contemporary conventional wisdom on the subject: "Grass yields have been doubled or quadrupled merely by fencing the original pasture. . . . Productivity will be enhanced if pasture improvement and scientific management are put into practice" (Li Zhou 1990, 44). Similar praise can be found in virtually any Chinese account of grassland problems and solutions (see Wang et al. 1993, 31; Hu 1992, 210–11; Chang et al. 1990).⁴ In addition to ameliorating ecosystem conditions, fences are also widely recommended on principles of social cohesion: they are said to empower private citizens to work in partnership with the government to rehabilitate national rangelands (see Ba 1993; Xinhua 1985). In theory, enclosed land would force every household to confront personally the extreme contradictions between forage demand and forage availability once livestock was contained *inside* a bounded territory. In practice this has not happened, and the national rangelands have actually eroded further, in no small part because livestock largely remains *outside* private enclosures.

Contrary to the purpose of parcelization, residents graze their animals as sparingly as possible on enclosed land. Since decollectivization, those households who could actually afford enough costly wire to enclose their pasture allotments have faced no external pressure to alter their traditional grazing habits, and so keep livestock outside their own fences so long as forage is available on the wide unenclosed range. They essentially pick clean the grass of those too poor to fence, saving their own for hay production or emergency grazing during winter and spring.

Elite residents with the resources to acquire fencing early have thus enjoyed a tremendous advantage in local competition for present and future grassland resources. Although community land and livestock were originally distributed among households in approximately equitable fashion, the fact remains that without fence wire to protect the integrity of land use rights, community resources quickly polarized. Those with the greatest financial leverage have enclosed the most immediately productive tracts of land, sometimes oblivious to proprietary contracts held by others. Furthermore, they have roped off far more than their allotted share of rangeland, squatting until the day that neighbors dare to push them back on rightful boundaries. Over time, more and more households have gained the financial capacity to claim some portion of rangeland, but they have in turn adopted the same exploitative grazing strategies. Any potential relief that enclosures might provide the system through rotational grazing with public access land is largely diluted because of uncoordinated herding routines among households. Nor does rotational grazing occur within enclosed land on any large scale. When households manage to acquire

⁴A notable exception is found in a study by Liu (1990, 97–100), who explicitly recognized the relationship between expanding enclosures and grazing pressure intensification in surrounding grasslands.

fence wire, they typically seek to expand their net holdings, rather than parcel up what they have by subfencing.

The bottom line is that privately enclosed land area has slowly expanded since 1980 while a minority of residents have increasingly grazed large numbers of livestock on highly vulnerable unfenced rangeland, thereby accelerating wind and soil erosion processes across vast territories only to protect their own isolated pastures. In the township of Nasihan, officially sanctioned stocking ratios have an upper threshold of only 2.15 sheep equivalent units (SEU)³ per hectare. Yet, out on the unenclosed range, Wulanaodu stocking ratios through the summer/fall growing season have not fallen below 3.0 since decollectivization, and have even climbed as high as 5.96 in 1989. That ratio exceeds the recommended carrying capacity by a factor of 2.7. The result has been a large-scale physical transformation of vegetation and topography. As a general rule of thumb, the lushest grass cover has been relocated to the haven of private enclosures, while unenclosed range has increasingly been converted into semifixed and moving sand dunes (see Williams 1996).

These developments are by no means unprecedented. For example, on American rangelands fully a century before Chinese decollectivization, the proliferation of barbed-wire fencing changed forever the dynamics of local power relations. Ranchers at first complained that such fences (used primarily by cultivating "sodbusters") caused injury to livestock and restricted free movement, so barbed wire became known as "devil's rope" (Evans 1991). But soon wealthy cattlemen themselves adopted fence wire as a tool in the largest land grab in history without legal entitlement, and land-poor cowboys launched "fence-cutting" wars across the prairie (McCallum and McCallum 1965). Unlike the American drama, however, the spatial revolution in pastoral China has basically precipitated economic stratification and not merely magnified preexisting disparities. Furthermore, rich and poor Mongols alike express their dissatisfaction with the proliferation of fence wire. Their point of view seems to be grounded more by culture than by class. Finally, Mongolian fences have not suddenly appeared as an internal adaptation to an unfamiliar ecozone on the part of recent in-migrants. Instead, they have been thrust upon indigenous communities by outsiders in the name of modernity.

It is likewise interesting that decollectivization in Mongolia proper has not (yet) resulted in rangeland privatization or enclosure (see Mearns 1993a, 1993b; Szykiewicz 1993). Mearns (1993a, 77) does report some increasing restriction in the total area of pasture to which particular groups enjoy access, but herders still follow an "essentially nomadic lifestyle" (1991, 25). Indeed, he has warned of the dangers of uncontrolled privatization (1991, 32), and argued that the minimal territorial unit required to sustain pastoral livestock production in desert-steppe environments corresponds to boundaries on the order of 3,500 square kilometers (Mearns 1993b, 85). The herders themselves retain a strong preference for wide open spaces (Humphrey et al. 1993, 58), and enjoy the political clout to safeguard them.

Enduring Cultural Bias

What makes the chaotic grazing practices of Wulanaodu possible? Both the ambiguity of contractual boundaries and the exercise of power through nepotism on

³One SEU is defined as any combination of animals with a total forage demand roughly equal to that of one adult ewe, or 2.4 kg. of dry matter per day. Thus, following the Chinese convention of calculation, each sheep counts as 1, each cow counts as 5, each goat as 0.9, each horse as 6, each donkey as 3, and each camel as 7 SEUs.

the part of local officials have been instrumental in allowing this situation to arise. But entrenched cultural perceptions are also at work and actively inform both the policy formulation of Han officials in Beijing and the daily praxis of Mongol herders in Wulanaodu. First, consider the multiple role of Han cultural bias. Not only have traditional attitudes informed the historic decision to enclose national rangelands, but cultural bias has also dictated the stringent manner in which policy would be implemented. Opportunistic land grabs are actually encouraged, rather than curtailed, by grassland institutions and policy statements as tailored in Beijing.

Shortly after the distribution of land use rights, policy statements circulated among Wulanaodu officials which stipulated that land must be well managed as a condition of tenure. Otherwise, pasture resources might be confiscated and given to households more capable of using it productively. Good management is defined as a two-step process involving, first, "protection," which means surrounding property with fence wire, and, second, "construction," which means developing productive capacity by planting grass, grain, and trees (WRZW 1984). At village level implementation, this condition has been construed as outright license for illicit possession of property—whoever has the leverage to enclose land, by definition becomes the rightful caretaker.

The policy perpetuates the Han cultural notion that any uncultivated land is barren and waste, and that any resident who does not participate in the "construction" of rangeland does not deserve a place on the landscape. If land is not fenced and intensively utilized, others may rightfully confiscate it. In practical terms, the enclosure policy thus dictates that those residents who are either too poor to buy fence wire or simply uninterested in restructuring the local environment along the lines prescribed by central government authorities will be eliminated as unfit for modern China, an evolutionary dead end not worthy of legal protection.

Thus, the enclosure policies are designed to wage ideological battle as much as they are intended to bring land degradation under control. To central authorities, it seems the expanding northern deserts represent the "reproduction of primitivism at the peripheries of modern society" (Harrell 1995). That is, moving dunes can only be tamed by scientific and technological solutions that will redeem the land as well as the people. If residents do not endorse the formula, or if the formula is not working as expected, then "sabotage" by "backward" natives must be the explanation. This sentiment emerges frequently in public forums (see Xu 1993; Deng 1992). It was also explicitly communicated to me by Wengniute County officials who believe that local land is best utilized as intensive agriculture rather than as extensive range. From their perspective, the major resource management problem today is the cultural stubbornness with which Mongol pastoralists refuse either to make the transition or to acquire the technology necessary to increase their own productivity (Guo 1993).

Interestingly enough, the short- and medium-range environmental consequence of proliferating household enclosures has been to render rangeland into two distinct categories: protected fields of intensive fodder production or unprotected moving sand dunes. It is a policy to make over the grasslands into the very image of Han stereotypes that says land must be cultivated (intensively managed) or it is barren wasteland. Through the medium of fence wire, that perceptual bias is becoming a reality for local residents. Policy effectively restructures the range so that the indigenous heterogeneous patch matrix increasingly turns into a dichotomized (internally homogenous) patchwork of green and yellow, grass and sand, fodder and dune.

Now consider the persistent role of cultural bias among Mongol herders. Wulanaodu residents shared with me some introspective reflections about their

changing life-world. They consider themselves to be adapting into a rather strange breed of people: "not quite farmer and not quite herder, not quite Mongol and not quite Han, not quite traditional and not quite modern." They understand themselves to be under transition, and they sense that many daily activities that now occupy most of their time will not fit their lives in the near future. They know their production capacities are quite limited both as herder and as farmer, but do not have the wherewithal to specialize exclusively in either one. They can see the inevitability of a less extensive grazing system, but cannot see how to make it profitable with the labor, capital, and land at their disposal. They know more transformation is coming, but do not know what it will entail or how they will survive it. They are not optimistic.

Confronted with this identity crisis, local residents have effectively appropriated the technological materials newly thrust into their daily life-world to perpetuate their own indigenous values. For the moment, they have creatively finessed the transition between a traditional mobile life-style based upon extensive grazing and a future life-style based upon intensive land use. They achieve this transition in symbolic terms by transforming the essential signification of the fence from an image of sedentarization to an image of mobility. In Wulanaodu, fences do not function to keep animals inside an enclosure, they function to keep animals out. They do not, contrary to policy intentions, attach livestock to space. Rather, they guarantee their rotation through space.

Cohen (1985, 28) has remarked upon the "resourcefulness with which people use symbols to re-assert community and its boundaries when the processes and consequences of change threaten its integrity." Using a bovine metaphor that herders would find comforting in its familiarity, he argued that social change is often marked by a regurgitative process that amounts to a veiled refusal to swallow:

Like a cow chewing its cud, a community tends to adopt new social structures that originate from outside its boundaries only by slowly transforming them in the process of importation, fundamentally reconstituting them with indigenous meaning (46). . . . In this way structures imported across the boundary provide new media for the expression of native values. . . . People can turn these alien structural influences to the service of their indigenous symbolic systems and thereby symbolically reinforce their customary boundaries.

(75)

From this point of view, the chaotic grazing practices of contemporary Wulanaodu herders do have their symbolic (as well as material) purpose. The grazing system, and the indigenous use of fencing that enables it, are transitional adaptations that permit old grazing patterns to coexist with new ideological and economic realities imposed by a state intent upon modernization. In areas where pastoralism is still a way of life, but where the traditional environment of pastoralism is under assault, the landscape itself has become a potent symbolic device. Walls, fences, and other physical barriers that challenge traditional Mongol spatiality are all instruments in the local struggle for ethnic expression.

Landscape as Medium of Expression

Where sand and grass once mingled intermittently across the range, now they separate more neatly into discrete concentrations that follow the shadow of private

fence lines. Increasingly, the landscape features of sand, grass, and fence make up a single constellation that signals the “naturalization” of inegalitarian ideology. By that I mean environmental stratification corresponds with social stratification so that both processes mutually reinforce each other in a manner that seems perfectly “natural.” Landscape now functions more directly as both an outcome and a determinant of social action. It is both structured and structuring. For example, elite residents control the most fence wire and the most grass. This is a socially structured environmental outcome. On the other hand, the elite control of resources favors their private economic production and facilitates the expansion of their privileged status. This is an environmentally structured social determinant. But that is not all. The newly structured landscape also functions as a medium of nonverbal communication for local residents.

Given the historical role of Wulanaodu as a “model” community in the forward progress of Maoist socialism, local landscape interpretation could hardly be a trivial matter, either for residents or the state. Once a symbolic center for the promise of all Chinese pastoralism, the physical environment at the famous “Red Star” brigade is highly charged with political inference. The local landscape is thus predisposed to play an important role in ideological contestation at a local, regional, and even national level.

Residents do not generally look upon the erection of new fences in neutral terms. Nor do they usually reflect upon new enclosures in the benign context of “dune fixation.” Rather, they tend to reflect in very personal terms about how it will affect their social relations. For example, they may perceive a neighbor’s fence as a challenge of entitlement (“hey, I was going to fence that land”), as a threat (“you are trying to cut me off”), as ostentatious display (“when did he get so much money?”), or simply as a nuisance (“now I must go around this damn field”). But residents also reflect upon new enclosures in more abstract terms that relate to their collective identity. For example, they also look at a neighbor’s fence and perceive issues such as community threat (“that expansion just brings us all one step closer to the extinction of open-range grazing”), or government corruption (“how did he get permission to claim that land?”), or administrative failure (“it’s everyone out for themselves”), or local nepotism (“he got a loan but I did not”), or exploitative state relations (“we have no production support services”). I heard all of these perspectives expressed by residents during the course of my fieldwork.

As one might expect, enclosure disputes have motivated many neighborly feuds, even between families or friends that once enjoyed close and cooperative relationships. Although I cannot possibly quantify the rise in incidence of these kinds of conflicts, I can indicate some measure of the turmoil by describing the wide variety of circumstances in which serious boundary battles have been known to occur. First, heated arguments arise practically whenever a new fence goes up, if for no other reason, simply because property boundaries have never been clearly identified. Thus, I witnessed one incident where a man cracked a woman over the head with a shovel when she ignored his protests over placement of a fence post. Second, vandalism or outright theft of fence wire frequently occurs, especially after a new enclosure is erected. Third, violent arguments often arise over the attempt of one neighbor to use another neighbor’s line of fence for his own enclosure. Sometimes, the dispute can only be settled by running adjacent parallel fences across the same field. Fourth, many conflicts begin when one neighbor actually circumscribes the gate of another, thereby cutting off all routes of entry to his private pasture. Fifth, animal incursions across enclosed territory especially tend to incite fury. I know of several incidents where

disgruntled neighbors brutally attacked trespassing animals, sometimes dismembering legs and horns.

Symbolic Sabotage

I also witnessed how violations of private enclosures sometimes soared beyond the mundane to become highly symbolic acts of significance that captured the attention of the entire community. The best example is an incident of conflict that involved the Han scientists at the Research Station and a local favorite son named Budufu.⁶ To relate the relevance of this story properly, I must provide some background commentary.

Since 1970, the Research Station has controlled a sizeable portion of enclosed land (about 3,000 hectares) in the village of Wulanaodu and throughout Nasihan Township to conduct experiments in desert fixation and forestation. A billboard in the conference room specifically asserts the following operational goals: "to change the natural appearance of the area, and to raise the living standards of the people." But the relationship between resident and scientist has been problematic through the years, vacillating between the norm of passive acceptance and the extreme of open hostility.

Located in the residential center of Wulanaodu, the station has spatially isolated itself from the community by constructing high thick walls all around the compound. The staff maintains a working relationship with just a few key residents. Most villagers openly grumble about the confiscation of so much land and the strict prohibition against both grazing and hay production in research areas. For their part, the scientists claim that they only enclosed the most desolate tracts of land for experimentation, which is essential to plan the restoration of the entire ecosystem. They insist it must lie fallow to serve as a valid control.

In recent years, Budufu has been an important affiliate and channel of ingress into local affairs for the research staff. Budufu is 40 years old and lives just across from the front entrance to the Research Station. Like the community at large, Budufu and the scientists have a long-standing but ambivalent relationship. They often cooperate for mutual benefit, yet each deeply distrusts the other, not only because of class and ethnic differences, but also because of perceived conflicts of interest over the use of local resources. Fluctuating relations with Budufu tend to serve the staff as a measure for the state of their relations with the whole village.

For many years now, Budufu has accepted token wages (2.8 yuan per day) to protect the station assets from vandalism. No resident would dare violate research property with Budufu as caretaker because of his clout in local politics. He is older brother to the village Party secretary, cousin to the village chief, nephew to the chief of Nasihan Township, cousin to the township police chief, and himself an elected village representative. His work contract with the scientists might alternately be construed as a bribe, since it requires no specific labor (they also employ a full-time Han groundskeeper), and since he might otherwise consider his self-interests to lie in opposition to the work of the station. In addition to the wages he earns, Budufu also enjoys the exclusive privilege of cutting hay on several hectares of experimental meadows. Despite these benefits, Budufu is neither a lackey of the scientists nor an

⁶I am using a pseudonym, although all other details are factual.

apologist for their activities in the village. On the contrary, he is occasionally their sharpest critic over specific management issues, precisely because his influence carries weight with them just as it does with the villagers. He thus enjoys a unique role as mediator that gains him social prestige in both camps.

It created quite a sensation, therefore, when it was revealed that Budufu himself took a sledgehammer and smashed down the rear gate of the Research Station wall one rainy night in order to lead a herd of fifteen cows to feed on the luxuriant garden enclosed within the compound. The following day, the junior director of the station surveyed the damage and easily tracked the hoof prints back to the property of Budufu. Then he called for a police investigation, trumping Budufu's local clout by appealing to county level officials. They also followed the evidence back to Budufu, whereupon he admitted to breaking down the gate and immediately paid a fine of 500 yuan. His contract with the station was terminated.

The interesting question is: why did he do it? Budufu derived no economic advantage from this deliberate sabotage—his cows were not without supplies of hay, and they only consumed a few rows of corn and sorghum anyway. He did, however, gain much symbolic capital in the community from an action that most people interpreted as noble ideological defiance. The point, obviously, was not to feed the cows, but to desecrate the compound and the garden in particular. The garden had become a sore point in recent months when the junior station director decided to improve cash flow by contracting the large irrigated plots out to Han service personnel at the station (the cook and the groundskeeper). When word of this leaked into the village, residents felt insulted that the land had not been awarded to local households instead. The decision was perceived as just another example of Han chauvinism and colonial conquest.

Although some residents did not support the action Budufu took, everyone understood it as a brave assertion of local identity—Mongol over Han, herder over scientist, worker over intellectual, resident over colonizer. His action was translated into words for me by one supportive neighbor: "The station exploits local residents by removing good land from local production. It is time for the Han to leave and return all the land to its rightful occupiers." Budufu's attack surely had multiple dimensions of motivation, but whatever else it may have communicated, it was in fact an assault literally against the erected wall of separation. I suspect that Budufu was emboldened to commit the symbolic deed precisely because it was most meaningful coming from him. Though prosecuted, Budufu was applauded by many residents for (at least temporarily) reversing the established order and restoring enclosed land to pasture. For a community of Mongol herders, no symbol could better make that statement of opposition than a desecrated compound wall.

Summary and Implications

I have shown that ideologically informed perceptions and attitudes are indeed highly relevant in shaping (and contesting) the national policies and the local practices that have historically structured (and continue to restructure) the ecological environment of Wulanaodu. I have provided evidence that local landscape is a social construct that bears the tangible marks of power and conflict. It is at once a historical product, an economic determinant, and a continuous medium of expression between and among various social groups.

Most notably, this study has revealed the national discourse of "grassland construction" to be a political myth. The enclosure policy effectively reconstitutes the open range in accordance with the environmental preferences and cultural biases of the Han Chinese. Regimented space replaces open horizons, dichotomous patchwork replaces a heterogeneous patch matrix, concentration of resources replaces landscape diversity, sharp boundaries replace the casual mix of grass and sand. The reconstructed range increasingly proves the old colonial stereotype: land that embodies no labor has no value—it is only barren wasteland. Perhaps Chinese officials and scientists obfuscate the local impact of household enclosures precisely because they have so much to gain (in the way of ideology) from their lack of clarity. The status quo serves powerful political interests by reproducing a national discourse concerning the frontier that affirms fundamental assumptions about the accomplishments of the reform era, the benevolence of the Chinese state, and the superiority of Han civilization.

Despite the public rhetoric, huge population transfers, technological exhibitions, and rangeland privatization are not instruments in the construction of northern grasslands so much as they are instruments of transformation. After more than a century of central government policy directives that have now culminated in the proliferation of household enclosures, the arid-steppe environment has not been constructed; it has been deconstructed and slowly refashioned into an environment that contradicts the spatial and ecological preferences of indigenous herders. In addition to the social disorientation and general anomie that ensue, the dramatic changes also disrupt long-standing feedback linkages between residents and their production environment.

Visual cues on the landscape that once guided local herders as they made daily and seasonal resource management decisions no longer provide the same information. The indigenous patch matrix has been disrupted so thoroughly that residents are less confident about reading the landscape for purposes of production. They are not so clear how to interpret the new patterns they confront. Consequently, herding skills have become less relevant and herders have become more apathetic about their ability to control livestock and herd dynamics. More and more, households have no grazing strategy; they simply let the animals wander the range where they will. As local jargon has it, "graze as you please."

Mearns (1993a, 78) has noted the same general scenario at work among herders in the nation of Mongolia: "The dismantling of the formal institutions of state socialism, and the hardships and political instability of economic transition, have led to conditions of structural chaos in which it is difficult for all producers to anticipate signals in their production environment." In Wulanaodu, rangeland restructuring has rendered much indigenous ecological knowledge superfluous. The ability to respond skillfully to subtle environmental cues is becoming a lost art. This fact is the most far-reaching resource management consequence of the new order. When coupled with the optimistic views about land resilience and sand utility, the erosion of traditional perceptual thresholds could have disastrous consequences for local soil conservation as the transition to a more sedentary, agropastoral economy drags slowly onward.

List of References

- ANDERSON, BENEDICT. 1983. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. London: Verso.

- BA GEN AND THE CHIFENG GRASSLAND WORK STATION. 1993. "Jiating Xuqun Xiao Cao Kulun Jianshe Qianyi" [Overview of householder herd and grassland construction policy]. *Nei Menggu Cao Yie* 2:19.
- BARFIELD, THOMAS J. 1989. *The Perilous Frontier: Nomadic Empires and China*. Oxford: Basil Blackwell.
- CHANG SEN-DOU. 1977. "The Morphology of Walled Capitals" In *The City in Late Imperial China*, edited by G. William Skinner. Stanford: Stanford University Press.
- CHANG XIAOCHUAN, CAI WEIQI, and WU QI. 1990. "Effects of Fencing on Soil-Vegetation Systems and the Use of Grasslands by Herbivorous Animals." In *International Symposium on Grassland Vegetation*. Beijing: Science Press.
- CHENG DALIN. 1984. *The Great Wall of China*. Hong Kong: South China Morning Post.
- COHEN, ANTHONY. 1985. *The Symbolic Construction of Community*. New York: Tavistock Publications.
- CONNOR, WALKER. 1984. *The National Question in Marxist-Leninist Theory and Strategy*. Princeton: Princeton University Press.
- COSGROVE, DENIS, and STEPHEN DANIELS, eds. 1988. *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments*. New York: Cambridge University Press.
- CRONON, WILLIAM. 1983. *Changes in the Land: Indians, Colonists, and the Ecology of New England*. New York: Hill and Wang.
- DE RIENCOURT, AMAURY. 1958. *The Soul of China*. London: Honeyglan.
- DEAL, DAVID. 1984. "The Question of Nationalities in Twentieth Century China." *Journal of Ethnic Studies* 12(3):23-53.
- DENG NAN. 1992. "Poor Environment a Threat." Quoted in *China Daily*, 8 May.
- DI COSMO, NICOLA. 1994. "Ancient Inner Asian Nomads: Their Economic Basis and its Significance in Chinese History." *Journal of Asian Studies* 53(4):1092-1126.
- DOVE, MICHAEL R. 1985. "The Agroecological Mythology of the Javanese, and the Political Economy of Indonesia." *Indonesia* 36:1-36.
- . 1994. "The Existential Status of the Pakistani Farmer: Studying Official Constructions of Social Reality." *Ethnology* 33(4):331-51.
- DUNCAN, JAMES. 1990. *The City as Text: The Politics of Landscape in the Kandyan Kingdom*. New York: Cambridge University Press.
- DUNCAN, JAMES, and NANCY DUNCAN. 1988. "(Re)reading the Landscape." *Environment and Planning D: Society and Space* 6:117-26.
- EVANS, CHARLOTTE. 1991. "Barbed Wire, the Cutting Edge in Fencing." *Smithsonian* 22(4):72-83.
- FERNANDEZ-GIMENEZ, MARIA. 1995. "Mobility, Reciprocity and Local Ecological Knowledge: The Basis for Sustainability on the Mongolian Steppe?" Paper presented at the Association for Asian Studies Conference in Washington, D.C., April 6.
- GARLING, TOMMY, and REGINALD GOLLEDGE, eds. 1993. *Behavior and Environment: Psychological and Geographical Approaches*. New York: North Holland.
- GIBSON, JAMES. 1979. *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin.
- GOLLEDGE, REGINALD. 1991. "Cognition of Physical and Built Environments." In *Environment, Cognition and Action*, edited by T. Garling and G. W. Evans. New York: Oxford University Press.
- GROUSSET, RENE. 1967. *Conqueror of the World*. Translated by Denis Sinor and Marian Mackellar. London: Oliver and Boyd.

- GUO YONG. 1993. (Vice Governor [*fu qi zhang*] of Wengniute County). Interviewed by author. Wulanaodu Grassland Research Station, IMAR, 3 September.
- HARRELL, STEVAN. 1995. "Introduction: Civilizing Projects and the Reaction to Them." In *Cultural Encounters on China's Ethnic Frontiers*, edited by Stevan Harrell. Seattle: University of Washington Press.
- HONEY, DAVID. 1992. "Stripping off Felt and Fur: An Essay on Nomadic Sinification." *Papers on Inner Asia*, no. 21. Bloomington: Research Institute for Inner Asian Studies.
- HU MING GE, ed. 1990. *Chifeng Caodi [Chifeng Grasslands]*. Beijing: Agricultural Press.
- HUMPHREY, CAROLINE, et al. 1993. "Attitudes to Nature in Mongolia and Tuva: A Preliminary Report." *Nomadic Peoples* 33:51-61.
- JACKSON, JOHN BRINCKERHOFF. 1984. *Discovering the Vernacular Landscape*. New Haven: Yale University Press.
- JAGCHID, SECHIN. 1989. *Peace, War, and Trade Along the Great Wall: Nomadic-Chinese Interaction through Two Millennia*. Bloomington: Indiana University Press.
- JAGCHID, SECHIN, and PAUL HYER. 1979. *Mongolia's Culture and Society*. Boulder, Colo.: Westview Press.
- JONES, FRANCIS C. 1949. *Manchuria Since 1931*. London: Royal Institute of International Affairs.
- KHAN, ALMAZ. 1995. "Who are the Mongols? State, Ethnicity and the Politics of Representation in the People's Republic of China." In *Negotiating Ethnicities in China and Taiwan*, edited by Melissa Brown (in press).
- KHAZANOV, ANATOLY M. 1994. *Nomads and the Outside World*, 2d ed. Translated by Julia Crookenden. Madison, Wis.: University of Wisconsin Press.
- LATTIMORE, OWEN. 1934. *Mongols of Manchuria*. New York: The John Day Company.
- . 1941. *Mongol Journeys*. New York: Doubleday, Doran and Company.
- . 1951. *Inner Asian Frontiers of China*, 2d ed. New York: American Geographical Society.
- . 1962. *Writings of Owen Lattimore, Studies in Frontier History, Collected Papers 1929-58*. New York: Oxford University Press.
- LI YUTANG. 1992. (Executive Vice-President of China Pratacultural Association and Senior Economist for the Ministry of Agriculture). Interviewed by author. Beijing, 5 June.
- LI ZHOU. 1990. "Economic Development in China's Pastoral Regions: Problems and Solutions." In *The Wool Industry in China*, edited by John Longworth. Victoria, Australia: Inkata Press.
- LIU YUMAN. 1990. "Economic Reform and the Livestock/pasture Imbalance in Pastoral Areas of China: A Case Study of the Problems and Counter Measures in Balinyou Banner." In *The Wool Industry in China*, edited by John Longworth. Victoria, Australia: Inkata Press.
- LONGWORTH, JOHN, and GREGORY WILLIAMSON. 1993. *China's Pastoral Region: Sheep and Wool, Minority Nationalities, Rangeland Degradation and Sustainable Development*. Wallingford, UK: CAB International in association with the Australian Centre for International Agricultural Research.
- LOW, SETHA, and IRWIN ALTMAN. 1992. "Place Attachment: A Conceptual Inquiry." In *Place Attachment*, edited by Irwin Altman and Setha Low. New York: Plenum Press.

- LUO ZHEWEN, and ZHAO LUO. 1986. *The Great Wall of China in History and Legend*. Beijing: Foreign Language Press.
- MA RONG. 1984. *Migrant and Ethnic Integration in Rural Chifeng, Inner Mongolia Autonomous Region, China*. Providence: Brown University Press.
- MCCALLUM, HENRY, and FRANCES MCCALLUM. 1965. *The Wire that Fenced the West*. Norman: University of Oklahoma Press.
- MCGOVERN, THOMAS, et al. 1988. "Northern Islands, Human Error, and Environmental Degradation: A View of Social and Ecological Change in the Medieval North Atlantic." *Human Ecology* 16(3):225-70.
- MEARNS, ROBIN. 1991. "Pastoralists, Patch Ecology and Perestroika: Understanding Potentials for Change in Mongolia." *IDS Bulletin* 22(4):25-33.
- . 1993a. "Pastoral Institutions, Land Tenure and Land Policy Reform in Post-socialist Mongolia." PALD Research Report No. 3, International Development Studies (IDS), University of Sussex, Brighton.
- . 1993b. "Territoriality and Land Tenure among Mongolian Pastoralists: Variation, Continuity and Change." *Nomadic Peoples* 33:73-103.
- MESERVE, RUTH. 1982. "The Inhospitable Land of the Barbarian." *Journal of Asian History* 16(1):51-89.
- MEYER, JEFFREY. 1991. *The Dragons of Tiananmen: Beijing as a Sacred City*. Columbia: University of South Carolina.
- MOULE, ARTHUR. 1957. *Quinsai: With Other Notes on Marco Polo*. Cambridge: Cambridge University Press.
- NORTON, WILLIAM. 1989. *Explorations in the Understanding of Landscape*. New York: Greenwood Press.
- (NRC) NATIONAL RESEARCH COUNCIL. 1992. *Grasslands and Grassland Sciences in Northern China*. National Academy Press: Washington, D.C.
- (NSRZ) NASIHAN SUMU RENMIN ZHENGFU. 1991. "Lizu shachu shiji, xingjian jiating xiaocao kulun" (Based upon aridland realities, construct household enclosures). Policy paper of the People's Government of Nasihan Sumu, written 15 August.
- PASTERNAK, BURTON, and JANET SALAFF. 1993. *Cowboys and Cultivators: The Chinese of Inner Mongolia*. Boulder, Colo.: Westview Press.
- RAPOPORT, AMOS. 1982. *The Meaning of the Built Environment: A Nonverbal Communication Approach*. London: Sage Publications.
- . 1983. "Environmental Quality, Metropolitan Areas and Traditional Settlements." *Habitat International* 7(3/4):37-63.
- SAMUELS, MARWYN, and CARMENCITA SAMUELS. 1989. "Beijing and the Power of Place in Modern China." In *The Power of Place: Bringing Together Geographical and Sociological Imaginations*, edited by John Agnew and James Duncan. Boston: Unwin Hyman.
- SCHURMANN, HERBERT FRANZ. 1956. *Economic Structure of the Yuan Dynasty* (translation of chapters 93 and 94 of the Yuan Shi). Harvard-Yenching Institute Studies, vol. 16. Cambridge: Harvard University Press.
- SILVER, TIMOTHY. 1990. *A New Face on the Countryside*. New York: Cambridge University Press.
- SZYNKIEWICZ, SLAWOJ. 1982. "Settlement and Community among the Mongolian Nomads." In *East Asian Civilizations: New Attempts at Understanding Traditions*, vol. 1: *Ethnic Identity and National Characteristics*, edited by Wolfram Eberhard, Krzysztof Gawlikowski, and Carl-Albrecht Seyschab. Germany: Simon and Magiera.

- . 1993. "Mongolia's Nomads Build a New Society Again: Social Structures and Obligations on the Eve of the Private Economy." *Nomadic Peoples* 33:163–72.
- TAPP, NICHOLAS. 1995. "Minority Nationality in China: Policy and Practice." In *Indigenous Peoples of Asia*, edited by R. H. Barnes and Benedict Kingsbury. Ann Arbor, Mich.: Association for Asian Studies.
- WAKEMAN, FREDERIC. 1975. *The Fall of Imperial China*. New York: Free Press.
- WALDRON, ARTHUR. 1990. *The Great Wall of China: From History to Myth*. New York: Cambridge University Press.
- WALTER, EUGENE V. 1988. *Placeways: A Theory of the Human Environment*. Chapel Hill: University of North Carolina Press.
- WANG LIXIAN, WANG XIAN, and ZHANG KEBIN, eds. 1993. *The Experiences of Combatting Desertification in P.R. China*. Beijing: College of Soil and Water Conservation in the Beijing Forestry University.
- WILLIAMS, DEE MACK. 1996. "Grassland Enclosures: Catalyst of Land Degradation in Inner Mongolia." *Human Organization* (in press).
- (WRZW) WENGNUTE RENMIN ZHENGFU WENJIAN. 1984. [Document from the People's Government of Wengniute County], Issue No. 36, Article 100.
- XINHUA WIRE SERVICE. 1985. "Herders contract pastures." Beijing, 11 October.
- XU YOUFANG. 1993. Speaking at the National Desertification Conference in Chifeng, Inner Mongolia, as quoted in Xinhua news agency (English report). Beijing, 24 September.
- ZIMMERER, KARL. 1993. "Soil Erosion and Social (Dis)courses in Cochabamba, Bolivia: Perceiving the Nature of Environmental Degradation." *Economic Geography* 69(3): 312–27.