"A river is commonly thought of as a large stream of fresh water flowing from one point to another. As may be expected, the legal components of the abstraction ö river ö are more complicated. Valuable property rights emanate from each component, and it is important to distinguish carefully among the water, the bed, and the banks."

Massari (1973, page 370)

"

fences, lawns, and gazebos (Blomley, 2005a). The geographic dimensions and effects of

Yet such enrollments of nature have come under considerable criticism. Not only is the ownership of nature seen as destructive and dangerously anthropocentric, but also the imposition of a property grid upon the earth is condemned as reductive and simplifying. For Large (1973): ``one parcel of land is inextricably intertwined with other parcels.... [C]auses and effects flow across artificially imposed divisions in the land without regard for legal boundaries. The land simply cannot be neatly divided into mine and yours'' (page 1045). Borrows (1997) writes of the way in which the common law imposes a ``conceptual grid over both place and time which divides, parcels, registers and bounds people and places'' (page 430) in ways destructive to environmental integrity and indigenous knowledge.

Steinberg, in particular, is a critic of property law, seeing it as ``another tool for

installation of property as a powerful organizing device through which the social world is made meaningful.

The simplified river

An 1854 treaty established the reservation of the Omaha Indian Tribe on the west bank of the Missouri River in the then Territory of Nebraska. At the time when the Omaha Indian Reservation was established, it included some 2900 acres of land within a meander lobe bounded by the thalweg of the river, at Blackbird Bend (figure 1).

By 1923 the river had moved more than two miles west of the original boundary line. A white man named Joseph Kirk took control of this land in the 1920s, laying claim to it under Iowa's squatters' rights law, securing title by 1929. By 1948 he had made the first conveyance of the land. By 1973 nine white people, two corporations, and the State of Iowa could trace their titles to Kirk. The river was stabilized, and the land was cleared of trees, leveled, fenced, drained, and cultivated, becoming valuable and productive farmland (one farmer paid $1.6 million for the purchase of 2180 acres in 1972, for example).

On 3 April 1973, a band of twenty Omahas lead by Eddie Cline (re)occupied Blackbird Bend, claiming it as reservation land under the terms of the 1854 treaty. Following a subsequent occupation in 1975, a court granted a preliminary injunction permitting temporary occupancy of the land by the tribe until the matter was resolved.

The dispute over Blackbird Bend, no doubt, entailed many issues, including history, culture, identity, money, and racism. The court, however, framed it as a dispute over property. Resolution required boundary making. A boundary had to be drawn between landowners. To do this, the court relied upon a conceptual boundary between two categories of river movement: avulsion and accretion. The boundary drawing between avulsion and accretion required, in turn, the production, fixing, and bounding of data

That said, closer reflection reveals that, despite the assured tone of the decision, this was far from a straightforward accomplishment. Here, and elsewhere, simplification was hard work:

(a) Firstly, the court had to reconstruct an historical geography of the river. As Bogue notes:

> "The events which the Court is obliged to reconstruct occurred long ago and they were events of nature: so far as we know these events were not observed in their entirety by any person who could today be a witness concerning them" (Omaha I, page 89).

(b) Secondly, simplification was adversarial. Precisely because property generates conflict, legibility had to be negotiated and produced through a combative, high-stakes trial. The disputants struggled and fought over the river. What could be discerned? What did it mean? Sand bars, islands, and cottonwood trees became battlegrounds, rather than obvious data. Expert witnesses disagreed with one another. Maps did not necessarily provide secure windows into nature, but said different things, and were themselves challenged as inaccurate and partial.

(c) Thirdly, legibility was often further complicated by other forms of legal simplification. The Blackbird Bend dispute itself became parsed into a series of legal chunks on the basis of other simplifications, each of which had to be tried (and then often appealed) separately. Thus, the courts severed part of the Blackbird Bend dispute (which was itself a consolidation of three lawsuits) from other claims to land made by the Omaha, treating the former as an `equitable quiet title' action, as opposed to actions for `ejectment'.[2] Further, the tribe's dispute with the state of Iowa, which claimed land in the disputed area, was severed on the basis that Nebraska law had to be applied in the evaluation of the changes. This was because the land would have been deemed part of Nebraska at the time of the river movement, even if it was now in Iowa. Over fifteen years the case bounced between the District Court and Court of

eastwards, and then northeast, before shifting south by 1923. Tellingly, Bogue allows himself a moment of doubt:

> "In the process of pulling together the extensive and complicated evidence presented in this case, it becomes apparent that the movements of the Missouri River have not been so clean and precise that they easily fall into the legal categories conveyed by the terms `accretion' and `avulsion' " (Omaha I, page 89).

The tribe and the government argued, conversely, that the river had shifted in a series of sudden (and hence, avulsive) movements, and thus the land was still theirs. However, this did not necessarily leave land in place in the way the court (which accepted the argument made by the defendants) had embraced. The court was dismissive of this view. This, the court reasoned, was a departure not only from common law. It also created a definition that was, in our terms, `illegible':

> "The government would have us recognize avulsions in a variety of river movements that leave no commonly accepted indicia of an avulsion, particularly land in place and an abandoned channel" (Omaha I, page 91).

It would be impossible to discern, from the arrangement of things, whether an avulsion or an accretion had occurred. This was deeply troubling for,

> "if the indicia of avulsion are cast aside, then the distinction between accretion and avulsion will become virtually meaningless .... [M]any river movements historically known as accretions would be thrown over into the category of avulsions" (Omaha I, page 90).

The simplified river demands that such distinctions be clearly maintained and rendered visible. This view of an avulsion "cannot be reconciled with the common law" (Omaha I, page 90). After finding that the river had completely destroyed the reservation land, Bogue went on to rule that the disputed land had formed through accretion, and was thus the property of the white defendants.

The muddy river

Bogue's simplifications, predictably, were not the final word. In 1978 the Court of Appeals reversed the decision of the lower District Court, and quieted title to most of the land in the Omaha.[3] While this provided some judicial certainty (confirmed after the US Supreme Court upheld the decision), the river itself became opaque and legally muddy in the process. This, in turn, rested on another boundary drawing of the court ö this time, between `Indian' and `white person'. Section 194 of the United States Code states that in all trials concerning property rights involving an Indian and a white person, the burden of proof shall rest upon the white person "whenever the Indian shall make out a presumption of title in himself from the fact of previous possession or ownership." In other words, rather than weighing avulsion against accretion, the nonnative disputants were required to prove their case that the river had moved through accretion. The court concluded that they failed to meet the burden of proof.

Section 194 constitutes, perhaps, a simplification of the entanglements of colonial relationships. However, one consequence was that the court could move away from the binary purities of the simplified river, in which complex river movements must be categorized as either avulsion or accretion. We enter a far muddier river. Clarity and

likelihood of an avulsive cut-through. Erosion may narrow the neck of a meander bend producing the necessary conditions for an ox-bow cut-off. Or, as the government asserts, an avulsion can produce river characteristics such as low river current energy areas which are favorable to rapid deposition'' (Omaha II, page 639).

Further, the court, in rejecting Bogue's definition of avulsion, with its focus on `identifiable land in place', renders the categories harder to discern. Bogue had failed to find a chunk of unmodified land that could be identified as reservation. Bogue had characterized the various bars (A ^ D) as mud, not land; thus, they were deemed accretive deposits generated as the river gradually eroded the reservation land. The Appeals Court, however, cite numerous other decisions that deem a change avulsive even when land was submerged in the process:

"although evidence of identifiable land in place may have some probative value that erosion has not occurred, the fact that intervening land may not be visible at the time a sudden flood or freshet occurs is not conclusive in itself'' (Omaha II, page 639).

Other judicial simplifications thus prove the undoing of Bogue's legible index.

The court then demolishes Bogue's simplifications, arguing that the very boundaries between river and land, so central to his ruling, were particularly unstable during the period when the river moved (the width of the river increasing from 800 feet in 1875 to 10 000 feet in 1879, for example). The map produced in 1879, relied upon by Bogue in nt(BoO)1uFB2rütr u-1.212(h)-18(285(fe808(.)-nnc2wib)-297-30(evuing)-380(tha)16(t)`)-3n9-3(

This court is not alone in finding the Missouri to be muddy. In *C . K* [141 Neb. 517, 4 N.W. 2d. 290 (1942)], the Supreme Court of Iowa discerned avulsion in 1942, but then reversed itself in 1943 with a determination of accretion. One can sympathize with the US Supreme Court Justice who characterized the task of

recollections of observers Willey and Prichard (who later became a judge) as disinterested and reliable (Omaha I, page 84). Yet letters written by Omaha Tribe members in the early 20th century, complaining at the `washing away' of their allotment lands on the reservation, are dismissed by the government and tribe as the description of nonprofessional persons, unfamiliar with the action of the river, who confuse periodic flooding with erosion (this despite the deep historical association between the Omaha and the river).

But there is also a sense that scientists and judges swim in different rivers. In his dismissal of the government's interpretation of avulsion, Bogue distinguishes the two:

> "The government has, no doubt, derived this theory of an avulsion from a more `scientific' analysis of the river movements than that which underlies the common law. From our vantage point at this time, it seems that if plaintiffs were to prevail in this suit, it could only have been by convincing this Court that this more `scientific' view of river movements, which would require constant attention to only the

also be probabilistic. The latter recognize that geomorphic systems can be complex and historically layered, even going so far as to argue that rivers are inherently random, characterized by chaotic and discontinuous behaviour (Knighton, 1998, pages 5^6). Roy and Lane (2003) gesture towards a `postmodern' view of the river in which ``every meander bend ... is unique, and the creation of any sort of generalization is to exclude the very essence of the feature that is of interest'' (page 117). Favis-Mortlock and de Boer (2003) similarly explore notions of nonlinearity and `deterministic chaos' in geomorphology.

The idiographic river

In part, the failure of the river to conform to the requirements of the law that movement be `clean and precise' reflects the fact that the court is dealing with an irreducibly specific phenomenon, the Missouri. Bogue acknowledges that he is dealing with a most particular phenomenon, operating prior to the 1940s as ``in a wild and uncontrolled state'' (Omaha I, page 72); ``where the law demands precise concepts, nature has supplied the rather erratic behavior of the Missouri River'' (Omaha I, page 89). He

Conclusions

Why is simplification complicated? One option is to follow Steinberg (1995) and argue that it is the site upon which the grid is imposed that complicates boundary drawing.

this argument. I do so, I should note, somewhat tentatively ö perhaps my comments should be taken as a set of research hypotheses rather than conclusive comments.

The first point to underscore is that property has a practical dimension. By this, I mean that property cannot be reduced to a set of detached ideas or representations, but must be recognized as also entailing a set of enactments, objects, networks, and actions. Such practices are often prosaic and sometimes more visible. The Blackbird Bend dispute is an obvious example. Tempting though it may be to confine the dispute to the head of the judge, the dispute, adjudication, and enforcement of the decision also relied upon complex networks of objects (No Trespassing signs, sand bars, recording devices, theodolites, cottonwood trees, thalwegs) and practices (reading, mapping, digging, fencing). This entails the organization of space (networks, assemblages, boundaries, and so on) as well as the organization of time. Thus, the parcels of land in dispute can be thought of as having a legal biography, traceable through alienations and transfers and dispossessions. The things of property, moreover, are not always obvious, but have to be produced through forms of legal practice by which they are inscribed, stabilized, and appraised. `Bar D' is a case in point. Can it be discerned? And if so, is it river, mud, or land? (Law, 2002; Painter, 2006; Pottage, 1994).

To the extent that such objects and practices appear mundane and obvious, they may appear to be simply bit players in a more exciting ideational drama. The tendency has been to turn our attention away from the world of things, whether those are human bodies or stuff, more generally, and focus J3Tc,1(ch)-4o(he)-29fus17(p)lmanl

materiality of land on one side, legal codes and property rights the other. Thing versus idea, reality versus abstraction, space versus its meaning'' (page 78).

Third, we must also note that the production of property is partial, incomplete and imperfect. As Painter (2006) notes, the pronouncements of state officials are multivocal and diverse. Similarly, as we saw above, judges enunciated the river in multiple and often conflicting ways. While this may reflect the irreducible complexities of nature, it also speaks to the diversities of legal practice, the tensions between the universal and the particular, or the collisions of science and jurisprudence. Legal objects and categories, such as avulsion and accretion, did not carry over from one judicial site to another, but became reconceived and remapped. Bogue's `bright lines' became muddy and indistinct when taken up by the Appeals Court. The geographies of property, here and elsewhere, are also heterogeneous, complex, and contradictory. State officials' pronouncements concerning the distinction between public and private space in urban settings, for example, are belied by the practices and understandings of residents, who tend to view public and private as in constructive dialogue rather than sharp opposition (Blomley, 2005a; 2005b). Attempts to fix boundaries through maps or boundary markers, for example, are complicated by failures to enroll either technology (Barnes et al, 2000; Bennett, 1991; Bruckner and Poole, 2002; Pottage, 1994) or people (Delle, 1999; Given, 2002; Vandergeest and Peluso, 2001).

Yet, despite these frequent slippages and `failures' of property, property manages to attain settlement and resolution. Perhaps the very lack of coherence of law allows it to produce space: as Law (2001) argues, any organization that is gripped with a single vision of reality is not long for this world. Either way, despite the odds, a grid successfully superimposed upon Blackbird Bend. Avulsion and accretion proved to be instruments of successful action, to borrow from pragmatism. Certainty was extracted ö albeit by hard work ö from a situation of legal uncertainty (even, perhaps, indeterminacy). This, my final point, is worth underscoring. Steinberg's central conclusion is, as he puts it, that ``real estate isn't''. `Real' property, in other words, is unreal and illusionary. Accretion and avulsion, like other simplifications, are head tricks that we play upon ourselves. Property law, he argues, has ``helped us to reimagine and reinvent what we understand to be the real world'' (1995, page 17). In this, he joins a distinguished roster of critics, such as Singer (2000) and Rose (1994), who reveal the delusions of property. Gray (1994, page 159) similarly describes property talk as a form of mutual deception, the goal being to open a space for alternative treatments of property, justice, and nature.

This is a worthwhile and important project, to which I have tried to contribute in the past (Blomley, 2004). However, we must recognize the challenges it faces. Rather than viewing Blackbird Bend as an example of the incoherence and unreality of real estate, I would also want to see the decisions as testament to the organizing power of law. One can, as I have done, read the decisions against the grain, and note the patching and `work-arounds' that are required. Yet, determinacy was produced. This applies not only to the Blackbird Bend case itself, but more generally. For one of the crucial `effects' of the practices of property is to produce the appearance of resolution, order, certainty, and security (Blomley, 2003). This should not be overlooked: despite its manifest exclusions, expulsions, and violences, it appears equitable and benign. Even

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