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Legal Politics and Emergent Water Collectives in the Middle Rio Grande

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by

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ABSTRACT OF THE THESIS

Legal Politics and Emergent Water Collectives

in the Middle Rio Grande

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New Mexico is notable within the Western U.S. for its network of acequias, irrigation ditches brought by Spanish colonists through which communities of irrigators collectively manage their water resources. This thesis considers acequias as a site of struggle for Mexican-Americans in New Mexico via a case study of the unincorporated South Valley outside Albuquerque. I show how U.S. water law historically acted as a vehicle of dispossession, as New Mexico's newest sovereigns implemented private property rights in place of traditional Indigenous and Hispano systems, including via the 1923 creation of the Middle Rio Grande

Conservancy District encompassing the South Valley. Yet the same legal codes are now being repurposed by acequia irrigators to contest prior dispossessions. Drawing on semi-structured interviews, I attend to organizing among South Valley acequieros in the last two decades to demonstrate an inversion of water law amid a robust social movement centered on these old ditches.

The thesis of Samuel Boatwright Feldblum is approved.

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AFSC	American Friends Service Committee
MRGCD	Middle Rio Grande Conservancy District
NMAA	New Mexico Acequia Association
SVRAA	South Valley Regional Association of Acequias
SWOP	SouthWest Organizing Project

Introduction: Acequias as Social Artifact

In 2013, Western Albuquerque Land Holdings applied for county approval to develop a complex outside Albuquerque, NM housing an estimated 100,000 people. An immediate problem presented itself: the new Santolina development, on an arid mesa, would require as much water as Santa Fe—where would that water come from? Activists from the unincorporated South Valley, southwest of the city (see figure 1), had spent the past decade studying century-old maps, helping hundreds of homeowners in the area claim water rights. Now, some worried their community's newly claimed waters were at risk. Their efforts were bolstered by an institution with deep roots in the state: the claimants had formed an acequia association, a traditional form of autonomous local water governance. Yet from the outset, this emergent water collective was threatened by a legal-political system that treated water rights as saleable private property and stipulated that these rights be maintained through narrowly defined beneficial economic uses.

New Mexico's water system is notable within the Western U.S. for the prevalence of acequias—a traditional irrigation system in which water is managed locally by the communities it nourishes, who share in abundance and scarcity alike (Rivera 1998). The network of ditches, mostly built out during the Spanish and Mexican colonial eras, anchors a social system in which irrigators democratically elect ditch governments each year. These governments in turn oversee apportionment of water and maintenance of infrastructure, traditionally earthen-walled and gravity-controlled. This communal approach to water management offers an alternative to the dominant water regime in the state, based on the doctrine of prior appropriation and privatized use rights. In this framework, a person using a given quantity of water beneficially is entitled to continue drawing that quantity, with earlier users granted rights senior to later appropriators.

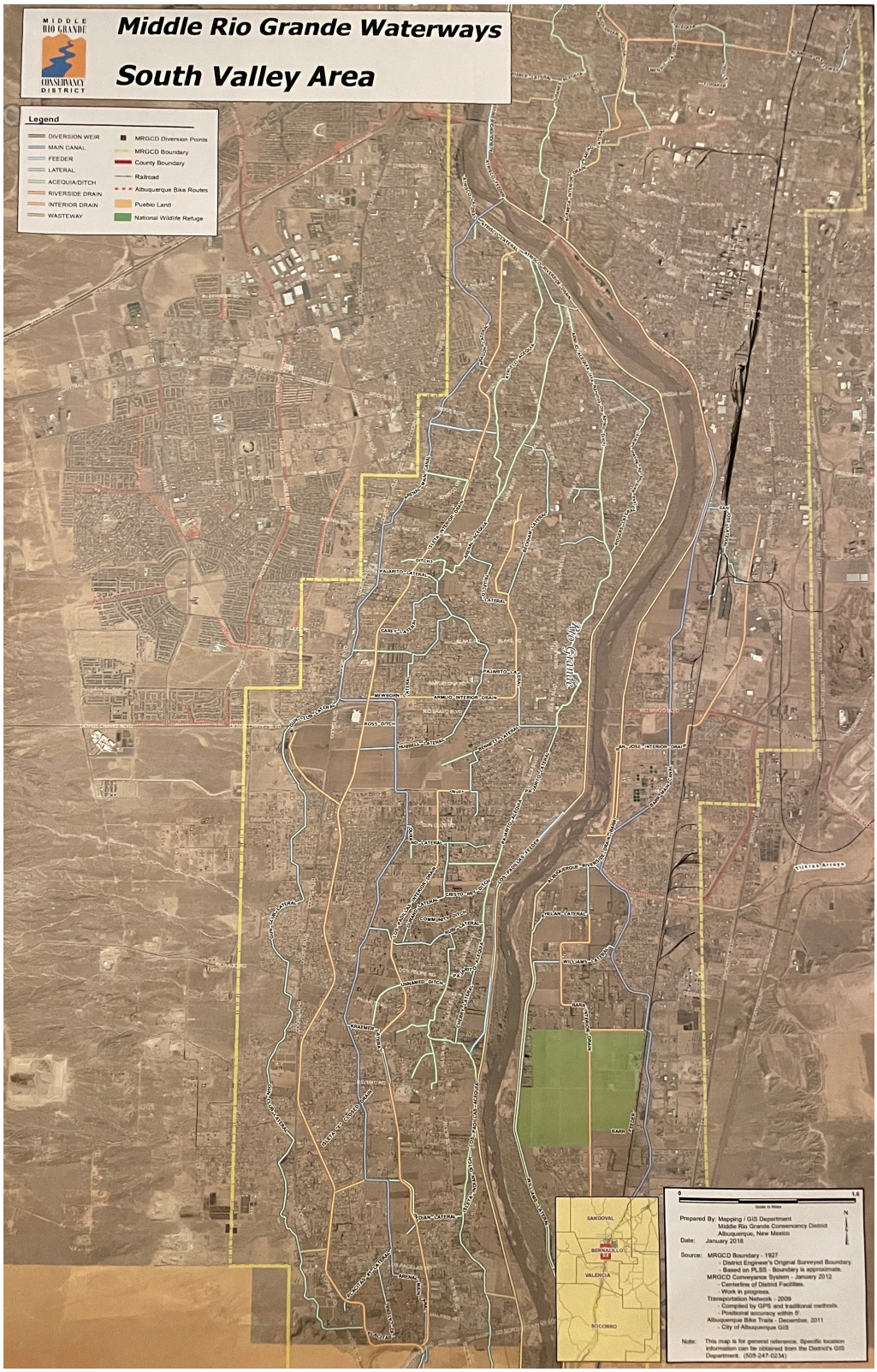


Figure 1: Acequias in the South Valley. The network of waterways is highlighted in color. Source: Middle Rio Grande Conservancy District.

Acequias have received increasing attention in recent years, both academic (e.g. Rosenberg et al. 2020, Perramond 2019, Rodríguez 2006) and popular (e.g. Romero 2021, Neuwirth 2019). There is likely some romanticization at work—in a time of climate upheaval and aridification in the southwest, the resilience of an irrigation system hundreds of years old has an obvious appeal. But beyond symbolizing survival over the longue durée, acequias also inscribe historic social relations in New Mexico (and southern Colorado) and offer a means of remaking those relationships in the future. A small but vibrant multidisciplinary literature has arisen in recent decades around these humble ditches aiming at the intersection of natural and human systems, inviting attention from economists (e.g. Raheem 2014), environmental scientists (e.g. Boykin et al. 2020), anthropologists (e.g. Rodríguez forthcoming), geographers (e.g. Perramond 2013), and hydrologists (e.g. Gutierrez-Jurado et al. 2017), among others.

Despite their material simplicity, acequias help to trace the social and spatial transformations of the land that has come to be called New Mexico. The Hispano populations who farmed along these ditches in New Mexico were themselves colonists. In 1598, the first Spanish settlers entered the state and constructed of their first ditch that very year (Rivera 1998). Acequias represent, then, a technology of settler colonialism. But so too did they act as bulwarks against a subsequent wave of colonialism. Mexico gained its independence from Spain in 1821, whereupon New Mexico became Mexican territory; the United States, in turn, occupied the territory in the aftermath of the Mexican-American War of 1846-48. Extant land and water rights across New Mexico were ostensibly guaranteed by the handover of the territory in the Treaty of Guadalupe Hidalgo ending that war, but post-war land and water grabs—of both Hispano and Indigenous resources—by the newcomers belied that legal stipulation (Griswold del Castillo

1990). Acequia associations emerged then and since as a structure through which *nuevo mexicanos* challenged threats to their resource bases.

Questions of water distribution are fundamentally political (Agnew 2011). In New Mexico, the struggles to determine water's distribution take place in the context of legal and governmental systems developed in this double colonial context. Methods of planning and distributing water were instrumental in these successive waves of colonization; contestations of colonial water regimes must contend with the infrastructural matrices they implemented (Markwell 2015). New Mexico's current water code—liberal and private-property based though it may be—has incorporated the state's layered social history, such that a legal and cultural pluralism unfolds in a spatial patchwork as water moves from the high Colorado plateau toward the Gulf of Mexico (see figure 2).

I first travelled to Albuquerque in 2018 as a journalist to report on the proposed Santolina development and became acquainted with the opponents to the project, which included the South Valley Regional Association of Acequias (SVRAA). This association was born in a context of organized opposition to the threat of delocalization of water resources at the hands of global capital: a seeming upstart David, consisting of acquieros and other farmers, Chicano community organizers, Quakers, and environmentalists of various stripes pitched itself against the Goliath of Barclay's Bank, owners of the would-be development. I was struck to find that as I spoke with interviewees about a struggle over water in 2018, our conversations often veered to consider events hundreds of years prior. This, I would find, was in keeping with the spirit of acequia life, which emphasizes the integration of water with culture, tradition, ecology, and history. In this context, water far exceeded its legal status as alienable property right.

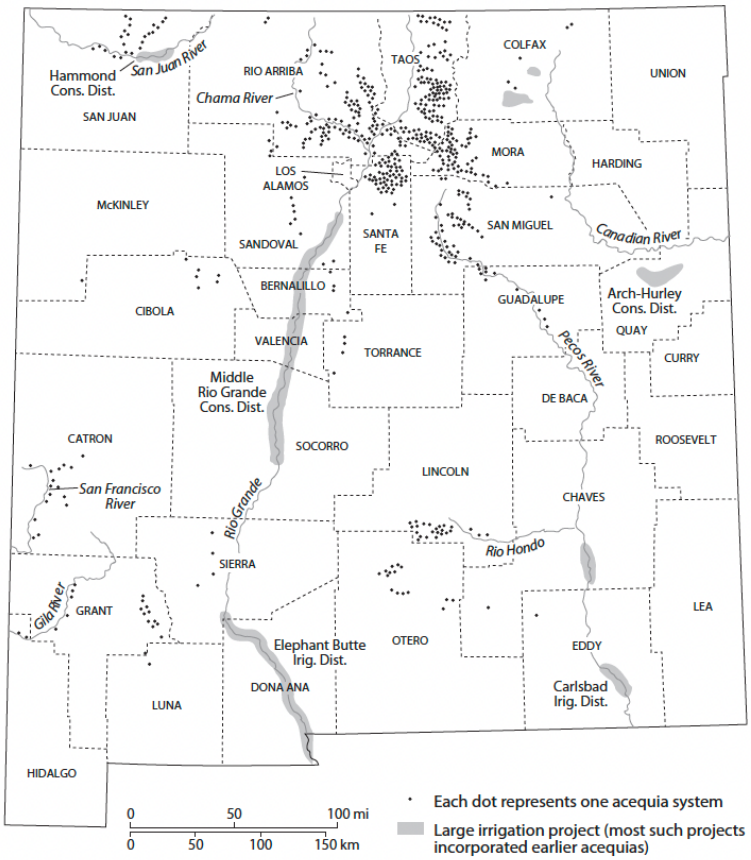


Figure 2: Acequias and irrigation districts of New Mexico. Adapted from Perramond 2019.

In this thesis, I focus on acequias as a site of struggle for Mexican-Americans in New Mexico, offering an argument in two parts. First, I show how colonial water law in New Mexico historically acted as a vehicle of dispossession of acequia irrigators. In the second part of the argument, I demonstrate that the same legal codes that facilitated that process are now being repurposed by acequia irrigators to contest prior dispossessions. Crucially, this legal contestation depends on social movements focused on acequias, supporting farming and gardening along these old ditches and a local communitarian culture that bolsters and depends on these growing practices. I ground my analysis of this historical involution in the case of the SVRAA, narrating two moments of transformation. The first, which serves here as inciting event, was a gradual

restructuring of New Mexico's political economy and legal code in the years surrounding its admittance to U.S. statehood. The new sovereign gradually implemented a settler-colonial regime based on private property rights in place of the traditional systems of Indigenous and Hispano water users. In the Middle Rio Grande, the 1923 legislative creation of a special water authority, the Middle Rio Grande Conservancy District, represented the enactment of regional planning according to the needs of a growing Albuquerque, and would largely undercut the acequias in its district—a spatial instantiation of legal dispossession.

Yet, from the outset, the law represented not only a means of dispossession, but a site of struggle. The second moment I consider is the recent organization of South Valley acequieros amid a statewide movement for acequia rights since the 1990s—in this period, law acts as a site of contestation for acequia communities previously dispossessed. The SVRAA's struggle for expanded rights and responsibilities occurs within and reforms the framework of the liberalized water regime that dispossessed them, representing a moment in a variegated statewide struggle among acequieros over control of water. The dual thrust of these two processes means that today, despite the South Valley being one of the most vibrant acequia associations in the state, there's a question of whether they legally exist as acequias at all.

Historical geography of New Mexico's acequias

For centuries before the arrival of the Spanish, Indigenous Tewa, Tiwa, and Keres tribes along what would later come to be New Mexico's stretch of the Rio Grande practiced a mix of irrigation and dryland farming practices (Rivera 1998). The Spanish brought with them acequia irrigation, which became the "primary vehicle for community development formed by early *hispano mexicano* settlers" and has served to sustain water resources in the area ever since

(Rivera 1998: xix). Over hundreds of years in this distant frontier of Spanish empire, traditions developed and consolidated. Each acequia was democratically governed by the *parciantes* who drew from the ditch, who regularly elected an executive *mayordomo* and three-member *comisiones* that helped the *mayordomo* oversee the ditch's functioning. Water use in acequias is typically seasonal, spanning spring through summer when runoff from the snowy mountains of southern Colorado is plentiful. *Mayordomos* and *comisiones* oversee a cleaning of the ditches to open the growing season, ensure that irrigators have enough water and are not watering out of turn, and collect dues from acequia irrigators to pay the *mayordomo's* stipends and for small upkeeps on the ditches. Thanks to this democratic and self-governing structure, acequia communities in New Mexico "easily meet the test for survival as a common-property regime: the rules are clear to all appropriators; they can easily articulate and transmit them; the consequences of nonconformance are borne by the appropriators themselves" (Rivera 1998: 86). These criteria, adapted from economic scholarship focused on common-property regimes (i.e. Ostrom 1992, Bromley 1990), offer an argument for the sustainability of autonomous acequia governance over time.

Acequias have throughout their history straddled distinct eras of water governance and, more starkly, of transition between sovereigns. Glick's (1970) history of irrigation in medieval Valencia, the colonial source for acequia practices in New Mexico, details the seminal contribution of Arabian irrigation practices to establishing the Valencian system. During the Reconquista, a period in the Middle Ages in which Christians ejected Muslim conquerers from the south of the Iberian peninsula, the Christians absorbed practices associated with acequias (originally from the Arabic "*al-sāqiya*" for "irrigation canal") even as they expelled practitioners from their lands: there the acequias survived even as a new group of farmers drew from their

waters. In territorial New Mexico, after the arrival of the U.S., acequias provided a venue by which *nuevomexicanos* were able to adapt to the new colonial government. Upon becoming an American territory in 1850, New Mexico saw such institutions as probate courts and the territorial legislature come under the control of the Hispano majority. Baxter writes that "during the first session in July 1851, lawmakers began to codify old practices derived from Spanish law and custom… lawmakers reaffirmed two important principles from the past: the primacy of agriculture in water allocation and establishment of the community acequia as the preeminent institution for water governance" (1997: 72). In the latter case, then, acequias became the vehicle for the social reproduction of the newly colonized colonizers.

In New Mexico, acequia rights had been bundled with land granted communally to Spanish and, later, Mexican settlers in the northern frontiers of their claimed domains. In the aftermath of the U.S. takeover, however, legal disregard for the communal lands of these grants would lead to massive expropriations of land and water in the territory (Griswold del Castillo 1990, Gómez 2018). Interrelated technological and legal developments would propel those expropriations. Around the turn of the 20th century, the arrival of the railroad enfolded New Mexico into the national political economy and consequently allowed for the expansion of commercial agricultural operations (Harper et al., 1943, Baxter 2000). New techniques for measuring water, developed at the Embudo Pass in Northern New Mexico on the Rio Grande, enabled the transition from *surcos*, traditional water measurements based on strength of flow through a ditch and calculated in view of the hydraulic force needed for the land under irrigation (Perramond 2019). New stream gauging allowed for measurement in volumetric units, abstracted quantities commensurable across streambeds. Together, these transformations provided the

impetus and preconditions for water to become alienated from land and behave increasingly like a commodity throughout New Mexico.

In 1907, New Mexico passed a territorial water code, establishing the Office of the Territorial Engineer, who was to account for all existing uses of water throughout the territory in a process termed "adjudication." At that point, "water abruptly became a state-owned yet privately allocated resource," reconstituting water across the state according to private use rights that could more easily be bought and sold (Perramond 2019: 3). This transition worked to circumscribe long-established users' allotments and produce those rights for market exchange—in essence redeeming the use value of water into exchange value, in Marxian terms. Meanwhile, "water cultures in New Mexico, like the Hispano irrigators or Native sovereign nations who think in more collective, not individual, water terms, contested the state's rereading of their water norms and customary understandings of the purpose of water" (Perramond 2019: 3).

The results of this remaking of water governance are spatially variegated across distinct spatio-legal contexts. Northern New Mexico represents the heartland of acequias; there, the ditches remain salient venues of communal life and have successfully organized for water rights in the face of state adjudications threatening to delocalize their resource base (Rodríguez 2006). On the other hand, in the ambit of the Conservancy District—and of the Elephant Butte Irrigation District, in the state's south—acequias in many cases found their social and administrative functions undermined by colonial water authorities, who repurposed the ditches' physical imprints. The acequia resurgence of the last three decades has occurred within the socio-spatial patchwork that emerged. The case of the SVRAA is but one representative narrative within a larger story; its entanglement with the Conservancy District, its tight connection to statewide

acequia activism, and its position on the periphery of an expanding Albuquerque, however, mark the case as salient.

Limbo in the Middle Rio Grande

The legal standing of the SVRAA is complicated. Its acequias technically exist as "community ditches" enfolded into the apparatus of the Middle Rio Grande Conservancy District (MRGCD), the result of a process that merits much discussion below. The Conservancy District is thus an essential site of contestation for South Valley irrigators: in that forum, they argue for expanded community control over water resources. Yet it is the very institution that a century ago undermined the autonomy of acequias in the Middle Rio Grande (Orona 1998). Liberal property law formed in colonial contexts was instrumental in the dispossessions of Mexican and Indigenous communities in the U.S. West (Cattelino 2018); it now determines the grounds upon which contestations of these dispossessions can be made. Thus, I will argue, has the nature of acequias in the Middle Rio Grande itself changed from an earlier incarnation as autonomous forms of communal water governance and bases of resistance to U.S. encroachment. Now, instead, they are partially enmeshed into a statewide—and indeed multistate—framework of use rights distributed to individual entities as private allotments, rights that can in turn be bought and sold and thus move water across and even between basins. Acequias, long structures maintaining highly local and collective governance of water, now act alongside this regional water planning body as often as against it.

Marketized property rights nonetheless threaten the collective future of the South Valley's irrigators. The SVRAA only sprang into being after acequiero Santiago Maestas and a few colleagues studied maps of water use that predated New Mexico's passage of its water code

in 1907, finding that hundreds of homeowners in the South Valley owned rights that they had not claimed. The claiming of these use rights—in essence, an allotment to a certain amount of water in a given year—allowed water to return to ditches that in some cases had lain dormant for decades. As these claims coincided with the specter of Santolina's construction, they also created worries that developers would attempt to buy up the South Valley's water. While acequia associations, according to tradition and law, governed water as a collective, the rights themselves are held by individuals, and thus saleable. Even as the acequia collective of the SVRAA emerged materially and institutionally in the mid-aughts, it contended with the threat of the sale of water rights outside of acequias, and thus the erosion of its newly formed base.

In the rest of this thesis, I consider the many tensions inscribed into New Mexico's old ditches: between communal and individualized methods of governing water, between acequias as bulwarks against dispossession and as themselves valuable assets for speculation, and between the acequia communities as antagonists and partners of the District. The following chapter offers a literature review of geographic scholarship on commons and commoning, particularly as related to Marxian theories of enclosure. Chapter 3 turns to recent scholarship in critical legal geographies of water to elucidate the multivalent role of the law in these processes. After spelling out my methods, I begin Chapter 4 with a brief accounting of the early history of the Middle Rio Grande Conservancy District, as it expropriated small farmers and absorbed acequia associations. I then collate findings from a series of semi-structured interviews with Middle Rio Grande acequia irrigators and District officials to characterize the changing nature of acequias amid their recent resurgence in the South Valley and across the state. In Chapter 5, I return to the geographic literature to close with a theoretical discussion of my historical and ethnographic findings. Throughout, I aim to maintain a sense of acequias as a form of what Gibson-Graham

consider “weak theory,” attending to the ditches as a social experiment which might “help us to see openings, to provide a space of freedom and possibility,” and which, despite its enfolding into the apparatuses of a globalized neoliberalism, need not be *a priori* deemed doomed to fail (2008: 619). It is with this injunction in mind that I proceed.

Chapter 2: Enclosure and Commoning

The transition of New Mexico under U.S. rule involved a restructuring of a largely subsistence agricultural economy to gradually incorporate the territory into American capitalism. To make sense of this process, in this chapter I consider the Marxian concept of primitive accumulation as an originary—and ongoing—event in the production of capitalist relations. I then turn to commons and commoning as a counterhegemonic strategy against such enclosures. Acequias, particularly those actively engaged in contesting political and legal outcomes determining water distribution, are engaged in such a counterhegemonic practice, if in the aftermath of a transformative primitive accumulation with the arrival of the U.S. to the Middle Rio Grande. This chapter will offer a theoretical underpinning of the case study to come.

Marx wrote that the transition from feudalism to capitalism depended on a process of "primitive accumulation," which was nothing less than "the historical process of divorcing the producer from the means of production" (1990: 874). This initial expropriation "frees" laborers from the means of production, and is accomplished by a brutal history "written in the annals of mankind in letters of blood and fire" (ibid: 875). These freed producers must instead confront the capitalist to sell their labor power to survive. Thus established, capitalist accumulation is stabilized through recursive repetition of that process (DeAngelis 2001, Glassman 2006). In the post-Fordist era, a globalizing neoliberalism intensified this strategy of accumulation by dispossession both intensively in the Global North as well as extensively in the Global South; it became neoliberal capital's primary mode of accumulation (Harvey 2003). Capital thus solves accumulation crises by separating new populations from the means of production and releasing previously common resources to be exchanged in markets.

Swyngedouw (2005) has in turn translated Harvey's terminology into the realm of water governance, decrying the transfer of water into private-property regimes supposedly to prevent its exploitation and degradation. He writes:

> The official terminology for 'accumulation by dispossession' is of course 'privatization.' As the latter term suggests, privatization is a process through which activities, resources, and the like, which had not been formally privately owned, managed or organized, are taken away from whoever or whatever owned them before and transferred to a new property configuration that is based on some form of 'private' ownership or control. Privatization, therefore, is nothing else than a legally and institutionally condoned, if not encouraged, form of theft (ibid: 82).

Noting, with Harvey, the crises of accumulation amid the transition in the 1970s from Fordism to post-Fordism, Swyngedouw likewise found capitalist restructuring essential to discover new profitable ventures for capital. This was responsible for a recent global round of enclosures of resources, most particularly water, as "local common goods are expropriated, transferred into the private sector and inserted in global money and capital flows, stock market assets, and portfolio holdings" (ibid: 87).

Such enclosures, typically based on force, nonetheless demand justification. The "tragedy of the commons" represents an important environmental argument for enclosure and the consequent need for state takeover or—more typically—privatization of commonly held resources (Hardin 2009; also St. Martin 2001, Agrawal 2007, Bauer 1998). The canonical academic rejoinder to this argument would be provided by Ostrom (1990; Ostrom et al. 1999), who argued that commons did not demand privatization, nor takeover by an external public "Leviathan" (Hardin 1978). Instead, autonomous communities of resource appropriators can

successfully govern common-pool resources under certain conditions, which include: defined boundaries of who can appropriate the resource, rules designed and monitored by local appropriators, and graduated systems of sanctions for delinquent resource users. Ostrom's institutionalist argument that collectives could successfully manage common resources at a local level offered a counterpoint to characterizations of commons as ungovernable absent modernizing capitalists.

Parallel to but separate from this institutionalist literature, social movements in the neoliberal era were making a burgeoning set of claims on the commons (McCarthy 2005). At the turn of the millennium, amid a wave of privatizations sweeping the world, Klein noted "oppositional threads… the spirit they share is a radical reclaiming of the commons" (2001: 84). Klein traced a constellation of movements opposed to multinational capital leaping across political frontiers globally, backed by the rules of engagement of the International Monetary Fund and World Trade Organization. "It's the same issue everywhere: trading away democracy in exchange for foreign capital" (ibid: 88); against this tendency, claims on the commons contrarily represented a reassertion of local and democratic control. These movements are among those that for Gibson-Graham represent "new, interesting, and potentially fecund solidarities" among anti-capitalist, socialist, and other social movements worldwide (2008: 622). Attention to such movements, they argue, offers an ontological intervention against reifications of neoliberal capitalism, potentially interrupting its totalizing explanatory power by "drawing attention to and thereby strengthening" these alternative practices (ibid: 620). They thus approach research on novel social formations as a "social experiment" (ibid: 628), refusing to know beforehand how events will turn out.

In the face of intensified accumulations by dispossession in the post-Fordist era, scholars argue that efforts to assert collective interest represent a Polanyian (1944) double movement as various actors work to re-embed the market into society and the natural world, taking "struggling steps towards a more democratic and sustainable future" (McCarthy 2005: 18). Even so, such steps are shaped by, and at times reinscribe, unequal power relations across scales, such that "to assert commons at one scale is almost necessarily to deny claims at another" (ibid: 19). Despite this tension, commoning offers a promising alternative to market-based environmental movements. The specter of environmental degradation in the 1980s had given rise to an environmentalist turn in developmentalist capitalism (Escobar 1996); this "market environmentalism" (Bakker 2007) was a convenient rhetoric for global capital to address the degradation while leaving its structuring causes in place. So too, however, could commoning movements reproduce existing power dynamics at local, national, or global scales, furthering or disrupting neoliberal hegemony, and naturalizing or disrupting settler land claims (Anson 2019, Nirmal & Rocheleau 2019). It all depends on the nature of the commons in question.

No commons is pure

Recent scholarship on actually existing commons elucidates their ambiguous function in shoring up or disrupting global capitalism and its colonial underpinnings. Wolf argued that "bounded corporate communities"—peasant commons—in Java and Meso-America were a product of the top-down "dualization of society into a dominant entrepreneurial sector and a dominated sector of native peasants," a schism such as is produced in colonial contexts via the economies of scale enacted by colonial sovereigns (1957: 8). Commons, then, coemerged with social structures of agrarian capitalism "as farmers recognized the risk of submitting the

reproduction of life to market forces alone" (Li 2010: 386), stabilizing colonial social relations even as they offered local protections. Not only were claims on commons made in response to attempted privatizations and dispossessions from capitalists, Li argues, but the very bases upon which claims to the commons were made—in particular, Indigeneity—in many cases arose in response to colonial dispossessions. In Asian and African contexts that Li examines, paternalistic colonial powers created the category of "Indigenous" to set aside land for circumscribed populations for whom collective ownership was considered a natural state, while other populations were absorbed more fully into market relations. At times the differentiation Indigenous populations and non-Indigenous, with attendant property connotations, corresponded to pre-existing spatial or cultural distinctions; these differentiations could also be arbitrary (Beteille 1998, Corbridge 1988). The circumscription of indigenized groups into set-aside collectively held parcels of land in turn facilitated expropriation of land and resources outside those ambits. Thus could commoning take on a sort of dual character: "collective landholding is sometimes imposed by a local group on its own members because they recognize the risk of dispossession and seek to prevent it. More often, however, it has been imposed from outside, first by paternalistic officials of the colonial period and now by a new set of experts and advocates who assume responsibility for deciding who should and who should not be exposed to the risks and opportunities of market engagement" (ibid: 399). Commons can offer forms of communal claims-making in the face of colonial and capitalist depredation; so too can they play a part in enabling those depredations (Sarmiento Barletti et al. 2021).

Even as some commons are forcibly set aside from market relations out of a paternalistic concern for populations marginalized within those commons, some within those commons wish to engage in market relations. Such variegations of property regimes are often reflected in the

character of the commons themselves. As Turner suggests, "cases of 'pure' common property – meeting the requirements laid out by Ostrom (1990: 90) – are actually much rarer in developing countries than is often thought" (2016: 3). Instead, enclosure is "an ongoing contested process that just as often produces property claims of mixed rather than pure form," and commoning "a similarly contested process that seeks to expand shared rights and responsibilities within mixed property forms" (2016: 4). Commons thus typically appear in hybrid forms, neither fully state-controlled nor governed by private property relations nor fully autonomous and self-contained, and always enmeshed within wider social and legal contexts.

Thus is more attention warranted as to the forms in which commons appear, and the relationships into which they embed. Property theory understands property as fundamentally relational (e.g. Ribot & Peluso 2003, Meinzen-Dick & Pradhan 2002). As property is constructed according to and mediated by social relations, changes in legal and political structures accordingly remake the nature of property (Blomley 2019, Kay 2016). Struggles over water in what is now New Mexico have, since the arrival of the United States, often taken the form of legislative changes and legal challenges to rearrange the relational networks which determine the "bundle of rights" that constitute property. To make sense of that set of relations, I now turn to legal geographical literature relevant for understanding acequias.

Chapter 3: Legal Geographies of Acequias

In 1982, Tierra Grande Corporation purchased 61.32 acre-feet of water from a property-holder along the Ensanada Ditch, in New Mexico's Rio Arriba County. The purchase was challenged by the acequia association from which the water would be diverted. Tierra Grande argued in state court that the diversion, which would form an artificial lake but remove some 14 acres of acequia-irrigated farmland from production annually, would serve the public by creating jobs in tourism connected to the lake. The neighboring irrigators countered that the loss of an irrigator would burden neighbors with enhanced responsibilities for upkeep of the water system, which was maintained by the acequieros who drew from it. District Court Judge Art Encinias sided with the acequia association:

> The second main line of argument pits economic values against cultural values. Here, it is simply assumed by the Applicants that greater economic benefits are more desirable than the preservation of a cultural identity. This is clearly not so. […] I am persuaded that to transfer water rights, devoted for more than a century to agricultural purposes, in order to construct a playground for those who can pay is a poor trade indeed (quoted in Rivera 1998: 161).

The decision was later overturned by a higher court; economic values did, in the event, trump cultural. The case, however, highlights the sometimes-conflicting legal mandates governing water appropriations in New Mexico. When New Mexico, then a U.S. territory, passed its Water Code of 1907, declaring all water publicly owned, it stipulated four points of consideration that the Territorial Engineer was to take into account in allocating water use rights: the water was to be as yet unallocated, its use could not impinge on an existing user, it ought be

put to beneficial use, and its use was to contribute to the public interest (Bokum 1996). Beneficial use has generally been construed to designate uses with clear and quantifiable economic benefit (Estes 2019). Public interest, which was changed by the state legislature to "public welfare" in 1985, connotes a good deal more: ecological protections and cultural and traditional values chief among them.

Given such dueling mandates, how is the state to decide? Agnew argues that although water distribution depends upon both economic and biophysical determinants, "politics is the solution because the overall problem is political rather than natural or economic" (2011: 465). Political contestations over water, in turn, are expressed through law (Jepson 2012). Critical legal geographers have argued against a formalistic conception of law as a self-contained sphere somehow separate from the social, instead analyzing the legal as a vehicle through which power relations and social discourses are given form, as well as a vehicle through which those relations and discourses can be contested (Blomley 2003a, Braverman et al. 2014). To evaluate the economic versus cultural and communal importance of distinct water uses is not a straightforward task for the courts, but instead depends on historical and social processes within which legal regimes are embedded.

In what follows, I trace the evolution of liberal property law in New Mexico's legal code, and consider recent attempts at contestation of the legal-political commonsense about water it produced. I begin with a brief overview of relevant critical legal geographic literature. From there, I turn to law as a tool for the dispossession of acequia farmers in the aftermath of U.S. occupation of New Mexico. This process of dispossession has, meanwhile, been contested at every turn: I close with reference to the strategies by which acequia associations, like that mentioned in this chapter's opening, strengthen their claims to authority over the waters in their

ditches. Within a legal system based on assumptions of water as a scarce resource to be governed through use rights determined by prior appropriation, what hope, I ask, is there for more communal forms of water governance?

Critical legal geography and water

Against theories of legal "formalism" that present law as a closed system ruled by internal logics, critical legal scholars argue that law is instead informed by power relations, which the law in turn reproduces (Unger 1983, Purdy et al. 2020). Critical legal geography builds upon critical legal scholarship to argue that this imbrication of the legal and the social has a spatial dimension: as legal authority is mapped territorially, and enforcement varies across social space, law produces social space (Blomley 2003a). Describing law-in-space as the processes through which legal practices shape the spatiality of social life, Delaney writes that this framework demonstrates that "the social world is saturated with legal meanings; that these meanings are complex, ambiguous, and potentially unstable; that the spatialities are likewise open to interpretive reconfiguration; that the spatio-legal structures require work in order to be maintained and transformed; and that much of contemporary political action takes the form of legal-geopolitical practice" (2003: 69).

Law is especially powerful in producing social relations shaping space and place as it expresses the authority of the state (Potts 2020), codifying and embodying the state's monopoly on violence (Blomley 2003b) and enforcing those social relations enshrined within the state's form and function. Since social space is in turn informed by power relations, law is co-productive of both space and relationships of justice and injustice (Delaney 2016). Property law, in particular, has major implications for social ordering, defining spatial relationships of

exclusion and determining hierarchies between differently situated populations (Harris 1993, Blomley 2003b; Blomley 2020). Where water law is usufructuary, as in New Mexico, water cannot be privately owned in toto, but instead is distributed via private *use* rights, implicitly taking into account the needs of other users (Sax 1970). The saleability of these rights allows their incorporation capitalist market relations as a form of private property. Even so, this system recognizes the interrelationship of users; water law is thus a fruitful venue through which to consider the sociality of property.

As spatialities of water distribution are worked out through legal-geopolitical practices, scholars have recently examined contests over water through the lens of critical legal geography (Sizek 2021, Cantor 2016). Attending to struggles among the unincorporated *colonia* residents of South Texas for autonomy over their water supplies, Jepson writes that "The legal process demarcates the boundaries of water politics because the law determines who holds legitimate power to organize, distribute, and manage a region's physical water resources" (2012: 615). Litigation thus appears as itself a political practice, one that in turn mediates the interrelationship between the social and biophysical worlds. This process is moreover power-laden, such that legal practice and enactment "can maintain but also challenge the power dynamics imbricated in socioenvironmental arrangements" (Cantor et al. 2020). Evolving legal discourses are thus an important vehicle in the production of the social spaces of water.

Liberalism and dispossession

As conceptions of liberal property law were developed with Indigenous groups a structuring exclusion, liberal political thought and jurisprudence underwrite dispossession of those deemed somehow outside of modernity (Cattelino 2018; Park 2016). The Spanish, upon

arrival in what is now New Mexico, differentiated between "civilized" sedentary tribes and "barbarous" nomadic ones, a distinction that would live on in the subsequent differentiation of Puebloans from non-Puebloans (Taylor 1975; Griswold del Castillo 1990). Under U.S. rule, the rendering of Indigenous lifeways as wasteful justified takeover of their lands and of resource bases in terms of productivity (Griffith 2018, Estes 2019). In this way, the determinations of resource use that accompanied the implementation of liberal water governance strategies in New Mexico and across the U.S. west underwrote the promotion of the interests of certain publics—i.e. those of the new colonial sovereign—at the expense of other publics marked as outside the "public interest."

Schmidt (2017) argues that global water governance today carries a hidden liberal common sense developed in the colonial US West. Amid formalization of U.S. expansion westward, thinkers of the Progressive Era—chief among them John Wesley Powell and W.J. McGee—developed an understanding of water that would inform American water management across the U.S. West. In this account, humans were one among a multitude of geological agents shaping the world, with human societies and their environments engaged in an ongoing dialectical co-production. The historical process that had created the self-aware American subject positioned that subject—through mastery of scientific knowledge—to manage the abundance of the continent. For the ascendant water managers,

> to manage water was to manage the bridge between life and non-life and, thereby, to shape the course of planetary evolution and social development. Furthermore, societies that knew this fact held an institutional advantage… the upshot was that these societies and their forms of life—their laws, institutions, practices, and customary habits of thought—were deemed the template for developing and

> managing water, not only for themselves, but also for the weal of evolution itself (ibid: 4).

The institutional arrangement to which these managers paid credence was U.S. liberal democracy. Water was to be held in public trust, but conserved and managed in a way that respected liberal "practices regarding the secular basis for the rule of law, the priority assigned to individual autonomy, [and] the notions of right, personhood, and property used to establish and maintain distinctions between private versus public spheres" (ibid: 5). Perhaps it could not have been otherwise. Despite espousing an approach to water that acknowledged both its agency and relationality, Powell was deeply entrenched in the machinations of an expanding U.S., producing maps of the West and scholarly studies of its peoples and resources for a Washington, D.C. beholden to the interests of a rapacious class of settlers practicing magical thinking about agriculture in an arid region (Stegner 1992).[1] The context in which Progressive Era water policy was made was one in which, one way or another, land would be taken and fortunes made.

The Treaty of Guadalupe Hidalgo, ending the Mexican-American War and marking the advent of the U.S. occupation of the territory, had guaranteed existing property claims would be honored by the new sovereign. Yet the westward pressures of U.S. colonization amid Manifest Destiny would immediately belie the treaty's guarantee. The passage of the federal Homestead Act in 1862 guaranteed 160 acres to U.S. settlers who would work the land for five years; the Pacific Railroad Acts of 1862 made travel west easier for Americans and facilitated sale of goods in markets back east (Grandin 2019); the Desert Lands Act of 1877 parceled public lands into private hands provided they were irrigated and cultivated (Stegner 1992), codifying Lockean

[1] Powell also hoped to organize democratic, communitarian political units in the U.S. west corresponding with watersheds rather than arbitrarily drawn jurisdictions (Worster 2003). While this vision would be swept aside amid U.S. westward expansion, it resonates with acequia culture, which nonetheless did not figure heavily in his thinking.

notions of property as earned through economically beneficial labor. Mexican and Indigenous landholders, whose titles to their land were often incomplete or held collectively, found their lands susceptible to theft condoned by law; even cases in which they successfully sued for their lands back resulted in expropriation thanks to debts accrued through exorbitant court costs (Griswold del Castillo 1990). The result was a huge giveaway of formerly Indigenous and Mexican public lands and resources to U.S. settlers and to capitalist speculators, with four hundred thousand families gifted nearly three hundred million acres of land and private interests double that (Grandin 2019).

Property relations and racial categories of the new sovereign were moreover co-productive. Social life in the territory upon the advent of U.S. rule was superimposed atop a Spanish system that distinguished between "Spanish" settlers of the colony—many of whom were *mestizo*, of mixed Spanish and Indigenous ancestry, but had come from elsewhere in Mexico to improve their social standing on the frontier—and Indians (Gómez 2018). Those nomadic tribes who had not submitted to Spanish rule were considered barbarous by both the Spanish and Americans, and easily slotted into the bottom of both racial caste systems. The case of Puebloans, located along the Rio Grande, was more complicated. These tribes had long lived settled lives and practiced agriculture; many had adopted acequia irrigation practices during the years of Spanish and Mexican rule (Rodríguez 2006). Upon Mexican independence, moreover, they had been granted citizenship in that republic. While they were near the bottom of the Spanish-Mexican caste system, they had Spanish names, practiced Catholicism, and fought against the nomadic tribes alongside the Mexicans. Yet when the United States took over the territory, the two groups were cleaved. The legal construction of whiteness as a form of property (Harris 1993) led Mexicans to "differentiate themselves from Pueblos by claiming whiteness,

and thus the rights of full citizenship reserved for white males in American society… what ultimately became an anti-Pueblo project of Mexican elites played into the hands of the American colonizers, who sought to divide Mexicans and Pueblos in order to disrupt a potentially powerful alliance among these native groups" (Gómez 2018: 98).

The alienability of Puebloan property rights was an open question in the years that followed. In *United States v. Lucero*, territorial judges found that Puebloans, who had become Mexican citizens, were not to be considered alike to other Indians under 1834's Trade and Intercourse Act, which prohibited (legally, if not in fact) buying of Indian lands.[2] This "peaceful, quiet, and industrious people, residing in villages for their protection against the wild Indians, and living by the cultivation of the soil" (U.S. v. Lucero 1869: 4), ultimately integrated into the Mexican polity, were by dint of their "advancement" able to "hold, purchase, and convey property as citizens and as men" (ibid: 6). Thus, the court found, Mexican-American defendants claiming ownership of lands considered part of Cochiti Pueblo were entitled to do so. This legal reasoning evinced a curious situation in which proximity to whiteness allowed for alienability of Puebloan lands in the marketplace, and thus for transfer to Mexican-American and particularly Euro-American (or, in modern parlance, "Anglo") hands. A later U.S. Supreme Court decision in 1913 reversed *Lucero*'s categorization by interpreting the Pueblos as indeed subject to federal protections for Indians (U.S. v. Sandoval 1913). Yet the racial meta-logic held, even as its contours shifted. Regarding Mexican-Americans and Pueblos, the near-whiteness of Mexicans and not of Puebloans meant granting of collective (if limited) water rights to Pueblos, while

[2] The decision in the case demonstrated the encoding of Lockean notions of property rights via beneficial use of land into legal reasoning: "Land was intended and designed by Providence for the use of mankind, and the game that it produced was intended for those too lazy and indolent to cultivate the soil, and the soil was intended for the use and benefit of that honest man who had the fortitude and industry to reclaim it from its wild, barren, and desolate condition, and make it bloom with the products of an enlightened civilization" (U.S. v. Lucero 1869: 2).

previously communal water systems of Hispanos were incorporated into the territory's wider property network. While treaty law (itself a vehicle for colonial depredation, see Curley 2019) would mediate Pueblo water allotments, acequia rights remained exposed to the market.

Federal laws passed in the aftermath of Guadalupe Hidalgo redistributed western land and resources to U.S. interests, especially guarantees of property rights that would both aid expropriation and create markets for seized resources. Water was no exception.

Toward public welfare?

Across the state, amid the ongoing, century-old adjudication process by which the state quantifies water use rights and thereby centralizes their control and distribution, "New Mexicans worry about the delocalization of water and the potential loss of collective water sovereignty" (Perramond 2019: 16). This delocalization of water amid its transition from communal good, imbued with cultural significance beyond the economic, to a modern commodified "resource" has a social and affective dimension captured by Anglo acequiero and memoirist Stanley Crawford:

> The horse has its advantages. Like you it tires with work, needs rest, food, water: your rhythms are similar. A tractor, a machine, invites you to work at a pace unnatural to the body, and while the machine does the work faster and better in some ways it is also designed with complex needs that seem like deep ulterior purposes to connect you to international fossil fuel and manufacturing conglomerates, banks, insurance companies; and its waste products, unlike a horse's, are toxic and useless… The difference between the modern world, which Tancredo Serrano did not really have to enter, and the world which it has almost completely displaced throughout much of this region, and relatively recently, lies largely in the nature of such connections—whether they are close and local and

among near equals, or remote and seemingly abstract and between individuals and vastly larger institutions (1988: 96).

As suggested in the District Court decision that opens this chapter, alongside social movements to prevent such a loss of water sovereignty, acequieros have accordingly worked in the courts toward a recognition of extra-economic values of water, including organizing at the same basin and sub-basin scales used by the state engineer to adjudicate water claims. This reproduction of the state's spatialities for planning and distributing water mirrors the gradual absorption of acequias into the state apparatus itself—achieving status as corporate entities in 1895, as political subunits of the state in 1953, and within the last two decades finding themselves subject to New Mexico's Open Meetings Act (Perramond 2019). This absorption is in some ways a matter of scalar necessity, with acequias working at the scales at which water is governed in the state; the changes however represent something of an erosion of a more localized water sovereignty.

And yet, amid a system of privatizing water rights in which dispossession has proceeded through the courts and through modernizing and economistic regional water authorities, acequias represent a commons, and thus a potential alternative to a more fully privatized system of water use rights. They are, to be sure, a hybridized commons (Turner 2016), also enmeshed in market relations in which water rights are simultaneously subject to shared governance and individually saleable. This absorption into a legal-political system based on private use rights means that even commoning projects can unwittingly deepen liberal logics of water governance that will reproduce the very outcomes of liberal water governance advocates of commons as counterhegemonic projects might hope to avoid. Even so, acequias have achieved the important legal right to deny changes to ditch water uses by an individual *parciante* when such diversions

would be detrimental (*Peña Blanca Partnership* 2008), and have in some cases argued for shared dates for all *parciantes* along a ditch to bolster communal claims (Perramond 2019). Acequia communities have retained, particularly in the north, a degree of local autonomy in governing their affairs.

In the Middle Rio Grande, unlike in the state's north, acequias did not retain that autonomy, instead finding themselves absorbed into the Conservancy District. The dispossession of acequia communities in the Middle Rio Grande, like the dispossession of Indigenous communities of New Mexico, was aided by colonial discourses materialized through law; the legal codes of that expropriation shape the spatial distribution of water regimes in New Mexico today. Yet colonized populations have always contested those discourses and legal practices, and still do. In 2004, activists in Albuquerque's unincorporated, semi-rural South Valley began helping hundreds of homeowners reclaim lapsed water rights; eventually, enough of a constituency grew that they were able, with the help of the nonprofit New Mexico Acequia Association (NMAA), to reform five acequia associations and confederate as the South Valley Regional Association of Acequias. Below, I consider the early history of the Middle Rio Grande Conservancy District as spatial instantiation of a rationalized style of colonial water management that has shaped water governance in the state ever since and reformed acequia life in its ambit. I will then examine the case of the SVRAA—hybridized from the outset, a collective born through the reclamation of individual property rights, reanimated ghost of an acequia community perished long ago after the advent of the Conservancy District—to consider the contradictory historical evolution of acequia activity within an unfriendly legal-political context. I follow these irrigators through the forums in which they work to implement acequia practices, with attention

to the coproduction of law and social space. In the region in which commonsense liberal water governance was developed, I argue, other forms of life are possible.

Interlude: Methods

The research that follows builds on and deepens the work that I began in spring of 2018, when I first encountered members of the South Valley Regional Association of Acequias for a journalistic article on Santolina in the Middle Rio Grande. That earlier research informed my approach, offering contacts from which to snowball into other interviews and informing a sense of the relevant social and physical landscapes for understanding water in the Middle Rio Grande. I moreover draw directly from that earlier research in what follows.

During the summer of 2021, I conducted a series of semi-structured interviews of one to two hours. Most of the interviews were in person, often on-site on farms or in governmental offices; a few of the interviews I conducted remotely over Zoom, for health considerations amid the Covid pandemic. Six interviews with acequia irrigators addressed distinct forms of action pursued at the community level and across political forums, as well as a lived sense of water's relevance in the area and irrigators' interactions with it. Five interviews with current and former board members of the Middle Rio Grande Conservancy District and adjacent water officials addressed how this powerful subdivision of the state relates with its constituents and resource base. Six interviews with community organizers considered historical memory of water in the region, tracing strategies for asserting the community's rights and responsibilities. While I grouped the interviewees according to my primary motivation for speaking with them, many subjects inhabit two or more of these roles. In addition, I visited an in-person meeting of the La Joya Acequia Association and attended two meetings of the Middle Rio Grande Conservancy District to watch the planning process unfold, conducting participant observation and taking field notes. New Mexico is an intimate state, despite its large physical size; I therefore was able to

buttress my reading of academic literature with informal interviews with three less formal interviews with scholars and authors who study and write about acequias from various angles. Together, these interviews and observations wove a tapestry of narratives considering the last century of water in the Middle Rio Grande, and proffered firsthand accounts of how variously situated subjects interpret that history and put it to use. I have anonymized interviewees' information to protect their privacy, except where permission was granted not to, and introduce interviewees by number and date of interview.

I supplemented the semi-structured interviews with archival research in the Center for Southwest Research at the University of New Mexico and through records from the archives of the Conservancy District itself. As one of the themes of the discussion to follow is the co-production of waterscapes and legal regimes, I investigated formative legal moments to understand how each evolved through time, attending both to legislative documents and to state court decisions regarding contestations of water law. I likewise pull from gray literature, both for color and to understand the perspectives of non-state and non-academic actors over time.

All interviews were recorded, and then transcribed via Trint. Following Saldaña's method of "descriptive coding" (2013: 87), I noted thematic categories in the transcripts as I listened to the recordings. Some of those topics were preformulated by my interview script; others, however, emerged from the interviews and the archival research, in turn reshaping my approach to subsequent interviews. I then turned to "pattern coding" (ibid: 209) to develop these themes further, grouping data across speakers and sources to enable comparisons and enrich my understandings of the emergent themes. These interview-based pattern codes in turn informed archival work and the scholarly literature with which I engaged, both of which reflected back iteratively to further elucidate themes in my recorded interviews. I thus follow Perramond in

making use of "living testimony, historical and legal archives, and on-the-ground observations from New Mexico" (2019: x) to work toward producing grounded theory. In the following chapter, I present my findings and explore the themes that emerged.

Chapter 4: Findings and Analysis

Memories of loss

The proximate issue justifying the Middle Rio Grande Conservancy District's creation was flooding. Spurred by the arrival of the railroad, intensified industrial farming practices in the San Luis Valley in southern Colorado near the Rio Grande's headwaters led to more frequent and violent flood events downstream at the turn of the 20th century (Harper et al. 1943). The problem was fundamentally one of scale; despite acequia organizations throughout the state providing a series of organized systems of water distribution at the community level, water users in the middle Rio Grande were subject to deluges from land use changes elsewhere in their basin but outside their jurisdiction. With water levels rising, swamping farmlands beside the river and threatening real estate values in the city, a group of prominent citizens of Albuquerque, led by the city's Chamber of Commerce and including Hispano as well as Anglo grandees, came together to form the Middle Rio Grande Reclamation District in 1918, successfully lobbying the state legislature to enact a law in 1923 to create the Conservancy District. The District was granted powers to perform such governmental duties as taxing property holders and exercising eminent domain (Burkholder 1928).

In a report submitted in favor of forming such a reclamation district, New Mexico Territorial Engineer Vernon Sullivan highlighted flooding as a major and ongoing risk. Silting from enhanced runoff was raising the bed of the river, resulting "in the raising of the water table on adjoining valley lands, so that now many lands that used to be in cultivation are alkalied and waterlogged" (Sullivan 1924: 8). Of 200,000 available acres in the Valley, fewer than 50,000 were in production—fewer than those classified as alkalied and waterlogged. Reclaiming these

lands would demand a combination of reservoir storage, drainage and irrigation ditches, and erosion control. Any gains from a potential flood control and irrigation project would be expressed economically: "It would not be unreasonable to believe that future land valuations would be much higher than that figured above [i.e. more than doubled after improvements], so that the reclamation of the valley is desired and would be a financial success, even though there were no other advantages than to the farm lands only" (ibid: 14).

The anticipated land valuations would immediately evince corrosive effects on the valley's inhabitants. The Conservancy District was initially structured such that two judges, "usually Anglo American," were granted the right to appoint the Conservancy District's board of commissioners and appraisers, barring from that process the constituents upon whom the boardmembers were empowered to impose heavy taxes (Knowlton 1994: 10). The District began construction works in 1930 and over the next decade spent nearly $10 million, with the federal government contributing over $1.3 million on behalf of the tribal nations in the district's ambit. The difference was made up with bonds, assessed most heavily on agricultural properties in the district. The failure of the expected benefits to materialize left more than half of agricultural property owners delinquent on their tax payments, as "agriculture simply could not pay its allotted assessments" (ibid: 12).

The distress of acequia associations at the time is captured in a 1934 letter sent by the commissioners of La Acequia de Nuestra Señora de Belén de la Ladera, known more informally as the Belen Ditch. This ditch, the largest in the District at the time, stretched twenty-three miles from the Isleta Pueblo in the north to the town of Belen in the South, incorporating other ditches and branches along the way (Rivera 1998). In their letter, the commissioners of this ditch among ditches expressed surprise at the greenlighting of the Conservancy District. "At least 95% of the

property owners and taxpayers in our vicinity, who will be directly affected by the law," the authors wrote, "are opposed to it because instead of being a beneficial law it is more or less a process of confiscation of property and of driving out the poor farmers who are unable to meet the high assessments required by the Conservancy and who have lived on their poor small farms all of their lives, as did their fathers, grandfathers, great-grandfathers, and other ancestors before them" (1934).

Acequia communities were at risk from the increasing tax burdens that acted to expropriate existing landowners. In addition to the erosion of acequia constituencies, the establishment of the MRGCD made redundant acequia associations' fee collection, which in turn was required for acequias' maintenance works. In 1940's *Middle Rio Grande Conservancy District v. Chavez*, the New Mexico Supreme Court acknowledged that "long prior to the organization of plaintiff district and for generations, the Los Chavez ditch had served the community of that locality and it was recognized as such and operated as a quasi-public corporation under the old and well-established community ditch law" (1940: 243). Now, however, the District had been created to "more profitably and economically serve the lands susceptible of irrigation and drainage within the district," in turn raising the question of "who owns or controls such main irrigation ditches?" (ibid: 244). To grant dual authority over the ditches, with attendant dual dues-collecting powers, would ensure financial ruin to irrigators along the ditch. As such, the judges held that the District "could by authority of the Conservancy Act take over, own and control the ditch in question; and further that it did so take over the ditch" (ibid: 248). Initially, the District tended to employ ditch commissioners and landowners for maintenance, thus preserving something of the pre-existing social relations within acequia communities even as control of said ditches was redirected to the new body. The decision to

disallow ditch associations to collect dues explicated the new arrangement: acequias throughout the Middle Rio Grande were absorbed into the District's apparatus.[3]

The integration of the middle Rio Grande into wider political-economic networks deepened as the finances of the Conservancy District worsened. Amid discontent and protest among the largely Hispano landowners in the district, with thousands in arrears, the state imposed a moratorium on assessment of construction taxes in 1937, and again in 1940. By 1945, however, those moratoria expired, and massive foreclosures began—with perhaps as many as 7000 farmers in the district ultimately losing their land (Knowlton 1994). With the district in dire financial straits and flooding nonetheless continuing, in 1948 the U.S. Bureau of Reclamation stepped in, partnering with the Army Corps of Engineers to take over title of the District's infrastructural works and repairing them where appropriate, and stabilizing flows by constructing levees and reservoirs within the Rio Grande and its tributaries. Thereafter, the Bureau would also control day-to-day operations of the district, reconfiguring the District from an independent body into one piece of an archipelago of reclamation projects spanning the U.S. West under federal control, a situation that continues today (Interview 16, 9/16/21).

Considering intergroup conflict over the forests of Northern New Mexico, Kosek (2006) argues that the cultural memory of loss informs a New Mexican Hispano identity that is reconstituted through use of those resource bases that serve as stores of this collective memory. As with the forests, so with the acequias of the Middle Rio Grande. The sense of loss from the District's earlier takeover informs the politics of the current conjuncture, shaping the actions of

[3] This was true everywhere except for one holdout acequia association, sixty miles south of Albuquerque in La Joya, NM. La Joya acequieros have a unique history with the District, which after a series of agreements delivers water to a heading nine miles north of La Joya (Interview 22, 9/1/21). Yet even as the La Joya acequias have managed to maintain formal independence from the MRGCD, they remain enmeshed in the District's apparatus, reliant on MRGCD canals for delivery of water. Even so, while acequieros in La Joya discuss their ditches in existential terms and harbor little love for the District, their water struggles are somewhat separate from those in Albuquerque. Theirs is a history for another thesis, perhaps.

both acequia organizers and of representatives of the District itself. Santiago Maestas, president and co-founder of the SVRAA, recounts the contentiousness of the takeover of the Middle Rio Grande's water resources after the passage of the Conservancy Act and *Chavez* decision:

> Basically the Chavez Acequia Association just south of us in Los Lunas had opposed MRGCD's intrusion into their jurisdiction, had an armed confrontation when the District brought in steam shovels to realign and redo the ditch… Ultimately all the acequia officials were arrested and prosecuted… Although the acequia laws had not been abolished under state law, they didn't see any role for the acequias to have now that there's a Conservancy District. And we can no longer collect fees for providing irrigation, for the operation of our local acequias. So it was at that point that the District then took over. We were forced to sign contracts and agreements to that effect, for them to do the maintenance operations (Interview 2, 5/17/18).

Jorge Garcia, another SVRAA co-founder, cites the recent organizing in the South Valley as a salve for the wounds left over from that period:

> I think that the understanding that people have about the conflict that took place in the 1920s and 1930s, it was very demoralizing, you know? And so I think that us putting it back together is actually to undo some of that. People feel confident because our conflict was not necessarily just about acequias, no? It was about reconstituting the sense of community that we had… That brought a lot of a sense of relief for a lot of people (Interview 9, 8/17/21).

South Valley acequia organizers, while aiming at legal recognition, likewise strove to strengthen social bonds of the community into which acequias wove. The community binding

function water serves in the above quote echoes in part Yazzie and Risling-Baldy's formulation of a decolonial "water view" that promotes an "ethos of living well," one based on "radical relationality": "a vision of relationality and collective political organization that is deeply intersectional and premised on values of interdependency, reciprocity, equality, and responsibility" (2018: 2). Such a view conceives of water as itself a relative, interdependent with the beings through whose veins it runs; it helpfully frames acequias' self-government, whose proportional allotment means that abundance and scarcity alike are shared among *parciantes* along with responsibility over the waters' flow. Acequia irrigation, by creating "self-government anchored in the democratic principles of equity, fairness, access, and local control" (Rivera 1998: 86), deepens relationality among community members and with their waters. Historical memory of the erosion of acequias *qua* acequias also informs historical memory of lost community ties.

Collective memory of dispossession remains, for acequia organizers, a rallying cry for asserting modern acequia rights; so too does it lend a certain wariness to the relationship between acequia irrigators and the Conservancy District. The District, for its part, hardly shies away from the conflicts that attended its founding. One former board member of the Conservancy District recalls the more fractious version of the District's takeover, and the political questions—existential for acequias—that the District created:

> In relation to the Acequias, they had these contracts that said, like, we'll maintain this and you'll maintain that and we'll deliver water to you at your head here… And then, it was like '38 or something, there was a lawsuit where there was an acequia and people were still paying their acequia dues to their commission and their *mayordomo*. Essentially the fight was, "no, you've got to pay your money to the Conservancy District and the *mayordomo* doesn't have a job." You know, "our guy

> has that job and the district won that case." So the lingering question was, do the acequias exist anymore or are they part of the District? (Interview 10, 8/18/21)

Yet in perhaps a bid for technocratic neutrality, other District figures narrate the chapter as more or less settled history. Flooding was threatening the entire region, and something had to be done. Another Conservancy District official recalls the District's advent as less fractious. After it signed contracts with the ditch associations, he says,

> acequias just kind of went about their business of getting the lands back in production. And there really wasn't a whole lot that I know of any early concerns. There was one group that opted out [in La Joya]… But everybody else accepted the world as it was. And then they moved on over time. The communities kind of got, I guess you call it, sort of fractured or individualized in terms of the old acequia system where you had a *mayordomo* and everybody kind of came together as a community working on the ditches and, you know, managing the water and all that kind of stuff. There were still some of those that were doing that. They would just take water from our system and still manage it in the old way. And then others just let it go, like in the South Valley, they kind of let it go. And because they were already paying taxes to us, they didn't want to have another set of fees and taxes on top of everything else (Interview 5, 7/27/21).

Even so, he admits, "there's some tension historically between the district and the acequias" (ibid). That tension, of course, is important for the District to address if it is to effectively govern with acequias, but the District's legitimacy would be undermined by its early history appearing as simply a water grab. The differing interpretations of that earlier chapter both inform a more recent round of acequia organizing, one whose novel configurations in turn reshape conceptions of the District's relationship with its constituents.

Honeymooning

For decades, acequia life in the Middle Rio Grande was moribund, largely subsumed into the Conservancy District's apparatus. One interlocutor, not an acequia irrigator, expressed surprise at the theme of this study: "It's a non-obvious thing to choose, in that most of the acequias that used to exist in the Middle Rio Grande were engulfed into the MRGCD when it was created. There's very few that remain, right? So, yes, that's why I was curious how you came to even find that there were any" (Interview 16, 9/16/21). The Middle Rio Grande's ditches reached something of a nadir with the formation in 1983 of the Ditch and Water Safety Task Force—which included representatives from the MRGCD—whose "ditches are deadly" campaign accentuated the risks of drowning to cast waterways as sites of danger (Ditch the Ditches, n.d.). The conflation of acequias with the personal dangers of large, concrete-lined arroyos that act as major drainage canals would contribute to the abandonment of the ditches and present an obstacle to later acequia organizers who aimed to recast the ditches in a more nourishing light (interview 2, 5/17/18 and interview 8, 8/16/21).

In the 1960s and 70s, the Chicano movement in the U.S. Southwest—formerly northern Mexico—asserted claims to land and resources lost in the aftermath of the 1848 treaty of Guadalupe Hidalgo. New Mexico played home to a campaign for land back led by Reies Lopez Tijerina and La Alianza Federal de Mercedes Libres (Federal Alliance of Grants), which over a decade saw the occupation of the Carson National Forest, a shootout at the Tierra Amarillo courthouse, and a class action lawsuit reach the U.S. Supreme Court before fizzling out (Griswold del Castillo 1990). Chicano organizing in this era would come to inform acequia organizing. One interlocutor, for example, described working with Chicano organizing groups in the 1970s before helping to organize the SouthWest Organizing Project, or SWOP (Interview 1,

5/14/2018). SWOP's offices later became the home from which the Contra Santolina Coalition operated, orienting the South Valley acequias toward a more activist outlook and helping to facilitate the acequias' coordination with a wider network of activist groups.

A half century after its subsumption, then, acequia life reemerged in the region. In the late 1980s, amid decades-long adjudications that threatened to constrain acequia allotments, acequia activists statewide began to convene to discuss shared concerns, taking steps in 1988 to form the New Mexico Acequia Association (Rivera 1998). They focused their early efforts on the threat of water transfers out of acequia communities, on technical assistance to existing associations, and on acequia advocacy in state water planning. The NMAA supported the formation of regional acequia associations that could coordinate acequia responses to issues facing entire basins at a time.

The growing organization of acequia communities resulted in the 2003 passage of a state statute stipulating that a change in the ownership or purpose of a water use right within an acequia community would be subject to approval by that acequia's commission, and that "the change may be denied only if the commissioners determine that it would be detrimental to the acequia or community ditch or its members" (NM Stat § 73-3-4.1). As ongoing adjudications threatened to undermine acequia networks in an echo of the advent of the Conservancy District, this statute equipped acequia associations to directly prevent the erosion of their resource base. Despite its nonprofit status, the Santa Fe-based NMAA acted to facilitate official state recognition of acequias through distribution of a standardized set of bylaws, which in turn enabled a proliferation of these state subdivisions. An attorney with the NMAA credits the legislation as transformative. In his telling, its efficaciousness depended on simultaneous

centripetal and centrifugal action, with coordination in the state capital both depending on and enabling devolved organizing at the local level:

> That was such a tremendous victory in 2003. Of course, you needed the grassroots support to get that kind of legislation passed. But you also needed the organizing after that statute was passed because it wasn't it wasn't just done with passing the statute. If you look at the water transfer statute carefully, it actually requires the acequias to adopt a bylaw. And so if they don't adopt the bylaw, they don't have the authority. So that required quite a bit of work with individual acequias. But you can kind of see how regional acequia associations can play a huge role in disseminating information and mobilizing their own people, their own acequias on a very important thing like water transfers and adopting the bylaw (Interview 18, 10/14/21).

Within five years, he estimates, 90 percent of acequias in New Mexico had implemented these bylaws. While the NMAA is a nonprofit and thus not itself a part of the state apparatus, it became a powerful hub of acequia life, also hosting yearly *congresos* to gather acequieros from around the state and offering annual seed exchanges to encourage collaboration and cross-pollination.

The crucial case of the South Valley acequias elucidates the devolution of state power to acequias. Santiago Maestas, who moved to his current home in the South Valley in 1973, found that after an upstream neighbor died his acequia was clogged and left in disrepair. When Maestas contacted the MRGCD for relief, he was told that the water had been delivered appropriately to his ditch heading and he would have to handle it from there. Unable to coax his new neighbor into repairing the ditch, Maestas tried instead to contact the New Mexico Acequia Association in

hopes of imbuing his acequia—which had continued certain practices outside the gaze of the state—with legal power to enforce its codes. Maestas recalls that

> In 2004, Paula Garcia and the NMAA got back in contact—they took a lot of time! They took like four years. But to tell you the truth, that's typical. Takes a long time to get things done around here… what they did is they recruited local people from all over New Mexico, that I guess had contacted them asking for help, and said "we'll train you. We'll teach you the acequia laws, how to adopt bylaws, which makes your acequia a local governmental entity, a subdivision of the state." (Interview 2, 5/17/18).

In addition to technical knowhow from the NMAA, however, the South Valley acequias aimed to broaden their constituency of irrigators to strengthen their position. Maestas had met Jorge Garcia, now a professor at the University of New Mexico, through an overlapping constellation of community organizations in the South Valley. In the years leading up to the founding of the SVRAA, they began a project of mapping via GPS the historical water usages of the entire South Valley. Garcia explains that this was an effort to reestablish rights that were no longer recognized in the aftermath of the District's founding:

> Because we knew that if there is a *compuerta* [headgate] by your home, or close by, that means that those properties have water rights. Most likely, no? Simply because of the way water rights are established… So most likely the whole area, the whole division had been irrigated before time, before the MRGCD came. So we knew that if we can map all that out, then we know the context of what we're talking about, you know, in terms of how much water should be allocated and who has water, possibly has water rights and all of that (Interview 9, 8/17/21).

Critical cartographers argue that maps encode the social relations through which they were produced, both reflecting unequal power dynamics and in turn acting as historical agents to order certain spatialities in favor of powerful actors (Crampton 2010, Harley 1987). Across a range of case sites, settler-colonial states produce maps that that reinforce settler-colonial processes (King 2019, Immerwahr 2019, Stegner 1992), and indeed the formalization of property rights under U.S. occupation allowed for widespread dispossession of resource users and landholders unable to prove their titles (Grandin 2019, Griswold del Castillo 1990). A good deal of critical geographic literature examines the process of "counter-mapping," in which subaltern or otherwise marginalized populations create maps in opposition to prevailing hegemonic cartographies (e.g. Pulido et al. 2012, St. Martin 2001). In the case of the South Valley, the counter-mapping was both a process of recalling a landscape predating the District and a strategy for making material claims to property rights. Even so, paradoxically, those material claims were based on the colonial American doctrine of prior appropriation. This process, then, represents a repurposing of the tools of the legal system to challenge the outcomes of its own logics (see figure 3).

The founding of the South Valley Regional Association of Acequias (SVRAA) took place within a wider nexus of activism: the organization would not only take on executive functions as a subdivision of the state, but would also work to establish valuable priority water rights for constituents. This process, as Maestas recalls, was accomplished by trial and error.

> I learned at that time how to apply for my pre-1907 water rights, and make a declaration with the state adjudicator. It was hit or miss the first time I went, I did it wrong. They have staff specialists that review the declarations for water rights, and when you go up to the office to submit your application, it's assigned to one of



Figure 3: The granddaughter of acequieros holds a map of the Middle Rio Grande's waterways aloft on her grandparents' small farm

those specialists, and then they do the background check to see if the land is on a 1917-18 drainage survey that an engineer did prior to the adoption of the state Conservancy Act here in the Middle Rio Grande. So based on that survey, lands that were cultivated on that map were granted pre-1907 water rights predating the Conservancy District… So the district doesn't own those rights. We as local

> landowners on the lands that were cultivated by these ancient acequias in the South Valley do own the water rights… I made a proposal to the NMAA that as part of our project, we would assist people with procuring their pre-1907 water rights. So that's how we ended up reorganizing, then, five of the six acequias that were located in the South Valley (Interview 2, 5/17/18).

This counter-mapping project built the constituency that would get the SVRAA up and running, eventually aiding more than 300 property-holders in the South Valley to claim water rights with the State Engineer's Office. Moreover, the leaders of the SVRAA worked for or with other local community organizations focused on youth leadership, agriculture, and political organizing in the area, ensuring collaboration between the South Valley acequias and adjacent social movement groups (see figure 4). Naturally, not everybody with reclaimed water rights wanted to engage in small farming; for some, the new water rights represented little more than a potential windfall. To encourage small farming practices that might allow acequia culture to thrive, the SVRAA worked in conjunction with the American Friends Service Committee (AFSC) on farmer training programs. One interlocutor, in charge of the Friends' Service Committee's farmer training program, narrated the importance of the South Valley in that work statewide. When he was initially approached by the Friends' Service Committee, he recalls pushing the need for farming alongside advocacy work:

> 'Let's build a cadre of farmers and let's put more farming into land, into production. When anybody says anything, we can take him over there and show them how much food is being grown and how much money is being made and what that means to the local economy.' So we went from a theory-based—and I'm not criticizing or anything—kind of a program to more of a practical hands on, let's get it done kind of a program… We had a little place here, people would come in and intern on the



Figure 4: San Ysidro celebration along the Atrisco acequia in the South Valley

> farm for several months or several weeks, and then we'd train them and then we'd follow up with site visits at their site themselves, or we help them link up with other people. But it was an informal program. Until we actually formalized it down in the South Valley… That's where we started to create the farmer-to-farmer training manual. And we created and published the community organizing manual (interview 15, 8/31/21).

In 2009, the AFSC incubated a cooperative small farmers network to bring produce from the area to market, naming it "Agri-Cultura." The network is centered in the South Valley and includes farmers from nearby as well. Such cooperatives are crucial for economic viability, as a co-director of the state AFSC relayed:

> That way people don't have to compete against each other, they can all work together to have markets. Especially more stable markets. Because a lot of small

> farmers, they sell at [farmer's] markets. Which is a great place to sell, because there's no middleman, it's direct, you can get the best price. But quantity-wise, and consistency, it's really hard to gauge. So part of our work is we train farmers, but we also build cooperatives and then show them how they can sell to larger markets, to institutions such as the schools. So we have a farm-to-school program, we incubate farmer's cooperatives, and then we build farm infrastructure (Interview 21, 12/20/2018).

SVRAA leadership credits the AFSC programs with modernizing farming techniques in the South Valley, both by training farmers in using and helping to install drip irrigation, hoop houses, and passive solar cold frames that extend growing seasons and increase annual yields (Feldblum 2019).

The SVRAA meanwhile was aided in its organizing efforts by developments at the state level, where in 2003 the legislature passed two laws that would enable acequia associations to conserve their collective water resources. The first allowed within-acequia water banking, such that if one user did not utilize their water rights, their allotment could be put to use by neighboring *parciantes* and thus keep the water rights in-ditch (NM Stat § 73-2-55.1). The other, discussed above, empowered acequia associations to challenge changes to water use or rights transfers that would degrade the resource base. Thwarted water rights holders promptly challenged this legislation on grounds that their due process and equal protection rights had been undermined by their inability to transfer rights as planned. In 2009's *Peña Blanca Partnership v. San Jose De Hernandez Community Ditch* decision, the New Mexico Court of Appeals held that no such constitutional rights were violated. The court instead recognized the state's interest in devolving this particular power to acequia commissioners, "who have greater familiarity than does a district court with the unique needs of the acequia and its members," and thus ought to

"retain the power to decide whether such changes will harm the operation of the acequia or those who depend on it for access to their water rights" (2009: 6). An important spatial exception lurked, however. Because acequias in the Middle Rio Grande remained in existential legal limbo, this latter right was not automatically extended to them (Romero 2021).

Even so, acequias in the District were renascent. A slate of MRGCD commissioners elected in the 2000s lubricated relations between that body and the ditch associations. After the state legalized tribal gambling in 1987 and passage of the federal Indian Gaming Regulatory Act a year later, the increasing economic heft of Pueblo tribes allowed them more of a voice in District affairs. One former board member of the MRGCD recalls a cultural shift after three new commissioners were elected in 2009, including a member of Sandia Pueblo. The new cadre forced out the long-tenured District CEO and replaced him with Hamman, who grew up on an acequia outside of Taos. This board member, in turn, embraced acequias as a form of "polycentric governance": acequias, entangled within liberal property relations and layers of governmental authority, could form a basis for Ostrom's (1990) model of governing resources across multiple scales. He recalls meetings between the District and acequias during his early years on the board:

> The outcome at the end of the day was the District was like, "what do we care?" You know, like, "let these people have their money and fix it up." A lot of what I was trying to get across to people was—and I don't know if you read much of Elinor Ostrom's work, she's the expert on tragedy of the commons—so I was trying to get these people to understand the concepts of polycentric governance and that, like, having people within subdivisions within our entity could actually be really helpful. These people can get money and fix their own stuff. We would have to do that ourselves, and maybe we should help them help us. So that, I think, is where the

> district is now under [chief engineer and CEO] Mike Hamman and with the current Board (Interview 10, 8/18/21).

This new crop of Board commissioners, then, attempted to put theory into practice. Ostrom developed her analysis of sustainable use of common-pool resources through study of irrigation communities, among others, including *zanjeras* in the Philippines—a similar Spanish colonial system still in use today (1990). Rivera's 1998 history of *Acequia Culture*, a seminal study for the modern era of acequia resurgence, makes the case for the sustainability and importance of acequias by drawing on Ostrom, among others. The MRGCD board, in turn, put that vision of acequias as self-governing commons into practice through reference to polycentric governing methods, at the very conjuncture in which acequias in the District were being reborn.

District actors and irrigators agree that the District and South Valley acequias are in a "honeymoon period" (interview 5, 7/26/21), with increasing recognition by the District distributing management responsibilities to acequia communities. The founding of the SVRAA encouraged further acequia organization elsewhere in the District, with two more acequia associations forming in Albuquerque's wealthier North Valley in the last decade. The current *mayordomo* on the North Valley's Pierce Lateral notes the relationship between his acequia and the District as one of devolved governance and alignment of managerial interests:

> The District comes in and is overwhelmed, undermanned and stressed with being on-call all the time and their history. They're just kind of just over being the bad guys and just already on guard. They don't want to come and help somebody do like a half-acre. They got, you know, farmers with 300 acres going, "dude, you blew out my farm, or flooded my farm equipment. What are you going to do with that?" They got bigger fish, right? So the acequia associations are where you don't

> lose your megaphone, or you're still on their radar. You still have their attention, but they don't want to have fifteen hundred little small fires to put out. So what I've been seeing is the evolution our acequia association has been having with the MRGCD despite in three years having four different ditchriders… Even with all this consistent inconsistency, we have maintained that we stay on the radar and that our water hasn't fluctuated when we get it. Other people it has, because they don't have anyone to talk to. But [our *parciantes*] know they talk to me (Interview 8, 8/16/21).

The result is an aligning of interests as acequia associations utilize senior water rights in a friendlier administrative matrix to work toward self-governance—in turn aiding in the overall management of the MRGCD's irrigation network. A commissioner of the Alamos de los Gallegos Acequia Association likewise notes the sweep of the evolving relationship between the District and its acequias. He was inspired to reform an acequia association in the North Valley by the acequieros in the South Valley. The activist orientation of the New Mexico Acequia Association thus helped to birth an activist group of acequieros in the South Valley whose influence has spread, altering water governance in the MRGCD's heartland. After the infrastructural buildout to battle flooding in the 1920s,

> Many people lost their land and traditional acequia governance was subsumed and eclipsed. In the past two decades, pro-acequia legislation at the state level created the opportunity for acequia associations to incorporate, becoming subdivisions of the state. A new symbiotic relationship with the District has evolved. They refer to us as "community ditches" but we govern ourselves as more traditional acequias. The MRGCD no longer has to micro-manage irrigation as it did in the past. With self-governance, the District can focus on larger issues, like long range planning for drought (Interview 17, 10/8/21).

Two important details emerge in this testimony. One is the lingering distinction between how the District views its acequias—as "community ditches," not quite true subdivisions of the state as are acequias elsewhere in New Mexico—and the acequia associations themselves, who in at least some cases resolve the uncertainty of that question by asserting themselves as indeed political subdivisions on par with acequias statewide (Interview 7). This lends an existential uncertainty to acequia life in the District. The second detail is ongoing drought, which threatens to unsettle existing water sharing arrangements and throw the water system of the Rio Grande into disarray.

Drought

The Rio Grande Compact, signed by New Mexico, Texas, and Colorado in 1938, stipulates that New Mexico send a standard proportion of the river south each year.[4] The water due is calculated according to the flow passing the Otowi Gage at Embudo on the Rio Grande, with New Mexico allotted 57% of that water and Texas 43%. In 2013, Texas sued New Mexico (and Colorado) in the Supreme Court, alleging that groundwater pumping in southern New Mexico had depleted surface water supplies by lowering the water table, creating a Compact deficit of tens of thousands of acre-feet. The case remains in limbo. But in late summer of 2021, in expectation of an unhappy decision, the New Mexico State Engineer's Office asked the District to cut back on their water use so as to be able to send more south.

[4] The Otowi Gage, where the flow is measured, was the site of the seminal 1888-9 field school at which John Wesley Powell's protégé Frederick Haynes Newell taught a group of Eastern engineers the novel technique of stream gauging before sending them across the U.S. West to aid in the project of "reclamation" (Baxter 1997).

The District, in turn, proposed to end the irrigation season one month earlier than planned. A special meeting called on August 20 demonstrated the furious reaction to the proposal by constituents south of Albuquerque, many professional farmers with larger operations. Matthew Aragon, from Valencia County, suggested that cutting the water off was "taxation without representation," and quoted to the Board from the Declaration of Independence. Multiple farmers suggested that New Mexico countersue, take the case to the Supreme Court, and get Texas off their back; others requested that they be allowed to simply draw from drains ushering rainwater back toward the river—water due to Texas in either case. Mike Desmet, a dairy farmer, worried that cows were leaving the District and soon there would be no dairies left. Growing water debt according to Compact stipulations was disrupting established farming patterns and the economy of the Middle Rio Grande more widely, threatening to upend water sharing agreements.

Compact debt is exacerbated by ongoing drought. Low snowpack in the Rio Grande's watershed has been a consistent feature of this millennium, and climate models predict that flows on the fully apportioned river will reduce by 4 to 14 percent in the 2030s and by nearly a third by 2080 (Paskus 2020). This process of intensive drying should not even be considered drought so much as "aridification," argues an official of the U.S. Bureau of Reclamation, such that widespread drying through the basin affects not only water supply but "ability to convert snowpack into flow downstream." That pattern is further exacerbated by uncertainty as to how human actors will behave in the face of a changing climate:

> Don't talk about new normals… that concept of normal—we have pluvials, we have droughts, it goes back and forth across some central tendency—is what we use to do, say, all of our city design and all of our engineering. So we'll say, "OK, well,

> here's the range and we'll put a safety factor on and we'll be fine, our systems won't fail," but you can't do that. The fundamental thing that we use to design everything in human society is going away because we don't have a normal anymore. And if you say there's a new normal, that would be such an easy situation! OK, let's just adjust everything to this new normal. The problem is, our challenge is that we no longer have a normal. No such thing as normal. Every year is different (Interview 16, 9/16/21).

This interlocutor moreover attributes much of the coming uncertainty to doubt as to how various actors, local and not, will behave in the face of climate change. The Bureau of Reclamation is now undertaking the so-called Rio Grande Basin Study, to model water flows across the basin and plan robustly for the coming era of hydro-social uncertainty. Planning for the Rio Grande Basin study has been made more difficult by the history of acequia dispossessions along the Middle Rio Grande, leading acequia irrigators elsewhere in the state to opt out of participating (interview 14, 8/31/21). Nonetheless, the study is designed to offer a map of potential futures in the face of aridification, which both implicates and informs longstanding struggles over water use.

> So we're going to be evaluating how much agriculture can we really have if we also want to have, for example—something that that New Mexico really needs to do is economic diversification. Can we do that with all of our water in agriculture? What about if we want to build a Tesla battery plant? What about if we want to have more Facebook centers? You know, all of these other things take some water (Interview 16, 9/16/21).

The remaking of waterways and of water governance systems in the name of economic development is a tale as old as colonialism itself in New Mexico. Any such reconstitution of

water systems is enacted in favor of certain interests and at the expense of others; acequia users, and agricultural interests more broadly, worry that worsening drought may undermine their claims. Actors through the river's basin are forced by a changing climate to adapt to perceived scarcity. Such a discursive construction of nature as a source of crisis, and of water as scarce, can act as a justification for liberalization of water governance, sustaining "socioenvironmental transformations" given shape by both environmental challenges and the culture and politics of water use in an area (Kaika 2006). The current era of drought means for an emphasis on "efficiency" (interview 4, 7/26/21) within acequias, as well as the possibility of "getting different kinds of infrastructure in place, growing different kinds of crops" (Interview 18, 10/14/21); it means inculcating a "scarcity mindset" (Interview 5, 7/27/21) throughout the District. The upshot is that the effects of global climate change are deepening the presumed necessity of technocratic governance of water in the region. The impacts of this process seem to present acequias with opportunity as well as threat. On the one hand, the justification of centralized governance as necessary in the face of scarcity could undermine the Middle Rio Grande's rebirthed acequias as the colonial restructuring of governance amid flooding did a hundred years ago. On the other hand, the discursive construction of acequias as longstanding institutions able to survive across layered sovereignties and periods of drought and abundance offers justification for the importance of these institutions. Drought, then, can act to entrench the water governance system that emerged in New Mexico over the last century even as it threatens to unsettle the system and produce new patterns of water use.

Chapter 5: Discussion

"This river," notes an official with the Elephant Butte irrigation district in the south of the state, "is a ribbon of life that binds us all together. And I know that as long as you can go back in history, there's been water wars here. They'll never end, never end" (interview 3, 9/1/20). Contests over acequia water governance intersect with the broader question of how the Rio Grande's water will be distributed, and who will make that decision. In what follows, I discuss major themes in governance of the Rio Grande. First, I consider the formation of the Middle Rio Grande Conservancy District as a moment in a colonial restructuring of resource management through the process of urbanization in central New Mexico. I then turn to the shape of this restructuring, via expropriations of subsistence farmers Hispano and Pueblo and enervation of autonomous water communities, which created a legal framework in which both privatization and commoning are incomplete and ongoing processes mediated by law. Finally, in the aftermath of the rewriting of New Mexico's water governance along modernist and technocratic lines, I consider acequias as a vehicle for re-politicization of water governance in the state.

Urbanization and expropriation

Much of the scholarly literature on acequias (Rivera 1998, Rodríguez 2006, Perramond 2019), as well as many of the interlocutors I spoke with, treat the ditch communities as a counterhegemonic commons, a structure allowing Spanish and Mexican-descended New Mexicans to maintain resource autonomy in the face of ongoing U.S. empire. The depredations of colonialism in New Mexico took the form of reshaped governance across scales via urbanization (see Porter and Yiftachel 2017). Since the occupation of what has become New

Mexico by the U.S., the integration of the territory into the wider U.S. political economy was accomplished through urban growth in Albuquerque and Santa Fe and the connection of these cities and their hinterlands to markets to the east through railroads. Understanding the history of the Middle Rio Grande's acequias and the Conservancy District with which they intertwine requires, then, attention to the question of urban growth.

"The urbanization process is predicated upon the mastering and engineering of nature's water, with the ecological conquest of water as a prerequisite for the expansion and growth of the city," writes Swyngedouw; "At the same time, the capital required to build and expand the urban landscape is also generated through the political-ecological transformation of the city's hinterland" (2004: 36-7). In New Mexico's case, the latter portion of this equation came first, as the arrival of the Atcheson, Topeka, and Santa Fe railroad in Southern Colorado and then northern New Mexico in the late 1870s spurred the creation of commercial-scale agriculture and timber operations that transformed both livelihoods and land use, causing major flooding downstream in the coming decades around Albuquerque and further south. The threat of flooding thanks to the political economic changes wrought by continental empire made the creation of the Conservancy District a presumed necessity, to protect lives and property values in the growing urban heart of the state. It represents, then, a moment in what Karuka describes as the "railroad colonialism" underpinning U.S. empire, a techno-social process that circulates commodities through the imperial core and exports financial and industrial capital to the colonies. Through the infrastructural expansion of capitalist empire, "railroads reordered modes of relationship across the colonized world, seeking to confine myriad possible futures into the death threat of imperialism: there is no alternative" (2019: 42). In the face of threats to Albuquerque after the

railroads' expansion, the District was called to rationalize water governance in service of the at-risk metropolis.

In semi-arid New Mexico, however, there was little "natural" water that the District might claim, even given reclamation of floodwaters along the Rio Grande's banks; instead, water resources were brought into District governance through the takeover of the acequia communities—colonial technologies themselves—lining the river. In the thousands of cases when the District's advent also resulted in the foreclosure of land, it "freed," in the Marxian sense, smallholders to work for wages in the growing urban agglomerations at the heart of the state. This accomplished the dual colonial purposes of accumulation of land and water for commercial interests and accumulation of labor in growing urban areas.

Many acequieros in the middle of the state understand urbanization as a threat to their water resources:

> All the adjudications—the final one will be the Rio Grande and the Middle Conservation District. If we're not talking with them now, then what's going to happen in the future? So we wanted to make sure that they understood the value of sustainable agriculture, of small agricultural projects and economic opportunities through small farmers… When it gets time to make those decisions as a community, we all stand up and tell the government bodies, 'basta, that's enough, man. Water is for growing food and our families, and you got to incorporate that into the next fifty- and five-hundred-year plan or else it doesn't work for us." And the only way to do it is for the community to speak up and address it itself… Santolina, that was part of the reasoning, is that everybody in the South Valley in Albuquerque has to be part of the decision-making process of how the whole state is allocating its water and how it's going to be used. Because if not then the urban area of Albuquerque will suck up all the water. You know, there won't be anything left for farming or agriculture (interview 15, 8/31/21).

Historically, the American expropriation of land and resources from Indigenous and particularly Mexican American populations in New Mexico bears a striking similarity to the classic case of primitive accumulation described by Marx (1990). In his English history, feudal lords drove the peasantry from the land in the late 15th c. in response to the expansion of wool manufacturing in Flanders, as price increases in England incentivized the transformation of arable land into fields for grazing. For the next century and a half, legislation failed to stop this practice. But the "advance made by the eighteenth century shows itself in this, that the law itself now becomes the instrument by which the people's land is stolen" (ibid: 885). "Bills for Inclosure of the Commons" in the 18th c., facilitating expropriation of peasant populations, accompanied laws authorizing harsh punishments for vagabondage of the newly unmoored peasants meant to discipline them into labor.

Yet the New Mexican case departs from this classic narrative in one important sense: the law appears not only as a vehicle for dispossession for but as a site of political contestation. Irrigators argued on ditch banks and in state courts alike to maintain control over their water resources. Immediately upon U.S. arrival, New Mexicans in the territorial legislature passed laws prioritizing agricultural water uses and protecting acequias as sites of water planning (Baxter 1997). As traced throughout this thesis, various legal avenues for acequia claims have found some success in state courts, and the organization of acequieros—in particular, via the statewide New Mexico Acequia Association—helped lead to the passage of the two 2003 laws that marked a watershed in acequia legal protections. And while the parceling of water rights to individuals interrupts their communal ethos, the fact of acequias' antiquity affords their irrigators early priority dates that, as in the case of the SVRAA, can be pressed into service of acequia communities.

Constraint and challenge

Still, the early MRGCD represented a legal vehicle for the dismantling of acequia life. When the District absorbed its acequias, acequieros now in thrall to the regional authority adapted their farming practices, continuing to draw water from the ditch and communicating with Albuquerque, rather than their local *mayordomo*, when things went awry. This reformulation of governance represents an important change in the social relations underpinning extant claims to water, the delocalization that Perramond (2019) equates with loss of water sovereignty, and which in turn produces a corresponding delocalization of social ties. In the era of regional planning, shortages in Heron Lake in the state's north are expressed through cuts to the growing season in Valencia, a hundred and fifty miles south.

Yet the District was, and is, itself constrained by its position within wider hydro-social networks (see Linton & Budds 2014). A nested relationship of water authorities and governing accords means that international agreements supersede interstate compacts, which in turn determine intra-state allocative mechanisms and so on. So the Rio Grande Compact's stipulations that a certain amount of water reach the Texas state line each year demand that the District govern its water accordingly; that body in turn requires its constituents to appropriate water in line with those superordinate metrics. This cession of power to a multistate body stems from the resolution of longstanding historical water disputes between farmers and developers along the Rio Grande, where downstream users in Southern New Mexico and Texas were aggrieved at the prospect of development in the Middle Rio Grande and Colorado's San Luis Valley; the history of the Compact, then, demonstrates its encoding of relations of urbanization and development of an expansionist U.S. in the early 20th c. (Littlefield 1999). Even seeming exceptions betray this nested relationship of scale and power, such that colonial relations can be

recast in such scalar terms. The Rio Grande Compact decrees that "Nothing in this Compact shall be construed as affecting the obligations of the United States of America … to the Indian Tribes, or as impairing the Rights of the Indian Tribes" (Rio Grande Compact 1939). Yet, as one of my interlocutors noted, tribal rights are included in Compact planning as part of New Mexico's allotment, and New Mexican water debit can affect carriage on tribal land: "You're like, 'thanks for putting that in a document that clearly has a massive impact on the Pueblos.' That's so disingenuous. But the intention was the Pueblo's water rights have to come out of New Mexico's allotment under the compact. So Texas's argument is, yeah, it's not our fault that New Mexico can't manage its water to get the water to the right people" (interview 10, 8/18/21).

Where flooding justified the remaking of central New Mexico's water infrastructure a century ago, drought is moreover deepening the apparent necessity of the largely technocratic regime that since emerged. Scarcity accentuates the role of the water authority in basin-wide planning, as well as encouraging an emphasis on efficient watering practices and cultivation of less water-intensive crops. One board member of the MRGCD noted pertinent changes:

> It used to be you took water when you wanted it. Now you have to be on a schedule—you don't get water when you want it, you get water when the ditchrider says you can get water. So people are put on a schedule… The other thing, and the District has helped with this, and that's that just farmers have gotten more efficient because—and it's getting money from [National Resources Conservation Service] and, you know, to laser level their fields—but now we actually have in place something to punish people if they take too much water. And that was something that didn't happen before, whereas now you can get punished for taking water (interview 11, 8/25/21).

Even so, scale in water governance is not rigidly ordinal. Smith (1992) describes "scale-jumping" as a process in which actors operate at intentionally broader scales to contest political economic configurations; Leitner et al (2007) describe an obverse process of "localization," drawing on specific attachments to place to reaffirm and promote local cultural, political, and economic practices. Both strategies are evident in the case of South Valley Regional Association of Acequias. Their constituents' petitions for reclaimed pre-1907 water rights, based on intensive local mapping projects, took them to the office of the state engineer, forcing recognition from the MRGCD. While broader water authorities constrain the action of actors situated within their ambit, then—the Rio Grande Compact constrains the State Engineer's Office, which in turn instructs the MRGCD to cut usage, accomplished by cutting off acequieros and other irrigators a month early—these broader authorities are themselves subject to refashioning through the political action of smaller-scale actors.

The methods by which acequias contest water governance across scales are legal and political, and entail activist acequias engaging in both policy lobbying and litigation. One farmer, also involved in statewide acequia organizing, notes the multi-scalar approach: "I tell people this is farming, it's about growing food. But man, you've got to play in all these other circles to be a successful community. To protect what we're doing here, picking chili, you've got to be in state law, federal policy, state policy, acequia water law, environmental sciences, businesses" (interview 15, 8/31/21). This interlocutor indicates the layers of government into which acequias are enmeshed, a situation evident in literature on common-pool resources (Ostrom et al. 1999) but which demonstrates the multi-pronged politics with which acequias must contend to maintain their collective function. He also suggested the possibility of achieving recognition of the entire system of acequias, a marvel of elegant engineering as well as a centuries-old cultural tradition,

as a UNESCO world heritage site—appealing, in essence, to the highest governmental scale of all.

Acequias as sites of political contest

Among the achievements of acequias in the last three decades is the re-politicization of water law in New Mexico, asserting local commons as counterhegemonic alternatives to the marketized system of water governance that had been gradually entrenched since the territorial water code of 1907 took hold. This practice of water politics, which Agnew describes as "the practical process of working and compromising across competing and antagonistic positions" (2011: 468), in turn allowed for the specific legislative and judicial achievements that have served to empower acequia associations in the face of the unforgiving market and drought alike. Acequias are not, however, *prima facie* activist in their outlook. Sylvia Rodríguez, an anthropologist of acequias in the Taos Valley and acequiera herself, suggests that acequias in the current conjuncture can take on an administrative, and indeed technocratic, character as easily as they can act as fulcrums for social movements (Interview 19, 7/24/21). Acequias are material inscriptions of socio-cultural lifeways from which contestations of the legal and political formulations of U.S. empire can emerge; so too, however, are they conscripted into the smoother functioning of those legal and political forms, representing valuable water claims and managerial institutions enfolded into the state.

Threatened loss of water resources encourages an activist outlook in certain acequia associations. Rodríguez (2006) recounts the emergence of the Taos Valley Acequia Association amid a multi-decade state adjudication which threatened to curtail allotments for longtime irrigators in the area (as well as for the Indigenous Taos Pueblo). That and simultaneous

adjudications led to the consolidation of the New Mexico Acequia Association—the locus of acequia activism throughout the state—which would in turn provide support for acequia associations old and new, aiding the South Valley acequias in getting off the ground.

From its advent, the newly formed association worked against the apparent threat of the Santolina development that seemed poised to buy water rights throughout the South Valley. This threat to acequia survival is ubiquitous, and especially pronounced in urban settings. Rodríguez (2006) notes that around Taos and Santa Fe, an in-migration of a wealthier, older, more Anglo population and an out-migration of a poorer and younger Hispanic population has produced a major demographic transition, rupturing the generational reproduction of acequia practices: before 1960 an acre of irrigated land in the Taos Valley was worth $100, an adobe house maybe $2,000; by 2006, irrigated land went for $60,000 an acre, and the average home price was $207,300. Absent protections, then, acequias offer a vehicle for speculation: as urban development continues in an aridifying Southwest, acequia communities with water rights offer a potential avenue of profit for those who can facilitate water transfers (Rosenberg et al. 2020; in Colorado's acequias, see Oldham 2021). The 2003 law allowing ditch commissioners to veto harmful water transfers from acequias provides a bulwark against this process, as does the concomitant law providing for in-acequia water banking. However, the unsettled legal status of acequias in the Middle Rio Grande leaves them without the guarantee of the ability to pursue this option. The friendly relations between acequias and current MRGCD leadership mean that, for now, the right of acequias within the Middle Rio Grande to behave legally like acequias elsewhere in the state—to contest water transfers and to water bank—is honored. But lack of a legal guarantee leaves the water resources of these acequias at greater risk if the political winds

were to shift.[5] In the meantime, establishing robust acequia practices offers a stronger case for the status of Middle Rio Grande ditches as acequias like any other (Interview 18, 10/24/21). Small wonder that this legal recognition is then a major point of emphasis for Middle Rio Grande acequias.

Even given such protections, ballooning property values around New Mexico's urban areas already preclude many would-be farmers from owning irrigable land. Multiple interlocutors cited difficulties arising from attempts to farm along acequias on leased lands. One, for example, bemoaned an inability to invest in soil health year over year given the sense that the soil might be worked by someone else in the future:

> The biggest barrier that we have as young farmers is land access. A lot of farmers I know are leasing land, and there's nothing bad about that. But there's this sense of like wanting to have complete autonomy over what you're doing and what you're growing. And with leasing land, there's always this thought like—at least for me personally—you can get kicked out or kicked off at any moment. So just like having that safety net of being like, "OK, I'm the farm owner, I can do what I want" (interview 12, 8/26/21).

The enmeshing of the ditches into a political economic order based on private property rights and articulated into national markets threatens acequia futures. Anthropologists and geographers have examined how even commonly held resources are nonetheless threatened by the pressures of making a livelihood in a waged economy and by resource conflict, with other groups and with the state (Sarmiento Barletti et al. 2021, Curley 2019, Peluso 2005). The

[5] Indeed, as of Feb. 2, 2022, Chief Engineer and CEO of the MRGCD Mike Hamman assumed the position of State Engineer. Hamman, who grew up outside of Taos on a property along an acequia, helped to facilitate friendly relations between the District and its acequias.

ongoing threat of water loss in the South Valley, thanks especially to Albuquerque's growth and the possibility of Santolina's construction, provides the impetus for communal organization of acequias as a counterhegemonic strategy against the threats of a marketized system. The activist outlook of certain acequia associations, honed in moments of threat to the water sovereignty, led to the South Valley acequias' confederation into a novel political formation which has successfully contested fully liberal water governance in favor of a reworked approach to communal autonomy. This devolved authority, however, also paradoxically represents an extension of the state, legitimating and enhancing the function of the very institutions that oversee the state's liberalized water governance acequia organizers aim to contest. To attend to acequias as a "social experiment" (Gibson-Graham 2008: 628), albeit a new chapter of a social experiment centuries in the making, is to refuse foreknowledge of how this dynamic of contestation, cooption, and cooperation will settle.

Conclusion: Where Will the Waters Go

The U.S. Southwest is currently experiencing megadrought conditions not seen in the last 1200 years (Williams et al, 2021). The Rio Grande, "ribbon of life" connecting communities throughout New Mexico (interview 3, 9/1/20), is dwindling amid this regional thirst. Urban growth drives competition for what water remains; the Santolina development feared by South Valley acequieros remains in limbo, marching slowly toward realization; a decision in Texas's interstate lawsuit looms. Growing scarcity makes strategies for democratic apportionment of water ever more urgent.

Acequias offer a model for achieving participatory democracy and self-governance at the local level. The ditches also provide a fulcrum by which Hispano and Chicano New Mexicans contest their belonging in the state, and a point of connection for these communities and the Pueblos. Such contestations have a history as long as U.S rule, but the character of acequia life has changed throughout that era. Rodríguez considers the transition: "Whereas a century or more ago the acequia moral economy of water was tied directly to the subsistence economy as well as material and physical survival, today it underpins the maintenance and defense of a land base with associated water rights and a distinct sociocultural identity" (2020: 6). That transition occurred amid the establishment of superordinate regional authorities over water resources that once exhibited a strong local character and amid marketization of land and water under capitalist liberalism.

As this thesis has narrated, however, state institutions—even those born within colonial contexts—are dynamic, and responsive to robust social movements. Acequias provide a structure for outward-facing organizing aimed at the Middle Rio Grande Conservancy District and New

Mexico's water system as a whole. This critical legal geographic history of the South Valley's acequieros considers the surprising inversions in water law brought about by these determined activists, who helped to democratize the Conservancy District and to transform it from a dispossessor of acequias into a partner. As acequia life in the Middle Rio Grande re-emerges, the legal changes attending that transformation both reflect and produce evolving social interrelations in the region.

Throughout this thesis, I have endeavored not to be too sure about the direction that the social and legal transformations described might ultimately take. Historical antagonism between the Conservancy District and its "community ditches" has certainly encouraged a wariness among acequieros within its jurisdiction. The SVRAA and its nearby allies have, however, also found opportunities to cooperate with their erstwhile foil. Shared responsibilities, shared benefits, and an ethic of neighborliness—if a sometimes fractious one—are in any case central to acequia culture: it would hardly be appropriate for the story of these old ditches in the Middle Rio Grande to end buried beneath a history of acrimony. The snows still fall in the Rockies each winter, after all, and the Rio Grande still swells each spring. The social life of water in central New Mexico is reinscribed with each opening of a headgate.

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