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Lessons from the Development of Western Water Law for Emerging Water Markets: Common Law vs. Central Planning

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Population growth, particularly in the arid regions of the world, has pushed water resource questions to the forefront. Even conservative estimates of the world's population project that it will reach 8,043,000,000 by 2030, an increase of more than two billion people from 1998.[1] Such an increase will result in greater demands on water resources, and water shortages, real or predicted, are present or forecast across the globe.[2] Fantastic, and expensive, schemes such as towing icebergs to areas with water shortages are regularly proposed;[3] countries are pouring

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[1] *See* World Bank, World Development Indicators 2000, tbls.2.1-2.2, *available at* www.worldbank.org/data/wdi2000/people.htm.

[2] *See* World Bank, *The World Bank and Water*, *available at* http://www.worldbank.org/html/extdr/pb/pbwater.htm ("By 2025 about 48 countries will [experience water stress or scarcity] and the number of people adversely affected will exceed 1.4 billion, the majority in the least developed countries."); *see also* Sandra Postel, *Dividing the Waters*, 100 M.I.T.'s TECH. REV. 54 (1997), *available at* 1997 WL 24415262.

[3] *See, e.g.*, David Walmsley, *Water Firm May Float Icebergs to Britain*, DAILY

resources into expensive technological solutions such as desalinization plants.[4]

Over one hundred years ago, the arid lands of the western United States underwent rapid population growth, at rates equal or faster than the arid regions of the world are experiencing today.[5] In a region long derided as the "Great American Desert,"[6] the new residents of the West found themselves in a region with vastly different water resources from those they knew. Their demands on those resources were new as well—both hydraulic mining and irrigation expanded water use to a scale unknown in the more settled, wetter eastern regions. In response to these conditions and needs, westerners modified familiar institutions to deal with the scarcity of water. The common law of prior appropriation mixed new rules suited to the new conditions with older institutions of jury trials and common law legal development. This system flourished through the first fifty years of the development of the American West. Only at the end of the nineteenth century did a centralized solution appear—the "Wyoming system" developed by Elwood Mead in that state's 1889 constitution.

Mead's legacy is a system that began with the rules developed by the common law, the rules of prior appropriation, but replaced crucial parts of that system with central planning. In place of juries, Mead's system substituted state bureaucrats. In place of full private property rights,[7] Mead's system substituted public

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TEL., Sept. 26, 1997, at 17, *available at* 1997 WL 2340935; MARC REISNER, CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER 121 (rev. ed. 1993) (noting plans to import water from Alaska to Colorado River basin). Such schemes regularly surface but generally are abandoned due to poor economics. Iceberg water, on the other hand, is already being exported from Greenland. *See Iceberg Corp. Forms Joint Venture to Export Greenland Water*, 11 INDUS. ENV'T 8, Oct. 1, 2000, *available at* 2000 WL 7448655.

[4] *See* Jad Isaac, *The Essentials of Sustainable Water Resource Management in Israel and Palestine*, 22 ARAB STUD. Q. 13, 26, Apr. 1, 2000, *available at* 2000 WL 20465255 (describing desalinization plant costs as one dollar per cubic meter of water or more).

[5] T.H. WATKINS, GOLD AND SILVER IN THE WEST 40 (1971). California, for example, grew from a number measured in the hundreds in 1848 to more than 100,000 in 1849 and more than 200,000 by the end of 1852. *Id.* Wyoming grew from 9,000 in 1870 to 93,000 in 1900; Montana grew from 21,000 in 1870 to 243,000 in 1900. 1 THE STATISTICAL HISTORY OF THE UNITED STATES: COLONIAL TIMES TO 1970, at 30, 37 (1975).

[6] LEWIS ATHERTON, THE CATTLE KINGS 1 (1961).

[7] 1 WELLS A. HUTCHINS, WATER RIGHTS LAWS IN THE NINETEEN WESTERN STATES 137 (1971). Property rights in water generally are conceptualized as "strictly usufructuary rights to take the water from the stream" rather than ownership of the

ownership and private rights at the sufferance of the state. As summarized by water law expert Wells Hutchins in his comprehensive 1971 treatise,

> [m]ost of the Western States provide by statute for State control over the acquisition of appropriative rights to the use of public waters and over the distribution of water to those entitled to receive it, and vest these duties in a centralized group of water administrative officials. Many States also provide special procedures for the adjudication of water rights; in most of these States, State officials play an active part. Provisions for these administrative and judicial functions comprise a major part of the State statutory water law.[8]

Indeed, the extent of Mead's legacy can be seen in the modern notion that the "genealogy" of the Secretary of the Interior is seen as "a matter of high importance" because of his power over water allocations.[9]

The development of the common law of prior appropriation and its displacement by a system of central planning have much to teach us about allocating water rights. Contrary to the standard story of water law in the West,[10] Mead's system was not simply the antidote to chaos. As discussed below, Mead's system arose because it served the interests of the businessmen who made up Wyoming's powerful range cattle industry by removing water disputes from the local courts and juries, which were the one state institution the cattlemen did not control. Viewed in context, therefore, western water law's development includes a story about two competing systems of water rights, one built around common law and private property rights and the other

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water itself. *Id.* Nonetheless it is more convenient to speak of property rights in water and most of the water law literature does so. For a discussion of the modern classification of water rights as forms of property, see *id.* at 151-56.

[8] *Id.* at 7.

[9] REISNER, *supra* note 3, at 261. Reisner recounts numerous examples of individual bureaucrats' power affecting individual rights. *See, e.g., id.* at 282 (stating that the head of Colorado Water Conservation Board was "stubborn, vindictive, and a bully, but in Colorado, where water was concerned, he was a king").

[10] *See, e.g.*, ROBERT B. KEITER & TIM NEWCOMB, THE WYOMING STATE CONSTITUTION: A REFERENCE GUIDE 180-81 (1993).

> Wyoming's unique distributive administrative scheme was designed to reform the abuses of the territorial water system. The constitutional convention delegates intentionally created an expert administrative board to make initial water appropriation and distribution decisions rather than relying upon the courts which were believed to have poorly administered the territorial water system.

Id.

around central planning and bureaucratic fiat. The former system offers a viable alternative to the central planning approach dominant today, one that supports the growth of modern water markets.

Unallocated water is a commons. As Bruce Yandle and I have noted elsewhere, there are many paths out of the commons: regulatory regimes, state property, and private property.[11] The dominance of the central planning approach to water concentrated attention on the first two. The history of western water law suggests that we should reexamine the private property approach.

The common law aspect of western water law is important for another reason as well. Many of the arid regions experiencing the greatest stress from population growth lie in the developing world. As the increasing value of water creates incentives for the development of water markets, there also will be an increased incentive for national governments to stymie that development by imposing state controls to appropriate the increasingly valuable water resources. That is likely to result in destruction of valued local institutions and legal rules.

The story of water in the American West shows that political intervention is unnecessary. Local institutions and rules could be the basis for a legal regime sufficient to deal with water issues that arise. The importation of central planning regimes for water can thus not only lead to the allocation of water in ways that harm the interests of indigenous peoples,[12] but also can contribute to the destruction of customary legal systems, which themselves form a valuable part of indigenous people's cultural heritage.[13] Failing to resist the attempts by special interests at a water grab may thus leave both the indigenous people's land and culture high and dry. Protecting customary legal regimes' water law, on the other hand, may help control water sensibly.

This Article examines the development of water law in the

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[11] *See* Bruce Yandle & Andrew P. Morriss, *The Technologies of Property Rights: Choice Among Alternative Solutions to Tragedies of the Commons*, 28 ECOLOGY L.Q. 123, 130-33 (2001).

[12] See REISNER, *supra* note 3, for multiple descriptions of how water planners in the United States destroyed local economies, including Native American communities, for the benefit of large agribusiness. *See, e.g., id.* at 186-91 (describing impact of Corps of Engineers' Oahe Dam on Fort Berthold Indian Reservation).

[13] There are, of course, problems that require national attention, but many of those problems have more to do with bargaining *across* jurisdictions than with allocation of water *within* jurisdictions.

West and suggests reliance on a common law rather than a central planning, regulatory regime. Part One describes the common law water rights system and its development in the West. Part Two surveys how courts in Montana and Wyoming dealt with water law issues in the nineteenth century. Part Three traces the development and spread of the "Wyoming System" of central planning for water. Part Four compares the common law and central planning as devices for allocating water. Part Five concludes by drawing lessons for modern water markets and other areas of environmental policy and for the development of water markets from the common law experience with water rights.

I

THE COMMON LAW WATER RIGHTS SYSTEM

When Americans moved into the arid lands of the West, they created a new system of water law to replace the English common law doctrine of riparian rights used in the eastern states. Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming all embraced the doctrine of prior appropriation as either a complete replacement for or addition to traditional common law riparian rights.[14] The change in substance of the law was not, however, immediately accompanied by a change in the institutions that implemented the law. Although procedural innovations were introduced in a number of states to simplify water rights cases, the states and territories of the West relied primarily upon the same mix of common law courts and customary legal institutions for resolving water rights disputes under the prior appropriation doctrine as they did for resolving other legal disputes. The western states and territories thus began their prior appropriation regimes relying on the same institutions used in the East to handle riparian rights questions.

A dramatic change began in 1889, when Wyoming adopted its

[14] Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming adopted "pure" prior appropriation systems. California, Kansas, Nebraska, North Dakota, Oregon, South Dakota, Texas, and Washington recognized both riparian and prior appropriation rights in various forms. *See* 1 HUTCHINS, *supra* note 7, at 192 & tbl.3. California has the most extensive riparian component. *See id.* at 188 ("In no other Western State has the riparian owner been accorded greater privileges in respect to his water right than in California.").

state constitution. This constitution centralized ownership and control of water in the state government.[15] Promoted as an engineering solution to the purported chaos of the common law, the "Wyoming System" then spread to most other states in the West.[16] From that time, western water law moved away from individual choice, markets, and common law and toward bureaucracy and planning.[17]

Why did Wyoming abandon the decentralized, common law system of water rights in favor of central planning? Why did the Wyoming system spread to other prior appropriation states? The short answer is that the Wyoming system was created by the powerful interests that controlled Wyoming's territorial and state governments. The new water law regime was a weapon in their long-running war against farmers whose homesteads interfered with the cattle ranchers' ability to control land. The system then spread to other states as interest groups saw the opportunity to bring water rights under their control and as a result of federal pressure to centralize as a precondition to gaining access to federal water projects. I elaborate on this explanation below.

Water law and policy often are cast as the fundamental organizing principle of the American West. In some accounts, the bringing of water to the arid lands is billed as a triumph over recalcitrant nature. Innovative institutions like the prior appropriation doctrine are celebrated.[18] More recently, however, western water law has been cast as a central part of an oppressive

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[15] WYO. CONST. art. VIII. Colorado initiated water law reform before Wyoming but Colorado's innovations did not alter the fundamental character of the system as did Wyoming's. *See* 3 HUTCHINS, *supra* note 7, at 215 ("In Colorado there is no State administrative supervision over the acquisition of appropriative water rights in water of watercourses."); James M. Klebba, *Water Rights and Water Policy in Louisiana: Laissez Faire Riparianism, Market Based Approaches, or a New Managerialism?*, 53 LA. L. REV. 1779 (1993) ("[A] statute-based administrative permit system in all appropriation states (except for Colorado) now regulates the acquisition of new rights."). But Colorado does claim public ownership. *See* COLO. CONST. art XVI, § 5.

[16] *See infra* Section III.D. More recently, Wyoming has retreated slightly from the planning model, adopting a judicial system as an alternative to the administrative system. *See* A. Lynne Krogh, *Water Right Adjudications in the Western States: Procedures, Constitutionality, Problems & Solutions*, 30 LAND & WATER L. REV. 9, 23 (1995).

[17] *See* TERRY L. ANDERSON & PAMELA SNYDER, WATER MARKETS: PRIMING THE INVISIBLE PUMP 71 (1997).

[18] *See, e.g.*, WALTER PRESCOTT WEBB, THE GREAT PLAINS 437 (1931) (terming development of prior appropriation "one of the remarkable transmutations in American jurisprudence").

class system. For example, Donald Worster, Hall Distinguished Professor of American History at the University of Kansas has recently argued that the West

> can best be described as a modern *hydraulic society*, which is to say, a social order based on the intensive, large-scale manipulation of water and its products in an arid setting. . . . [That order] is increasingly a coercive, monolithic and hierarchical system, ruled by a power elite based on the ownership of capital and expertise. Its face is reflected in every mile of concentrated wealth, technical virtuosity, discipline, hard work, popular acquiescence, a feeling of resignation and necessity—but one cannot find in it much of what Thoreau conceived as freedom.[19]

In Worster's view, the West is a hierarchy built around command of water: aridity dictates hierarchy which dictates oligarchic control.

This Article argues that both these perspectives fail to come to grips with one of the most important aspects of water law in the West. Rather than simply a body of rules to be compared to the riparian rights system east of the Mississippi or to a blank canvas for engineers to fill with dams and canals, the arid West offered a diverse set of responses to aridity. Political struggles over the appropriate institutions to control water resources largely shaped these responses. The initial response was not hierarchy but common law, flexible, decentralized and open. This system functioned well and there was thus nothing inevitable to the development of central planning of water resources.

These struggles over water were not class struggles, but rather an expression of special interest politics and regulatory capture. It was not the manipulation of water but the manipulation of government about water that marked the West. Control of water was (and is) more valuable in the West than in the East because of water's greater relative scarcity. Control thus was worth contesting through the government, but this contest was (and is) no different from other special interest struggles. This struggle centered on defining the issues in water law disputes and determining how and where those disputes would be resolved. The great divide in this struggle was the replacement of the common law system of dispute resolution with a centralized, administrative system. Rather than resting on the common law of property and

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[19] DONALD WORSTER, RIVERS OF EMPIRE: WATER, ARIDITY, AND THE GROWTH OF THE AMERICAN WEST 7 (1985).

contract, water law became a system in which the saying "contracts are made to be broken" epitomizes the attitudes of water rights holders.[20] The crucial distinction is thus not between riparian and prior appropriation but between common law and central planning.

To understand this difference requires considering how the common law dealt with western water rights. The common law system consisted of three parts: sets of rules, dispute resolution mechanisms, and rule generation mechanisms. To be properly evaluated, all three must be considered.

A. Common Law Rules

The differences between the sets of rules in eastern and western states have been the subject of extensive scholarship and commentary and so need only brief discussion here. Two major sets of rules arose out of the common law. The first, the riparian system, developed in England and in the eastern United States and was often carried west with other parts of the common law.[21] Unlike other parts of the common law, however, the transplanted riparian system did not always flourish in the arid states and territories. In its place grew the second new system of rules, pioneered by customary legal institutions[22] but recognized by the common law legal system as legitimate rules:[23] the prior appropriation system. Some states adopted pure prior appropriation rules, while others developed mixed systems of riparian and prior appropriation rules.[24]

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[20] REISNER, *supra* note 3, at 301 (quoting Arizona farmer in the 1980s).

[21] *See* Lux v. Haggin, 10 P. 674, 746-51 (Cal. 1886) (describing impact of 1850 statute adopting common law and so requiring riparian rights to be recognized); Edwin W. Young, *The Adoption of the Common Law in California*, 4 AM. J. LEGAL HIST. 355 (1960) (describing circumstances surrounding adoption of common law over civil law).

[22] *See* Norman K. Johnson & Charles T. DuMars, *A Survey of the Evolution of Western Water Law In Response to Changing Economic and Public Interest Demands*, 29 NAT. RESOURCES J. 347, 349 (1989) (listing Native American practices, Spanish and Mexican colonial practices, Mormon practices, and miners' practices as sources for prior appropriation).

[23] *See, e.g.*, Coffin v. Left Hand Ditch Co., 6 Colo. 443, 446 (1882) (noting that right existed prior to legislation).

[24] *See* Table 3 *infra*. The mixed systems were less effective at creating property rights in water. *See* ANDERSON & SNYDER, *supra* note 17, at 56 ("The inability of lawyers and judges to put aside riparian precedent and the resultant mixture of riparian with prior appropriation doctrine led to a confusion that stifled the effective establishment of private property rights in water.").

Common law rules defined water rights, set out the means of acquiring and losing those rights, and provided principles for resolving disputes among rights holders. Many of these rules, like rules in other common law areas, took the form of general principles rather than detailed "legalistic" rules such as modern administrative regulations. The content of the legal rules is discussed below. The important point here is that while rules could appear to be sharp and clear in the abstract (e.g., riparian rights attach only to riparian lands), they were often blurry in context (e.g., what lands are riparian?) and required thorough development of the specific factual context of a dispute to sharpen them. Applying the common law, at least in the nineteenth century, was an exercise in factual classification.[25]

B. Common Law Dispute Resolution

The common law system was a dispute resolution system built around jury trials. Nineteenth-century trial practice differed in a number of ways from modern practice, but many of the essentials were similar. Disputes were brought before courts through lawsuits between two or more parties. After limited discovery, particularly compared to trial practice today, and a period of motion practice, the case was tried to a jury. After hearing the evidence, the jury was charged by the trial court judge as to the law and retired to consider the evidence. After a jury verdict, an appeal could be taken to the state or territorial supreme court (generally there were no intermediate appellate courts in the West) and, in some cases, from there to the U.S. Supreme Court. The crucial distinction lay in the division of labor between the judge and jury. Fact questions were for the jury; legal issues for the judge. At the option of either of the parties, therefore, a lay jury could be asked to decide the fact questions critical to the functioning of the common law.

C. Common Law Rule Generation

The rule generation mechanism consisted of judges and the appropriate legislature. Rules were generated by the courts through the production of precedent. Although there were fewer precedents then than there are today, precedent played a far

[25] *See* JAMES C. CARTER, THE PROVINCES OF THE WRITTEN AND UNWRITTEN LAW 26 (1889) (describing common law as a based on close scrutiny of facts); *id.* at 28 ("The fact must always come before the law.").

more important role in judicial decision making than it does now. Moreover, judges regularly looked beyond their own jurisdictions for precedents. In western water law, they frequently looked to California, for example.[26] A reasonably substantial stock of precedents under the prior appropriation system thus developed quite rapidly.

In examining precedents to determine a case, courts took a constrained view of their powers. Modern observers often deride this approach as "mechanical," "formalistic," and narrow.[27] It is important to recognize, however, that the constraint imposed by the limited scope available for legal innovation was seen as an advantage for judges who believed in the law as a science built on application of precedent to facts.[28] Such contracts were a vital part of the common law.

The legislature's role in common law rule generation was also important. Although the volume of legislation generally was far less then than it is today, and although western territorial and state legislatures generally met infrequently and for short periods, the legislature was often the source of innovative means of resolving legal problems. This role was consistent with nineteenth-century views on the role of the legislature in the common law process: to correct the mistakes of the courts and to innovate where the courts, bound by precedent, could not.[29]

Common law rules thus came from two sources. First, and most frequently, they arose from the courts' examination of the

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[26] California alone produced volumes of water law precedent. Between its organization in 1850 and the landmark case of *Lux v. Haggin* in 1886, the California Supreme Court had decided more than a hundred water law cases. Eric T. Freyfogle, Lux v. Haggin *and the Common Law Burdens of Modern Water Law*, 57 U. COLO. L. REV. 485, 497 (1986).

[27] *See, e.g., id.* at 518.

[28] On the nineteenth century view of the law, see JAMES WILLARD HURST, LAW AND THE CONDITIONS OF FREEDOM IN THE NINETEENTH CENTURY UNITED STATES (1956). I will rely here on the writings of James C. Carter, a prominent nineteenth century attorney and common law advocate who wrote a great deal defending the common law. Legal historian William Wieck termed Carter the "epitome" of American lawyers at the end of the nineteenth century. WILLIAM WIECK, THE LOST WORLD OF CLASSICAL LEGAL THOUGHT 97 (1998).

[29] CARTER, *supra* note 25, at 18 ("From time to time, progress and change in social conditions require corresponding changes in the law, which can be affected only through the instrumentality of statutes . . . ."). A good historical example of this that many lawyers may remember from their first year property classes is the English statute *Quia Emptores* which made land held in fee simple freely alienable without the landholder's lord's consent in 1290. *See* THEODORE F. T. PLUCKNETT, A CONCISE HISTORY OF THE COMMON LAW 558 (1958).

facts of specific cases and were expressed in judicial opinions. Second, common law rules came from legislative enactments designed to correct courts' mistakes and supplement court proceedings with procedural aids.[30]

The common law as a rule generating system had four key features. First, it was a set of rules that developed incrementally in most instances. Rules would be adjusted largely as the result of the discovery of relevant new facts, not in response to an outcry for change. Thus, as noted common law advocate James Carter put it, rules were laid down "provisionally only."[31]

Second, common law rules grew out of custom. As the modern edition of *Black's Law Dictionary* definition still suggests, the common law is

> [t]he body of those principles and rules of action, relating to the government and security of persons and property, which derive their authority solely from usages and customs of immemorial antiquity, or from the judgments and decrees of the courts recognizing, affirming, and enforcing such usages and customs, and, in this sense, particularly the ancient unwritten law of England.[32]

Third, common law addressed only questions brought to it by the litigants themselves—courts had no ability to go out and seek to bring particular matters before themselves. A tangled doctrine or messy set of facts could not be resolved, therefore, until parties brought the matter to court. Nonetheless, once a dispute was brought to the courts, they had no choice but to decide it.[33]

Fourth, common law was more than the content of legal rules.

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[30] Note that this did not mean that legislatures had free reign to revise the substance of the common law while maintaining it as common law; generally legislatures played a far more limited role. Legislatures could, of course, substitute statutory schemes for the common law by wholesale preemption of it, but they could also act in aid of it through enacting general supplemental rules. The point is that presence of limited legislation does not necessarily indicate an absence of common law.

[31] JAMES C. CARTER, THE PROPOSED CODIFICATION OF OUR COMMON LAW 25 (1884).

[32] BLACK'S LAW DICTIONARY 250-51 (5th ed. 1979). Black's also gives a more modern definition: "Those principles, usage and rules of action applicable to government and security of persons and property which do not rest for their authority upon any express and positive declaration of the will of the legislature." *Id.*

[33] As common law advocate James C. Carter put it:

> if a controversy arise between two men concerning the ownership of property, and there be no statute upon the subject, the unwritten law *must*, nevertheless decide it. No matter how novel the question, it must be determined. It would not be endurable that one man should hold unchallenged possession of property to which another honestly laid claim, for the reason

As one common law partisan termed it, the common law was "a particular system of reason."[34] Rules were discovered through this reasoning process, a process based on classification of facts.[35] As a Colorado judge summarized, "[t]he principles of the law are undoubtedly of universal application, but some latitude of construction must be allowed to meet the various conditions of life in different countries."[36]

D. The Common Law as a System

Since the nineteenth century, common law has fallen into some disrepute.[37] To the extent we think of the common law today, we tend to think of it as judge-made law—rules that courts can alter at will.[38] This was not always so, however. For many nineteenth-century Americans, including prominent lawyers, the common law was a system of rules, which judges discovered but did not make.[39] In examining the law in the nineteenth century it is necessary to consider the common law as nineteenth-century Ameri-

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that the case was so novel as to render it difficult to determine to whom it justly belonged.

CARTER, *supra* note 31, at 34-35.

[34] JOEL PRENTISS BISHOP, COMMON LAW AND CODIFICATION 3 (1888).

[35] In correspondence about an earlier draft of the article, Professor Robert Natelson elaborated on this point: "judges 'discovered' rules, they didn't make them—just as scientists discovered the rules of natural worlds." Natelson also commented that describing this as a process of invention was also appropriate (noting that the Latin root of "to invent" is "inverire," to find): "An inventor makes (finds) a tool to solve a problem, but in accordance with pre-existing scientific principles, e.g., gravity."

[36] Yunker v. Nichols, 1 Colo. 551, 553 (1872) (Hallett, C.J.).

[37] Consider the public impression of common law decisions as expressed by the late Frank Zappa: "Case law is what happens when a stupid judicial decision from one place gets cited as a 'legal precedent' forming the basis for another stupid judicial decision somewhere else—like a computer virus." FRANK ZAPPA, THE REAL FRANK ZAPPA BOOK 327-28 (1990).

[38] This can lead to ridiculous outcomes. *See, e.g.*, State v. Shack, 277 A.2d 369, 372 (N.J. 1971). ("Property rights serve human values . . . . Title to real property cannot include dominion over the destiny of persons the owner permits to come upon the premises" and so the right to exclude must be limited); *see also* Andrew P. Morriss, *Property, 4th Ed. by Jesse Dukeminier & James E. Krier*, 22 SEATTLE U. L. REV. 997, 1005-07 (1999) (book review) (critiquing *State v. Shack*).

[39] *See* Andrew P. Morriss, *Codification and Right Answers*, 74 CHI.-KENT L. REV. 355, 376-79, 387-89 (1999); Andrew P. Morriss, *Legal Argument in the Opinions of Montana Territorial Supreme Court Chief Justice Decius S. Wade*, 1 NEV. L. REV. 38 (2001) [hereinafter *Legal Argument*]. Further evidence of this attitude can be seen in California's foundational water rights case, *Lux v. Haggin*, 10 P. 674, 751 (Cal. 1886), where the California Supreme Court boldly declared, "[n]or do we know of cases where the courts in the United States have undertaken to change the common law [of England with respect to water]."

cans were likely to do, since it is their version of the common law that was the alternative to the Wyoming system of central planning.[40] J. Willard Hurst offered a more accurate description of the nineteenth-century common law, arguing it was a practical process based on "working principles" rather than on grand theories. These principles were: (1) "the legal order should protect and promote the release of individual creative energy to the greatest extent compatible with the broad sharing of opportunity for such expression" and (2) "the legal order should mobilize the resources of the community to help shape an environment which would give men more liberty by increasing the practical range of choices open to them and minimizing the limiting force of circumstances."[41] These principles shaped the common law's development by focusing judicial attention on facilitating private actors' actions rather than regulating individuals' conduct toward politically determined goals.

The features of the common law method of rule generation described above are important because they played a key role in the common law water rights system. Water rights would be defined incrementally by the legal system, since the courts would not adjudicate any rights until there was a dispute that the parties could not resolve outside the courts. In most cases, the rules would be elaborated only slightly, if at all, in response to the facts the parties brought before the court.

The parties' agreements and customs, as well as the customs of the community, would also play a significant role in determining the content of the rules applied. As the California Supreme Court described it in an early water rights case: "Courts are bound to take notice of the political and social condition of the country which they judicially rule."[42] Customary rights might sometimes be "crude and undigested, and subject to fluctuation and dispute," but when "a universal sense of necessity and propriety have so firmly fixed" them, "they have come to be looked

[40] If they were mistaken, of course, then one would wish to search for the "real" causes of their behavior. I am thus rejecting the critique of the nineteenth century common law made by Morton Horwitz and others that it was really about class struggle. *See* MORTON J. HORWITZ, THE TRANSFORMATION OF AMERICAN LAW 1780-1860 (1977). This is not the place to debate that hypothesis. For a discussion of this topic, see RICHARD A. EPSTEIN, PRINCIPLES FOR A FREE SOCIETY: RECONCILING INDIVIDUAL LIBERTY WITH THE COMMON GOOD 1-2 (1998) (summarizing and critiquing criticisms of laissez faire).

[41] HURST, *supra* note 28, at 10.

[42] Irwin v. Phillips, 5 Cal. 140, 151 (1855).

upon as having the force and effect of *res judicata*."[43]

These disputes would be decided piecemeal in many instances, where not every potentially relevant party appeared before the court in a given action. Even today, opponents of the common law often criticize this approach, noting that it could lead to inconsistent decisions.[44] The case-by-case approach had its advantages, however. Not having to adjudicate all claims meant that a court could avoid many issues and focus only on the relative claims before it, significantly lowering the costs of the proceeding and likely raising the accuracy of determinations.[45] As the Nevada Supreme Court noted in responding to a disgruntled litigant who argued that his opponent had gotten more than the opponent deserved: "[Y]et it makes no difference if [the facts] did [support the additional claims]. It is a matter that does not concern appellant. If he received all the rights that belonged to him, he cannot complain, even though it is a fact that plaintiff received more than he was entitled to."[46]

It is important not to exaggerate the piecemeal nature of the litigation, however. Nineteenth-century courts could, and routinely did, deal with cases involving relatively large numbers of claimants.[47] In one case, an Idaho plaintiff served approximately 950 defendants in one of the largest water rights adjudications of the first century of prior appropriation.[48]

Finally, the common law method of rule generation involved the application of the "particular system of reason" to the facts

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[43] *Id.* Legislatures, too, had to take custom into account, as the Colorado Supreme Court recognized in its landmark 1882 decision in *Coffin v. Left Hand Ditch Co.*, 6 Colo. 443 (1882). When the Colorado legislature created a statute governing division of water supplies in times of shortages, it required apportionment be done "with a due regard to the legal rights of all." *Id.* at 448. The court found that this phrase was recognition of the preexisting common law water rights held by prior appropriators. *Id.*

[44] *See, e.g.*, Krogh, *supra* note 16, at 15 (attributing "multiple actions and inconsistent judgments" to the common law); JAMES R. KLUGER, TURNING ON WATER WITH A SHOVEL: THE CAREER OF ELWOOD MEAD 18 (1992) (noting Mead's frustration with "chaotic nature of Wyoming water laws").

[45] *See* Krogh, *supra* note 16, at 10 (noting that agencies and courts involved in "ambitious attempts" to comprehensively adjudicate water rights "are deeply frustrated by the complexity and resultant length and cost of these adjudications").

[46] Dick v. Caldwell, 14 Nev. 167 (1879).

[47] *See, e.g.*, Huston v. Leach, 53 Cal. 262 (1878). This decision is an otherwise unremarkable and brief water rights opinion whose heading notes that there were fifty-one parties on one side and fifty-four in total.

[48] Utah Construction Co. v. Abbott, Equity No. 222 (D.E. 1923), *described in* Krogh, *supra* note 16, at 15.

rather than resort to a more utilitarian analysis of the impact of rules.

The result of the combination of these factors is that the common law is extremely difficult for special interest groups to capture.[49] Although he intended it as a criticism, Prof. Eric Freyfogle aptly characterized the role of the nineteenth-century court as "a conservator and a protector, not a social engineer."[50]

E. Riparian Rights in the Common Law

As developed in Britain and applied in the United States, the nineteenth-century riparian doctrine had five key features. First, the right stemmed from ownership of land on the banks of a body of water.[51] Second, the right of each landowner was equal to the right of every other landowner along the same body of water.[52] Third, the landowner had no property right in the water itself but merely a usufructory right.[53] Fourth, the use by the landowner had to be "reasonable."[54] Fifth, the right could be lost only through loss of the land or through grant, condemnation, or prescription of the right itself.[55]

This system produced complex factual and legal disputes. For example, parties might disagree over which lands were riparian, since there was no precise rule as to how far from water land could be and still be "riparian."[56] Whether land was riparian de-

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[49] Consider California's landmark water rights case, *Lux v. Haggin*, 10 P. 674 (Cal. 1886). The case involved a dispute between a party claiming riparian rights and parties claiming appropriation rights. The trial court decision in *Lux* was issued during the heat of the 1884 political campaigns and popular opinion was firmly on the side of the appropriators, with public meetings and resolutions endorsing their position. Shaw, *infra* note 64, at 454. The lengthy opinion of the California Supreme Court (110 pages in the *Pacific Reporter*), issued two years later, nonetheless firmly established riparian rights. "The question was settled by [*Lux*] and the riparian right has never since been disputed." *Id.* at 455. For accounts of the political background of the *Lux* litigation, see Freyfogle, *supra* note 26, at 485, and M. CATHERINE MILLER, FLOODING THE COURTROOMS 10-22 (1993).

[50] Freyfogle, *supra* note 26, at 518.

[51] Anthony Scott & Georgina Coustalin, *The Evolution of Water Rights*, 35 NAT. RESOURCES J. 821, 825 (1995).

[52] *Id.* at 825; *see also* JOSEPH RAGLAND LONG, A TREATISE ON THE LAW OF IRRIGATION, COVERING ALL THE STATES AND TERRITORIES, sec. 9 at 19 (1901). I selected the Long treatise as a representative source of late 19th century views on water law.

[53] LONG, *supra* note 52, at sec. 9 at 19.

[54] *Id.*

[55] *Id.* at sec. 12 at 24.

[56] *Id.* at sec. 14 at 26. Riparian rights accrued only in natural flows of water. No riparian rights existed, therefore, in either "water flowing in an artificial channel" or

pended on both the ownership status and on its location.

To be a riparian proprietor, a person must of course own land bordering on the stream, and hence the owner of a tract of land which does not itself touch the stream, although it may lie in the valley of the stream, so that it would be riparian land if belonging to the same owner, and forming part of the same tract with land bordering on the stream, is not a riparian owner, and his land is not riparian land. Hence, the same piece of land might be riparian, or not, according to the situs of the title.[57]

Simply acquiring land that is itself not riparian but lies next to a parcel that is riparian, however, did not transform the more distant parcel into riparian lands, for if that could be done, one might extend riparian rights indefinitely.[58] Disputes over the status of land and whether there were riparian rights attached to it could thus be complex.[59]

Disputes also arose with respect to the use, which simply had to be reasonable;[60] one treatise summed up a legal rule by noting that "[i]n the nature of things, no precise rule can be laid down as to what constitutes a reasonable use."[61] The relative nature of

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artificial increases in water flows in a natural channel. *Id.* at sec. 21 at 39. Thus in *Green v. Carotta*, 13 P. 685 (Cal. 1887), for example, the court had to decide whether a flow of water out of a lake was a "natural" or "artificial" one. Disputes might also arise over what was the natural flow of a particular water course.

[57] LONG, *supra* note 52, at sec. 14 at 26.

[58] Boehmer v. Big Rock Irrigation Dist., 48 P. 908, 910 (Cal. 1897). This case states that if that were allowed:

> it would follow that, if A owned a tract of land upon a stream, his riparian rights which he acquired by the purchase of that tract would extend to all lands he might subsequently acquire, no matter from whom, nor under what circumstances his vendor obtained title, nor how distant from the stream, provided he owned all the land between the stream and the land so purchased.

Id.; *see also* LONG, *supra* note 52, at sec. 14 at 26-27.

[59] *See* 2 HUTCHINS, *supra* note 7, at 47-59 (describing issues in determining whether lands had riparian rights attached).

[60] *See, e.g.*, Lux v. Haggin, 10 P. 674, 704 (Cal. 1886) ("[E]ach riparian proprietor is entitled to a reasonable use of the water for irrigation.").

[61] LONG, *supra* note 52, at sec. 16 at 28. Riparian law also limited the amount of water any one individual could make use of—no one, for example, could take the entire flow of a stream (unless by agreement with the downstream riparian rights holders) because "[a]ny other rule would be entirely subversive of the well-established doctrine that the rights of all the riparian proprietors, as such, are equal." *Id.* at sec. 17 at 33. Although riparian owners had equal rights, the quantity of water a riparian holder was entitled to take varied from case to case. Only

> [i]f every riparian proprietor on a given stream owned the same quantity of land, with the same frontage on the stream, and the same susceptibility to and need of irrigation, each would be entitled to precisely the same quan-

riparian rights complicated the determination of reasonableness. Reasonableness was determined by examining not only the use made by the riparian owner but also the rights and needs of downstream riparian owners.[62] Again, riparian doctrine required resolution of fact-intensive disputes with relatively muddy rules.

To sum up, the rules of nineteenth-century riparian doctrine were relatively vague ("reasonable use", "natural" flows, equal rights to water held by all users) and led to case-by-case decision making. Courts had tremendous latitude under these rules: riparian common law left a great deal to both the judge and the jury in any given case. As Carol Rose points out, these rules were well suited to the public good aspects of water used primarily for nonconsumptive uses such as power generation.[63]

F. Prior Appropriation under the Common Law

The doctrine of prior appropriation first developed in California, not in the official courts, but among the miners who flooded the state during the gold rush.[64] The doctrine later was recog-

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tity of water for that purpose. These conditions will, of course, rarely, and perhaps never, be all satisfied in any actual case, but the principle illustrated is the one that must control in all cases.

Id. at sec. 18 at 35.

[62] *Id.* at sec. 16 at 29. This treatise summarized the analysis as follows:

> [E]ach proprietor is entitled to use so much, and only so much, of the water of the stream as may be reasonably necessary for the irrigation of his riparian lands, due regard being had to the rights of the other proprietors, and all the circumstances of the case. His right is measured by his necessity,—that is, he cannot claim any more water than is or would be necessary for the proper irrigation of his land. But his own necessity is not the only determining factor. His right must be exercised with due regard to the rights of others.

Id. at sec. 18 at 34. Western courts interpreting riparian rights did allow a greater degree of diminution of quantity to fall within the ambit of "reasonable use" than had English or eastern American courts, *id.* at sec. 16 at 30-31, but still required each riparian owner to use the water "to do the least possible injury to lower proprietors." *Id.* at sec. 16 at 31.

[63] Carol M. Rose, *Energy and Efficiency in the Realignment of Common-Law Water Rights*, 19 J. LEGAL STUD. 261, 292 (1990) ("[E]astern riparian law developed around an aspect of water use, namely power, that has the aspects of a public good, quite unlike the individually consumptive uses of water that are characteristic of the West.").

[64] Janet C. Neuman, *Beneficial Use, Waste, and Forfeiture: The Inefficient Search for Efficiency in Western Water Use*, 28 ENVTL. L. 919, 920 (1998); *see also* Lucien Shaw, *The Development of the Law of Waters in the West*, 10 CAL. L. REV. 443, 445 (1922); 1 HUTCHINS, *supra* note 7, at 164-65. California is *sui generis* as a legal entity. For a thorough analysis of the peculiarities of California's water law development, see Mark T. Kanazawa, *Efficiency in Western Water Law: The Development of*

nized in the new state's courts and legislature and in the federal courts, and spread throughout the arid West.[65] The change generally is explained "as the result of the greater scarcity of western water begetting a more detailed level of property rights definition and hence a more crystalline set of rules."[66]

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the California Doctrine, 1850-1911, 27 J. LEG. STUD. 159 (1998). California's "mixed" riparian/appropriation system developed out of the state's formal adoption of English common law in 1850, an event that had little or nothing to do with riparian rights. *Id.* at 164. No American state has ever appeared and grown as rapidly as California and none has had a legal system built under the strains of sudden growth and sudden legal change as did California. *See* Andrew P. Morriss, *Miners, Vigilantes & Cattlemen: Overcoming Free Rider Problems in the Private Provision of Law*, 33 LAND & WATER L. REV. 581, 593-98 (1998) [hereinafter Morriss, *Miners, Vigilantes & Cattlemen*]; Charles W. McCurdy, *Stephen J. Field and Public Land Law Development in California, 1850-1866: A Case Study of Judicial Resource Allocation in Nineteenth Century America*, 10 LAW & SOC'Y REV. 235, 237 (1975) (describing rapid population growth). This was particularly true with respect to water law. For example, the California Supreme Court stated:

> It may be said, with truth, that the judiciary of this State has had thrown upon it responsibilities not incurred by the courts of any other state in the Union. In addition to those perplexing cases that must arise, in the nature of things, and especially in putting in to practical operation a new constitution and a new code of statutes, we have had a large class of [mining] cases, unknown in the jurisprudence of our sister States.

Bear River & Auburn Water & Mining Co. v. New York Mining Co., 8 Cal. 327, 332 (1857). California's legal development, while certainly worthy of study, is not marked by a similar process to that of the rest of the West. This Article therefore concentrates on other portions of the West.

[65] *See* Jennison v. Kirk, 98 U.S. 453, 456-58 (1878) (stating that the purpose of 1866 mining law was to recognize customary rights in land and water); Drake v. Earhart, 23 P. 541, 542 (Idaho 1890) (illustrating that prior appropriation was established as local custom, then approved by legislatures and courts throughout the West); Coffin v. Left Hand Ditch Co., 6 Colo. 443, 446 (1882) (noting that prior appropriation rights "existed prior to legislation on the subject of irrigation"); Moyer v. Preston, 44 P. 845, 847 (Wyo. 1896) ("We incline strongly to the view expressed by the Supreme Court of Colorado to the effect that such right and the obligation to protect it existed anterior to any legislation upon the subject," citing *Coffin*.); Clough v. Wing, 17 P. 453, 455 (Ariz. 1888) (declaring that the right to appropriate was "recognized longer than history and since earlier than tradition"); Tattersfield v. Putnam, 41 P.2d 228, 232 (Ariz. 1935) (observing that prior appropriation "had existed for centuries in Mexico as best suited to our conditions"); U.S. v. Rio Grande Dam & Irrigation Co., 51 P. 674, 679 (N.M. Terr. 1898), *rev'd on other grounds*, 174 U.S. 690 (1899) ("[D]octrine of prior appropriation has been the settled law of this territory by legislation, custom and judicial decision."); 1 HUTCHINS, *supra* note 7, at 163 (observing that appropriation rights in Utah "appear[s] to have been recognized by custom before there was any general law on the subject"); *see also* Terry L. Anderson & Peter J. Hill, *Taking the Plunge*, *in* WATER MARKETING—THE NEXT GENERATION xi, xiii (Terry L. Anderson & Peter J. Hill eds., 1997).

[66] Dean Lueck, *The Rule of First Possession and the Design of the Law*, 38 J.L. & ECON. 393, 428 (1995); *see also* Anderson & Hill, *supra* note 65, at xiii (noting that the development of prior appropriation was the result of the greater value of water

California and some other states created hybrid systems containing both riparian and prior appropriation doctrines.[67] They did so by varying the rules depending on aridity or applying each doctrine to different bodies of water (e.g., appropriation applied only to the water on state or federal public lands.[68] Texas, for example, passed a statute providing that prior appropriation applied in the arid portions of the state and water could be appropriated there so long as the appropriation did not deprive riparian owners of their rights.[69]

Western states soon developed a set of relatively uniform legal rules governing prior appropriation through the common law.[70]

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in the arid west producing greater specificity in developing and specifying water rights); 1 HUTCHINS, *supra* note 7, at 159 (attributing western water law to "inadequacy of water"); Rose, *supra* note 63, at 290-93 (examining development of prior appropriation rule).

[67] "Created" may not be the right verb. In Nebraska, for example, the mixed system arose through interpretation of the statute recognizing prior appropriation and its effect on pre-existing riparian rights. *See, e.g.*, Clark v. Cambridge & A. Irrigation & Imp. Co., 64 N.W. 239, 241 (Neb. 1895) ("[R]ight of a riparian proprietor, as such, is property, and, when vested, can be destroyed or impaired only in the interest of the general public, upon full compensation, and in accordance with established law."); *Coffin*, 6 Colo. at 447 (stating that riparian rights are inapplicable to Colorado because "[i]mperative necessity, unknown to the countries which gave it birth, compels the recognition of another doctrine in conflict therewith"). As those rights were found to have been vested before prior appropriation began in the state, they could not be constitutionally divested by the prior appropriation statutes. *See also* Lux v. Haggin, 10 P. 674, 750 (Cal. 1886) ("We know of no decisions which intimate that a difference in climatic or geographical conditions may operate to transfer a right of property from those in whom a right of property is vested by the common law."). Note the difference between this approach and a pure common law approach interpreting water rights as evolving into appropriative rights rather than riparian rights due to differences in the customs of the country. *See, e.g.*, Hill v. Lenormand, 16 P. 266, 268 (Ariz. 1888) (holding that "[r]iparian rights are the same here as elsewhere, wherever they apply; but they do not apply where the rights of prior appropriators have intervened"); *Lux*, 10 P. at 783 (Myric, J., dissenting) ("The land of the birth of the common law of England had no occasion to consider or act upon the necessity for irrigation, and appropriation was not within the scheme of its laws" and so could therefore be changed.).

[68] LONG, *supra* note 52, at sec. 25 at 48-49; *Lux*, 10 P. at 782-83.

[69] *See* Motl v. Boyd, 286 S.W. 458, 471-72 (Tex. 1926) (tracing history of water law and discussing 1889 act on riparian rights and appropriative rights). The mixed systems effectively gave a superior right to riparian owners over noncontiguous land owners solely based on location. *See* 1 HUTCHINS, *supra* note 7, at 201.

[70] Charles Wilkinson, *Aldo Leopold and Western Water Law*, 24 LAND & WATER L. REV. 1, 2 (1989) ("For almost all of its history, water law and policy has been nearly monolithic throughout the American West."); 1 HUTCHINS, *supra* note 7, at 159 ("With considerable uniformity, these simple but effective principles became formalized into legal doctrine by decisions of courts and enactments of legislatures.").

Under the common law of prior appropriation, there were six main legal questions to be determined concerning a claim to water rights.[71] First, was the water claimed subject to appropriation?[72] Second, was the claimed water validly appropriated?[73] Third, how much water had been appropriated? Fourth, when had the appropriation taken place? Fifth, had the claim been lost through abandonment or forfeiture? Finally, how senior were the appropriations involved?

To make a valid appropriation required similar, if not exactly identical, steps in each jurisdiction. The key elements were (1) actual diversion of water; (2) actual application of the water to a beneficial use; (3) within a reasonable time; and (4) posting or recording some notice of the appropriation.[74]

The rules of prior appropriation simplified proof issues by changing the relevant fact questions. The factual issues likely to arise in disputes among appropriators were whether a contested use satisfied the requirement of beneficial use, whether a diversion had taken place, and which right had seniority. None of these would have presented significant difficulties for lay jurors or judges. Whether a diversion had been completed or not, for example, was something that was relatively obvious in many

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[71] Interestingly, who might make a valid appropriation was generally not an issue, with most state statutes and constitutions allowing appropriations regardless of whether the appropriator owned land, was a citizen, or was an Indian. LONG, *supra* note 52, at sec. 35 at 66-67. Trespassers seem to have been the only group excluded. *Id.*

[72] *See* 1 HUTCHINS, *supra* note 7, at 227-38 (summarizing state doctrines on this issue). With respect to the determination of whether the water in question was subject to appropriation, disputes seem to have been limited to relatively rare attempts to divert water directly from a spring, rather than from downstream after it had entered a river or stream. *See, e.g.*, Ely v. Ferguson, 27 P. 587 (Cal. 1891) (rejecting claim that water flowing from springs cannot be appropriated). Disputes might also occur over whether waters were part of a surface stream or not where they first appeared out of marshes and the like. *See, e.g.*, Hanson v. McCue, 42 Cal. 303 (1871) (holding that there is no claim to water percolating beneath the ground of another); S. Pac. R.R. Co. v. Dufour, 30 P. 783 (Cal. 1892); Willow Creek Irrigation Co. v. Michaelson, 60 P. 943 (Utah 1900) (declaring that the "decisive question" is whether party who owned land on which a marsh formed also owned water in the marsh). Most states ultimately addressed this through a statute or constitutional provision. As *Long on Irrigation* noted, "[t]he provisions are necessarily very similar, extending the right either to the rivers and streams, sometimes qualified as 'natural streams,' of the state, or to running water flowing in a river or stream, or down a canyon or ravine." LONG, *supra* note 52, at sec. 31 at 61. This issue was more significant in states like Texas that mixed prior appropriation and riparian rights.

[73] *See* 1 HUTCHINS, *supra* note 7, at 238-69 (discussing who may appropriate).

[74] LONG, *supra* note 52, at sec. 36 at 67-68.

cases and often resolved the case.[75] Many court cases over water rights involved situations where one party had simply taken water belonging to another.[76] Resolving such disputes, even where the thief was able to dress up his actions in a legal theory later, was not difficult for a court.

The prior appropriation doctrine's elements also conserved judicial resources.[77] The requirement of beneficial use, for example, limited appropriation claims to amounts where there was proof of the use, something often easier to evaluate than the act of appropriation.[78] Parties also often stipulated to many of the facts.[79] The ease with which courts could handle water disputes is supported by my review of the transcripts of testimony from a large water rights case in 1888 in Laramie County, Wyoming Territory, showing that most of the witnesses' testimony covered only a few typewritten pages and concerned primarily details of when land and water rights were acquired and the dates of prior

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[75] *See, e.g.*, Taylor v. Abbott, 37 P. 408 (Cal. 1894) (holding that a claim to a spring was defeated because claimant had not completed his appropriation).

[76] *See, e.g.*, Williams v. Harter, 53 P. 405, 406 (Cal. 1898). In this case, a dispute occurred when "defendants entered upon plaintiff's said dams and ditch, at sundry points, and broke and destroyed the same, and placed dams in said ditch, and have thereby diverted the waters of said springs from plaintiff's ditch." *Id.*

[77] Professor Charles McCurdy labels decisions such as determining "how much water each of several appropriators might take from a common stream" as "difficult". McCurdy, *supra* note 64, at 258. This view is mistaken, as McCurdy implicitly acknowledges in the same paragraph—courts evolved rules of thumb, such as using the capacity of a ditch as *prima facie* evidence of the extent of each appropriation. *Id.* at 258-59. Courts might label factual issues in water cases, as in the opinions McCurdy quotes, as "'exceedingly complicated and embarrassing'" but they also acknowledged that "'[t]he Courts do not, however, refuse the consideration of subjects, because of the complicated and embarrassing character of the questions to which they give rise.'" *Id.* at 259 (quoting Ortman v. Dixon, 13 Cal. 33, 39 (1859); Butte Canal and Ditch Co. v. Vaughn, 11 Cal. 143, 152 (1858)).

[78] *See, e.g.*, Dick v. Caldwell, 14 Nev. 167, 170 (1879) (limiting claim to water actually put to use and noting that even if claimant had diverted additional water beyond what he used, "[t]urning water out of the stream for no useful purpose did not give him any additional rights").

[79] Krogh, *supra* note 16, at 16. Ms. Krogh is critical of this practice, arguing that it meant there was "little or no independent review of their technical or legal sufficiency." *Id.* This assertion misses the point. There is no need for independent review of stipulations between parties, since a common law action determines only the rights of the parties to the stipulations. Even if two individuals brought a collusive lawsuit and made stipulations such that one was found to have appropriated the entire water course in question, such a finding would not be good against others and other claimants would have the opportunity to test the factual claims in proceedings against them. The competitive nature of the litigation process thus ensures there is no need for independent review of stipulations.

use.[80]

Other disputes required simple choices among alternative rules.[81] Again, the problem was no different for a court than choice among other competing rules adopted by other courts, some of which adopted practical solutions. As the Montana Supreme Court noted, to resolve disputes sometimes required courts to "arbitrarily fix a particular day or days for appropriations of water" situations.[82]

Early statutes governing appropriation systems eased proof issues further. Typically, such statutes provided for posting of notices of diversions, recording of claims at county recorders' offices, and diligent efforts to put the water to beneficial use.[83]

Nonetheless, despite the important role of water law statutes, courts recognized the common law nature of prior appropriation law.[84] For example, the California Supreme Court held that someone who had appropriated water but not followed the statutory requirements for recording an appropriation had a claim: "[T]here can be no doubt that since the Code, as before, he has a perfect right, deducible from common-law principles, to the water actually appropriated as against all the world except the owner of the soil and those claiming adversely who have complied with the law."[85] Similarly, water law expert Wells Hutchins located the priority principle in local custom.[86]

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[80] *See* Records of *In re North Crow Land and Cattle Company's Ditches* (on file with Wyoming State Archives, Laramie Clerk of Dist. Ct., Water Records, Box 1, Folders: Dockets 3, 4, 6, 12, 18, 21, 26, 31, 38, 39, 40, 43, 44).

[81] *See, e.g.*, S. Pac. R.R. Co. v. Dufour, 30 P. 783 (Cal. 1892) (holding water collected from percolating ground water not capable of being appropriated).

[82] McDonald v. Lannen, 47 P. 648, 648 (Mont. 1897).

[83] *See* Johnson & DuMars, *supra* note 22, at 351 (discussing 1872 California statute and similar statutes from Arizona, Colorado, Dakota Territory, Nevada, New Mexico, Oklahoma, Texas, and Wyoming); Moyer v. Preston, 44 P. 845, 849-50 (Wyo. 1896) (describing operation of Wyoming recording statutes, which provided that no evidence would be accepted from someone who had failed to record a water rights claim from 1886 to 1890); *see also* 1 HUTCHINS, *supra* note 7, at 175 (noting that early statutes "were generally short" and many required that a notice be posted "at the point of diversion" and also with the county).

[84] *See* 1 HUTCHINS, *supra* note 7, at 176 ("What statutes in various States did was to give legislative sanction to methods of appropriation already developed by custom.").

[85] De Necochea v. Curtis, 22 P. 198, 199 (Cal. 1889); *see also* Nielson v. Parker, 115 P. 488, 489-490 (Idaho 1911) (same).

[86] 1 HUTCHINS, *supra* note 7, at 168-69 (noting that California, Montana, Nevada, and Idaho all recognized customary sources of priority but that Kansas courts rejected it prior to statutory authorization).

The common law of prior appropriation thus presented relatively clear-cut factual issues to juries. Its differences from riparian common law largely clarified rather than complicated factual issues.[87] Seniority therefore was an important innovation:[88] "A sharp-edged rule, ranking the quality of rights' titles by their dates of issue, it prevents disputes and reduces bargaining costs drastically by saying the most senior user gets all his water before the next gets any."[89]

The system of rules produced by the common law was thus an effective institution built around private rights and markets. As water rights experts economist Terry Anderson and attorney Pamela Snyder conclude:

> The belief that the doctrine of appropriation contains a great deal of potential for market failure is pervasive but largely unfounded. Though the doctrine is not without transactions costs, the allocation problems in many western states are not so much the fault of prior appropriation as they are the fault of restrictions placed on appropriative water rights and markets.[90]

Indeed, the prior appropriation system is generally regarded as "more flexible as regards transfers" and as providing "greater security than the riparian doctrine."[91]

As an institutional response, the development of common law of prior appropriation economized a scarce resource in the less populated West: decision makers' time and energy.[92] The introduction of the seniority principle meant that many disputes never needed to reach a court, because in many instances individuals could determine their relative rights by simply comparing priori-

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[87] This is not to discount the substantive differences between these two approaches. There were also important differences in legal rules. Riparian rights did not allow one individual to claim an entire stream, while prior appropriation did. LONG, *supra* note 52, at sec. 17 at 33. Prior appropriation also introduced "three features not found in the earlier common law system: precedence by seniority; the requirement of beneficial use; and a locational arrangement which was conducive to transferability." Scott & Coustalin, *supra* note 51, at 916.

[88] But not too much of an innovation—Scott and Coustalin suggest that "the earliest miners and settlers could easily have gotten the idea of seniority as a criterion for the better title from existing water law." Scott & Coustalin, *supra* note 51, at 914.

[89] *Id.* at 919.

[90] ANDERSON & SNYDER, *supra* note 17, at 105.

[91] Ronald N. Johnson et al., *The Definition of a Surface Water Right and Transferability*, 24 J.L. & ECON. 273, 273 (1981).

[92] *See, e.g.*, Paul H. Rubin, *Growing a Legal System in the Post-Communist Economies*, 27 CORNELL INT'L L.J. 1, 10-11 (1994) (describing need to conserve legal resources where scarce).

ties. It also significantly limited the potential for bias by shifting decisions to clearer issues (e.g., priority, beneficial use) from muddier issues (e.g., reasonableness of use).[93] Similarly, resolving only actual disputes meant that no decisions were needed on the hypothetical disputes necessary to make a complete, consistent allocation of all rights to a particular body of water. For a region often plagued by corrupt and unaccountable territorial judges,[94] this was an important feature.[95] The common law of prior appropriation also met another basic test—it was seen as fair.[96]

G. The Evolution of the Common Law of Water in the West

The great divide in the substantive rules of American water law, the change from riparian to mixed and prior appropriation at the 100th meridian, has prompted a number of theories of the origin of the western rules. Most "seem to present westerners deliberately turning from an outdated eastern riparian water right to find a system with better features. Although vivid, . . . the portrayal reflects hindsight reasoning and ignores the nineteenth century reality."[97] Water law experts Scott and Coustalin persuasively argue that this emphasis on differences in substance overemphasizes the differences between the common law of riparian rights and the common law of prior appropriation:

> [T]he common law of water was not outdated. It had been keeping up with the times, changing very rapidly for at least one hundred years, remarkably transforming itself from one

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[93] *But see* MILLER, *supra* note 49, at 7 (arguing that prior appropriations also were sufficiently underdetermined in reasonableness concepts to allow "room for the play of ideology and judicial choice"). Miller is mistaken because here she underestimates the importance of the role of the jury, although she acknowledges it elsewhere in her book.

[94] *See infra* note 104.

[95] Even such judges were more independent than their legislative counterparts. For example, in Catherine Miller's history of the Miller and Lux Cattle Company, she recounts how the company viewed judges as preferable to juries but still as "unpredictable and unreliable. . . . [E]ven the best of judges, those holding 'sound' views of the law, might rule in unexpected ways." MILLER, *supra* note 49, at 176.

[96] *See* ANDERSON & SNYDER, *supra* note 17, at 43 ("In part, it was a sense of justice that led the early settlers to allocate water rights on the basis of 'first in time, first in right.'").

[97] Scott & Coustalin, *supra* note 51, at 909-10 (footnotes omitted); *see also* Rose, *supra* note 63, at 265 ("Thus in the West, according to a number of authors, scarcity and the need for careful husbanding of water resources drove water law beyond riparianism's vague correlative rights, and into the more expensive but also more effective appropriation regime of individual property rights in water.").

> ruling principle to another. But the actual, riparian law of their day, with its frequent changes brought on by the revolution in milling, textile and metal industries, must have been utterly unknown to the young pioneers who are now thought of as the inventors of the prior-appropriation system. As water users they were merely following a self-help experimental approach in organizing their respective rights and obligations in a new land as best they could.[98]

Arguing from a different perspective, University of Colorado Professor Charles F. Wilkinson termed the early decisions developing the prior appropriation doctrine "common law judging at its best. With no statutes to speak of, western courts looked where they should have looked—to custom, to conditions in the field, and to economic and social needs."[99]

One can, therefore, see the development of prior appropriation as merely the common law's adaptation to the arid West—"merely" because it was no different than the common law's ability to adapt more generally. Indeed, Carol Rose argues persuasively that the evolution of the common law of riparian water rights in the eastern United States was itself an efficient evolution of rules in response to shifting demands on water resources. The early common law rules centered on "ancient use" evolved into a reasonable use doctrine in response to a change from "stable and relatively low demand for water resources . . . only sporadically threatened by extreme individual behaviors" to industrial demands for water power.[100]

Focusing on the differences in substance between riparian and prior appropriation thus misses the relationship between the two systems as expressions of the common law. As Carol Rose notes, citing Thomas Merrill's work, the riparian/prior appropriation shift is consistent with a general pattern of common law rules that are discretionary in high transaction costs situations like those that existed in the East and with "all-or-nothing" 'mechanical' doctrines that dominate in low-transaction cost environments like the West.[101]

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98 Scott & Coustalin, *supra* note 51, at 909-10 (footnotes omitted).

99 Wilkinson, *supra* note 70, at 6-7; *see also* REISNER, *supra* note 3, at 47 (arguing that truly "revolutionary" approach would have been "trying to graft English common law and the principles and habits of wet-zone agriculture onto a desert landscape").

100 Rose, *supra* note 63, at 266.

101 *Id.* at 285 (citing Thomas Merrill, *Trespass, Nuisance, and the Costs of Determining Property Rights*, 14 J. LEG. STUD. 13, 19 (1985)). All or nothing rules are appropriate in a low transaction cost environment because the losing party can eas-

As the brief summary above suggests, to a certain extent all common law water law doctrines rested on relatively imprecise rules. The imprecision, however, resided in different places in the two substantive doctrines. The common law of riparian rights was most vague in explicating the legal duties of the rights holders, somewhat less vague in determining how to resolve conflicts in use, and least vague concerning who the rights holders were (owners of riparian lands). The common law of prior appropriation, by contrast, had explicit and clear legal rules stating who held rights and what those rights were (he who appropriates owns the water) and how to resolve rights conflicts (first in time wins). The appearance of a lack of clarity in the prior appropriation rules came from the facts of the cases. Resolution of such cases required determining who had appropriated, when the appropriation had occurred, and how much had been appropriated. Even in those areas, however, the factual questions presented were generally more straightforward than those presented by riparian common law. These differences had important consequences for how the vague areas were clarified in particular cases. In short, in riparian jurisdictions, judges had a larger role; in prior appropriation jurisdictions, juries played a larger role.

The importance of this distinction should not be discounted. Only two of the seventeen prior appropriation states adopted a central planning approach before statehood, and both of those did so in the twentieth century, well after many of the problems of territorial status had been resolved. Relying on juries, rather than judges, made an especially important difference in areas organized as territories. As Catherine Miller notes in her insightful history of the Miller & Lux Cattle Company, powerful interests found juries "a 'vexatious' problem because they followed popular notions of justice rather than the letter of the law."[102]

The structure of territorial government allocated significant power to officials not responsible to residents of the territory. The executive and judicial branches, for example, were controlled by officials appointed by the federal government. Only the legislatures were popularly elected. Federal control of the judiciary was especially problematic. Although there were some

ily transact around any inefficient outcomes. In a high transaction cost environment, however, it is more often too expensive to transact around inefficient rulings and so giving a court more discretion is important.

[102] MILLER, *supra* note 49, at 175; *see also* Morriss, *Miners, Vigilantes & Cattlemen*, *supra* note 64, at 667-69.

excellent judges among those appointed to the territorial benches, there were also many mediocre (and worse) individuals who served.[103] Juries, by contrast, remained drawn from the local population.

In such an institutional setting, the common law of prior appropriation had significant advantages. Most disputes under the rules were disputes about facts and so the province of local juries, not federal appointees. Relying on adjudication meant that the appointed executive branch had little or no role in resolving water rights questions. Further, the content of legal rules was governed by the *common* law of prior appropriation, common to states and territories across the region and expressed by courts across the West, and so the ability of individual territorial judges to innovate was significantly limited. Importantly, California's rapid and early production of water law precedent after statehood meant that there was a clear benchmark against which to compare territorial judges' decisions. In addition, the legislature, the only branch controlled entirely locally, could attempt to amend any problematic rulings through statutes.

Relying on the common law also conserved scarce legislative resources. At a time when territorial legislatures were struggling to create a legal framework for their fledgling societies—creating probate codes, establishing political structures, and the like—using the common law for water meant one less area that needed immediate attention. It also allowed markets to determine water uses.[104]

We need not attribute any grand design to the creation of the prior appropriation system. No plan was needed, however, because settlers in the West had incentives to get the institutions right. As noted water rights authorities Terry Anderson and Pamela Snyder note:

> The western frontier was an experiment with the evolution of property rights. Because the actors in that experiment had to bear the consequences of their actions, they had an incentive to develop institutions that got the incentives [for resource

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[103] *See* Kermit L. Hall, *Hacks and Derelicts Revisited: American Territorial Judiciary, 1789-1959*, 11 WEST. HIST. Q. 273 (1981); JOHN D.W. GUICE, THE ROCKY MOUNTAIN BENCH: THE TERRITORIAL SUPREME COURTS OF COLORADO, MONTANA, AND WYOMING, 1861-1890 (1972).

[104] Barton H. Thompson, Jr., *Water Markets and the Problem of Shifting Paradigms*, *in* WATER MARKETING, *supra* note 65, at 1, 2 ("For a brief period in the mid-nineteenth century, water policy embraced markets.").

> use] right. Because water was a limiting factor in agriculture and mining, it was critical to provide incentives for private owners to invest in delivering water to where it was most productive. The prior appropriation doctrine effectively got the incentives right.[105]

II

THE COMMON LAW IN THE COURTS

The method of analyzing the functioning of the various water law systems used here is to examine the opinions from court cases dealing with water rights disputes. Opinions are, of course, imperfect measures as they record only the decisions in disputes that reached the court of last resort, neglecting those settled or ended after district court proceedings without an appeal and those that never reached a court. Nineteenth-century records being somewhat sparse, however, they are the best we can do in many instances. In this section, I examine the common law of prior appropriation as set out by opinions in disputes in courts in two jurisdictions: Montana and Wyoming.[106]

One important feature is immediately obvious: the courts did not deal extensively with water law issues before the creation of

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105 ANDERSON & SNYDER, *supra* note 17, at 44.

106 Water law cases were identified by examining the volumes of *Montana Reports* and *Wyoming Reports* from volume 1 through the last cases reported for 1899. The reporters include digests by subject matter at the end. I examined each case listed under a heading relating to water (water rights, irrigation, etc.) and cases given cross-references in those sections. It is, of course, possible that other cases involving water law exist that were not catalogued as such by the reporters. It is unlikely that any *significant* water law cases were missed by the reporters, however. The reports were produced by for-profit enterprises who were competing for the official contracts for the job and, starting in 1884, with West Publishing Company's *Pacific Reporter*, which included both states.

I chose Wyoming and Montana for this case study for several reasons. First, Wyoming was the obvious choice given that I was examining the spread of the Wyoming system. Second, I was familiar with conditions in Montana from earlier work on Montana legal history. *See* Andrew P. Morriss, *"This State Will Soon Have Plenty of Laws"—Lessons from One Hundred Years of Codification in Montana*, 56 MONT. L. REV. 359 (1995) [hereinafter *Lessons*]; Andrew P. Morriss, *Private Actors & Structural Balance: Militia and the Free Rider Problem in Private Provision of Law*, 58 MONT. L. REV. 115 (1997); Andrew P. Morriss, *Decius S. Wade's* The Common Law, 59 MONT. L. REV. 225 (1998); Morriss, *Legal Argument*, *supra* note 39; Morriss, *Miners, Vigilantes & Cattlemen*, *supra* note 64; Andrew P. Morriss et al., *Debating the Field Civil Code 105 Years Late*, 61 MONTANA L. REV. 371 (2000). Finally, a survey of water law cases from across the west convinced me that Montana was reasonably typical of the Rocky Mountain and Plains states during this time in its approach to water law.

water codes. This is true of other western states (except California) as well. Scott and Coustalin's survey of water law found that, because of sparse and dispersed populations, "litigation was comparatively rare, and judges were not often called on to make crucial decisions about water law and individual water rights. Instead, the water rights were first demanded from . . . 'customary' procedures."[107] Although Scott and Coustalin attribute this largely to the formative period of western states' legal development, particularly the rushed development of rights to satisfy "transient gold miners and impatient settlers,"[108] at least in Montana and Wyoming this continued to be true for decades. Nonetheless, the courts did deal with water law issues in the context of the common law and they provide the source material for this Article.

A. Water Law in the Montana Courts

Montana was created in 1864 out of Idaho Territory.[109] It remained a territory for much longer than many other parts of the West, in part because its population was initially heavily Democratic at a time of Republican dominance of the national government.[110] Finally attaining statehood in 1889, Montana spent her first years of statehood largely locked in partisan gridlock.[111] Nineteenth-century Montana thus represents a good laboratory for examining the comparatively undisturbed development of the common law.

Founded by placer miners[112] in the gold rushes of the mid-1860s, Montana Territory eventually came to be dominated by three major industries. Mining, which quickly became a capital-intensive hard rock industry, dominated south-central Montana, centering on Butte. The battles between rival copper mining

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[107] Scott & Coustalin, *supra* note 51, at 901. Further work is needed to examine the customary law of water rights in the nineteenth century West.

[108] *Id.*

[109] *See* JAMES MCCLELLAN HAMILTON, FROM WILDERNESS TO STATEHOOD: A HISTORY OF MONTANA 1805-1900, at 276-77 (1957).

[110] *Id.* at 524-36 (describing efforts to gain statehood and role of politics in delaying Montana). On the relationship between western states' admission to the Union and their Republican voting records, see David W. Brady & Roger G. Noll, *Public Policy and the Admission of the Western States*, *in* THE POLITICAL ECONOMY OF THE AMERICAN WEST (Terry L. Anderson & Peter J. Hill eds., 1994).

[111] *See* Morriss, *Lessons*, *supra* note 106, at 381-86.

[112] Placer miners are those who recover minerals through surface techniques such as panning and sluicing.

companies played an important role in shaping Montana politics, as did the struggle between capital and labor in the mining industry.[113] In eastern Montana, a free range cattle industry dominated, much like the cattle industries of western Dakota Territory and Wyoming. As in those states, Montana cattlemen struggled to establish property rights in the face of government homestead and land policies that thwarted them repeatedly. As pioneer rancher Granville Stuart put it: "The bulk of [the] range was unsurveyed and no title could be obtained."[114] Finally, in central and western Montana, cattle ranching and other forms of agriculture took root, making use of natural barriers to resolve some of the property rights issues that plagued the eastern parts of the territory and using irrigation to improve productivity.

None of these groups was able to dominate completely the Montana territorial or early state governments, which were correspondingly marked by vigorous political competition. All three groups had distinct interests with respect to water: cattlemen needed water on the range for their herds, irrigators needed water for their crops, and mining companies needed to transport vast amounts of water to the mines for power generation and ore processing.

The Montana Territorial Legislature passed several statutes dealing with water issues and in the first decade of statehood the state legislature passed several more.[115] These statutes largely dealt with the method of perfecting an appropriation and similar issues.[116] Looking at the entire set of statutes in 1921, the Montana Supreme Court found that the statutes expressed a policy adopting a purely appropriative system, rather than the California mixed system of both appropriation and riparian rights, but also noted that this issue was a case of first impression at a relatively late date in the state's legal history.[117] In part this reflects a strong consensus among Montanans that there were no riparian rights. As the court noted,

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[113] *See* MICHAEL P. MALONE, THE BATTLE FOR BUTTE: MINING & POLITICS ON THE NORTHERN FRONTIER, 1864-1906 (1981).

[114] ROBERT H. FLETCHER, FREE GRASS TO FENCES: THE MONTANA CATTLE RANGE STORY 47 (1960).

[115] The history of Montana water legislation is summarized in *Mettler v. Ames Realty Co.*, 201 P. 702, 706-08 (Mont. 1921).

[116] *Id.*

[117] *Id.* at 707-08. The court noted that two earlier opinions had expressed in dicta that the initial statute establishing appropriative rights had precluded the California system. *Id.* at 707.

> since the organization of Montana territory—a period of more than 50 years—no owner, claimant, or occupant of riparian lands has ever asserted in the courts the common-law doctrine of riparian rights, as applied to the use of water, until the present action was instituted, so far as our investigation discloses.[118]

The role of statutes in determining Montana water law development through 1900 was relatively slight. Although in retrospect the nineteenth-century statutory scheme as a whole was held to constitute a rejection of a mixed riparian-appropriation system, there was no clear declaration of policy from the various statutory provisions. The statutes did little more than provide some of the details of Montana water law. There was thus ample space for the common law to fill.

1. The Territorial Court

The territorial supreme court issued fifteen opinions in water law cases during its twenty-four year history (1865-1889).[119] Of these, five dealt with purely procedural matters in the context of water law cases and one dealt solely with construction of a federal statute on rights of way for water ditches.[120] Thus, only ten opinions dealt with substantive issues of water law, suggesting that water law issues were not frequently before the court. It is worthwhile to examine these opinions in some detail.

The territorial supreme court's water law opinions suggest several things about how water law was perceived in Montana. First, the territorial court paid a great deal of attention to precedent, and to California precedent in particular.[121] It was not simply California precedent, however, that governed. The opinions also make explicit reference to customary legal institutions, such as mining districts, to determine the relevant rules.[122] The terri-

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[118] *Id.* at 705.

[119] Because the court's opinions from before 1868 were not officially reported, this may slightly understate the number of cases.

[120] *See* Caruthers v. Pemberton, 1 Mont. 111 (1869) (procedural issue); Harris v. Shontz, 1 Mont. 212 (1870) (procedural issue); Noteware v. Sterns, 1 Mont. 311 (1871) (right of way statute); Toombs v. Hornbuckle, 3 Mont. 193 (1878) (procedural issue); Bass v. Buker, 12 P. 922 (Mont. 1887) (procedural issue); Welch v. Keene, 21 P. 25 (Mont. 1889) (procedural issue).

[121] *See, e.g.*, Alder Gulch Consol. Mining Co. v. Hayes, 9 P. 581, 585 (Mont. 1886) (citing seven California opinions, among ten opinions all together, as "authorities to maintain these propositions").

[122] *See, e.g.*, *id.* at 583 (discussing mining district rules); Hill v. Lenormand, 16 P. 266, 268 (Ariz. 1888) (declaring that the law was settled by courts and Congress and

torial court also rarely framed a question as a case of first impression for the territory, instead seeking to resolve issues through the proper interpretation of existing precedents from outside Montana.[123] Water law, then, was seen as a body of law existing in Montana independently of the declarations of the territorial courts.

Cases decided by the territorial supreme court also suggest that the Montana courts had little difficulty resolving the factual disputes necessary to decide the cases. The Montana territorial courts appear not to have had problems deciding, for example, who was the prior appropriator.[124]

Most of the legal rules declared by the Montana Territorial Supreme Court derived from simple and straightforward application of principles from the existing framework of water law.[125] Only four of the ten substantive opinions show any sign that the court believed the legal issue to be difficult.[126] Examining the more difficult cases closely sheds additional light on the common law of water rights.

The first of the legally challenging issues arose in the first substantive water law opinion published by the territorial court.[127] The court faced the difficult problem of choosing Montana's water law system as well as evaluating a territorial statute purporting to allow apportionment of water between users in times of shortage without regard to prior appropriation. Two ranches used water from Prickly Pear Creek for irrigation, with the downstream ranch claiming three hundred inches of water based on

"by the long-established customs of the country"); Drake v. Earhart, 23 P. 541, 542 (Idaho 1890) (noting that prior appropriation was the law through custom, approval of legislatures and courts).

[123] *See, e.g.*, Fabian v. Collins, 3 Mont. 215, 223-24 (1878) (framing issue as one of interpreting California opinion rather than as case of first impression).

[124] *See, e.g.*, Columbia Mining Co. v. Holter, 1 Mont. 296, 299-300 (1871).

[125] *Id.* at 300 (holding that the intent to appropriate must be acted upon "with all reasonable diligence"); Woolman v. Garringer, 1 Mont. 535 (1872) (granting that appropriator can change place of water use); Atchison v. Peterson, 1 Mont. 561 (1872) (maintaining that minor amounts of sediment in water after discharge by upstream appropriator are insufficient to justify injunctive relief); Barkley v. Tieleke, 2 Mont. 59 (1874) (holding that transfer of water rights was effective despite failure to comply with all required formalities); Tucker v. Jones, 8 Mont. 225 (1888) (noting that the sale of land that requires water will be assumed to include water rights unless specifically reserved).

[126] Thorp v. Woolman, 1 Mont. 168 (1870); Fabian v. Collins, 3 Mont. 215 (1878); *Alder Gulch*, 9 P. at 581; Ford v. Gregson, 7 Mont. 89 (1887).

[127] *Thorp*, 1 Mont. at 168.

prior appropriation. During a drought in 1869, the upstream rancher took advantage of an 1865 law allowing county commissioners to appoint a three-member commission to apportion water rights. The commission granted each ranch half the water in the creek. The downstream rancher then sought relief in the courts. In an opinion notable for its failure to cite any legal authority, the court struck the statute as a violation of separation of powers, holding the determination of the legal rights of the parties to be a judicial function.[128] Ducking the issue of "whether or not the doctrine of appropriation applies to ranchmen as well as to miners," the court considered whether the commission's allocation violated the riparian rights of the downstream rancher and concluded that it did.[129]

The legal challenges presented by this first substantive water law opinion were considerable. Not only did the court confront the legitimacy of a territorial statute, but it was required to consider the difficult relationship between riparian and prior appropriation law at an early stage in Montana's legal development. The 1865 legislature was itself controversial[130] (and its enactments were later voided by Congress), and the legitimacy of that legislature was an ongoing issue in the Montana courts and legal community. It is no surprise, therefore, that the relatively young territorial court struggled with the issues.

Not until 1878 did the territorial court again appear to have difficulty with a legal issue concerning water rights. In *Fabian v. Collins*[131] the court confronted a claim that muddied a contract claim with a prior appropriation issue. A group of miners had appropriated water out of Silver Creek. When newcomers named Loyd, Moss, and Riley needed water, however, the original appropriators agreed to share the water, allowing Loyd and his friends to use the water when the original appropriators did not need it. Sometime later, Loyd and his friends sold their mining claim and water ditch. The deeds which Loyd, Moss, and Riley used to convey the property appeared to convey water rights, which the three men did not have because the rights were held by the original appropriators. Significantly, at the time of the sale and delivery of the deeds, the original appropriators

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128 *Id.* at 170-71.

129 *Id.* at 171-72.

130 *See* Morriss, *Lessons*, *supra* note 106, at 379-80.

131 3 Mont. 215 (1878).

were present. Indeed, one of the original appropriators drafted the deeds and another signed the deeds as a witness. The court held that the original appropriators' silence estopped them from asserting their rights as original appropriators against the purchasers.

> The [buyers] could gain no knowledge of the state of the [sellers'] title by an examination of the records of the mining district and county in which the property is situated, which is often the convenient means of ascertaining a fact of this kind. The [buyers] acquired by their purchase the possession of the water, which had been used by [the sellers] more than five years without interruption, and could presume reasonably that this use had been rightful.[132]

The court thus took into account the informality of the water rights system and used it to estop the original appropriators.

Seven years later, the territorial supreme court again confronted a significant issue of substantive water law. Noting that it "would be warranted in refusing to determine this cause, for the reason that it does not comply with the rule of this court as to the mechanical method of its presentation," the court nonetheless reached the merits "on account of its importance."[133] The issue was whether an upstream appropriator had an obligation to return the water he used to the stream from which it was taken to avoid harm to the downstream appropriators. The court held

> [w]e think it to be the law that in a mining gulch, when water appropriated by a ditch for the purpose of being used upon a mining claim has served its purpose upon such claim, it must be discharged therefrom for use by the owners of claims below for use upon their claims. The mining claimant below is entitled to the water of the stream flowing down the gulch, subject to the prior appropriation of the water by the owners of claims above him for use upon such claims, and subject only to the reasonable diminution and deterioration by its necessary use upon such upper claims. This is reasonable. The water flowing by each claim naturally belongs thereto.[134]

The following year, the territorial court issued another substantive opinion on water law. In *Ford v. Gregson*[135] the court was presented with a contract between a group of water rights

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[132] *Id.* at 230.

[133] Alder Gulch Consol. Mining Co. v. Hayes, 9 P. 581, 581 (Mont. 1886).

[134] *Id.* at 584.

[135] 14 P. 659 (Mont. 1887).

owners. The contract provided that none of the group would sell his rights or compromise any dispute over the water rights without the written consent of the others. Further, the contract provided that all would make common cause in any litigation over the water rights. Finally, the contract provided for $10,000 in liquidated damages for its breach. All but one member of the group agreed to settle a water rights dispute with some neighbors by selling their mineral claims and water rights. The holdout sued for the liquidated damages.

The court found the contract void as against public policy because it prohibited the sale of the water rights, analogizing it to contracts in restraint of trade. And, the court added, this was "especially" against public policy "in a country like this, in which water is necessary for so many industrial pursuits."[136] The court also struck the contract as void on the ground that it "imposes a restraint and condition upon compromises or settlements of litigation and disputes which are favored by law."[137] Ironically the modern, administrative versions of prior appropriation largely forbid the right of transfer that the court found so important.

Only one opinion reads (today at least) as if political considerations dominated.[138] In its 1889 opinion in *McCauley v. McKeig*,[139] the territorial court affirmed a judgment against a ditch owner seeking an injunction and damages from an upstream mining concern, whose activities diverted water from his ditch and degraded the quality of the water remaining. The nuisance claim for diverting water was quickly resolved by resort to the prior appropriation rule and a finding that the defendant had priority.[140] More importantly, however, the court rejected the downstream user's nuisance claim concerning the debris. While the court cautioned that it should not be understood "as declaring that the owner of a placer mine may disregard the rights of others owning property adjacent to his," it nonetheless held that "the public policy of this Territory demands that a trifling—a nominal—damage shall not be ground sufficient to destroy one of its leading industries."[141]

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136 *Id.* at 662.

137 *Id.*

138 By "political" I mean without considerations of public policy but determined by special interest considerations.

139 21 P. 22 (Mont. 1889).

140 *Id.* at 23.

141 *Id.*

What can we conclude from the record of the Montana Territorial Supreme Court in water law? First, the number of water law disputes to reach the courts was relatively small.[142] Second, the number of issues the court thought required its attention was even smaller. As the court demonstrated in *Alder Gulch*, it could easily overlook procedural or "mechanical" flaws in cases to determine an outcome when it wanted to do so to reach a substantive issue. That it rarely did so testifies not only to the degree of restraint shown by the judges but also by the perceived lack of urgency to address substantive water law issues. California precedent provided the guideposts for most decisions, and, possibly, the parties were able to look those up and determine the outcomes of disputes without resort to the territorial courts. Third, the court took an extremely practical approach to resolving the few substantive issues it considered.

2. *The State Court*

Statehood brought an increase in the number of water law cases before the Montana Supreme Court, with an average of three per year during the first decade of statehood compared to an average of less than one per year in the territorial period.[143] As before, cases involving procedural issues,[144] evidentiary questions,[145] or other non-substantive issues[146] dominated, however, and the new state supreme court decided few substantive water law issues. Two cases also dealt with issues concerning interpretation of non-water law provisions of the 1895 Civil Code and

[142] Compare California, where Chief Justice Lucien Shaw concluded in 1922 that the California court reports "contain more decisions on [water law] than on any other." Shaw, *supra* note 64, at 444.

[143] This cannot fairly be attributed entirely to a growing population: the average in the ten years before statehood was still less than one case per year and even in the four years just before statehood, the busiest time for the court in the territorial period, the average was still less than two cases per year.

[144] Johnson v. Bielenberg, 37 P. 12 (Mont. 1894); Beatty v. Murray Placer Mining Co., 39 P. 82 (Mont. 1895); Miles v. Du Bey, 39 P. 313 (Mont. 1895); Emerson v. Eldorado Ditch Co., 44 P. 969 (Mont. 1896); Crowder v. McDonnell, 54 P. 43 (Mont. 1898).

[145] Carron v. Wood, 26 P. 388 (Mont. 1891); Sweetland v. Olsen, 27 P. 339 (Mont. 1891); Leonard v. Shatzer, 28 P. 457 (Mont. 1891); Floyd v. Boulder Flume & Mercantile Co., 28 P. 450 (Mont. 1892); Kleinschmidt v. Greiser, 37 P. 5 (Mont. 1894); Kimpton v. Jubilee Placer Mining Co., 16 Mont. 379 (1895); Smith v. Hope Mining Co. of St. Louis, 45 P. 632 (Mont. 1896); Gassert v. Noyes, 44 P. 959 (Mont. 1896); Arnold v. Passavant, 49 P. 400 (Mont. 1897); Wood v. Lowney, 50 P. 794 (Mont. 1897); Haggin v. Saile, 59 P. 154 (Mont. 1899).

[146] Power v. Switzer, 55 P. 32 (Mont. 1898).

their interaction with water law.[147]

A few decisions in the first ten years of the new state supreme court did, however, address substantive issues of water law.[148] The first four of these came shortly after statehood, with the new court asserting itself over its territorial predecessor. In the first case, involving a dispute among forty-one claimants to water in "Race Track Creek," the court held for two members of a group of twenty-four miners, who had previously jointly appropriated water for mining and so held the water as tenants in common. Others among the forty-one parties argued that when the miners' group ceased to use its ditch for mining purposes, the water was subject to appropriation by others. The court, however, held that the two former miners were entitled to relate their appropriation for irrigation back to the original mining appropriation and so take priority over all but their cotenants. The change of the water's use from mining to irrigation did not constitute abandonment by the twenty-four cotenants.[149]

> That one tenant in common may preserve the entire estate or right held in common is a proposition so well settled it is unnecessary to cite authorities in support thereof. In this the tenant in common is only preserving his own, as his right partakes of the whole. It would seem to follow from this analogy that one tenant in common may, of course, preserve part of the common estate or right. In the peculiar case of water rights it would appear to be so with more force, because the right can only be preserved by both the use, and the necessity for the use, for some beneficial purpose; so that a tenant in common, in preserving this right, can only preserve it to such extent as he can use it.[150]

The case of *Fitzpatrick v. Montgomery*[151] gives a representative example of how the Montana courts handled new substan-

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[147] Crawford v. Minnesota & Montana Land & Improvement Co., 38 P. 713 (Mont. 1894); Middle Creek Ditch Co. v. Henry, 39 P. 1054 (Mont. 1895).

[148] Meagher v. Hardenbrook, 28 P. 451 (Mont. 1891); Quigley v. Birdseye, 28 P. 741 (Mont. 1892); Raymond v. Wimsette, 31 P. 537 (Mont. 1892); Salazar v. Smart, 30 P. 676 (Mont. 1892); Creek v. Bozeman Water Works Co., 38 P. 459 (Mont. 1894); Sloan v. Glancy, 47 P. 334 (Mont. 1897); McDonald v. Lannen, 47 P. 648 (Mont. 1897); *Arnold*, 49 P. at 400; Fitzpatrick v. Montgomery, 50 P. 416 (Mont. 1897); Murray v. Tingley, 50 P. 723 (Mont. 1897); *Wood*, 50 P. at 794; Crowder v. McDonnell, 54 P. 43 (Mont. 1898); *Power*, 55 P. at 32; Glass v. Basin Mining & Concentrating Co., 55 P. 1047 (Mont. 1899); Smith v. Denniff, 57 P. 557 (Mont. 1899); *Haggin*, 59 P. at 154.

[149] *Meagher*, 28 P. at 452-53.

[150] *Id.*

[151] 50 P. 416 (Mont. 1897).

tive problems. Montgomery, a placer miner in Deer Lodge County, worked a claim on lands above Fitzpatrick's ranch. Montgomery's mining activities included using the waters of Buffalo Creek to process his ore and disposing of tailings (mine refuse) by dumping them into the creek. These tailings then washed down onto Fitzpatrick's ranch,

> covering a large quantity thereof with such tailings, rocks and debris, and destroying the same, and making it unfit for agriculture or any other useful purpose, and causing said Buffalo creek, which runs through the land of plaintiff, to form a new and different channel upon such land, whereby it is claimed plaintiff's land was damaged in the sum of $750.[152]

This issue had been hard fought in California some years earlier, producing both court cases and legislation to deal with the problem.[153] The Montana court thus had a significant amount of precedent available to it. The opinion resolved the problem based on three findings. First, individuals may appropriate water for mining purposes. Second, mining purposes include the right to deposit tailings in a running stream. Finally, the deposit of tailings is subject to reasonable limits: "[T]his rule has never been carried to the extent of permitting the miner to flood his neighbor's land, and, by depositing [his] tailings and debris thereon, to substantially injure or ruin his neighbor's property."[154]

In determining each of these points, the court reviewed precedent from other states in the West. After doing so, the court summed up its approach to such questions:

> We think, however, as is held by the authorities, that each case of this character should be determined by its own facts and circumstances. Persons appropriating water cannot avoid fouling and obstructing, and, to some extent, diminishing, the quantity of water in a stream. These things are unavoidable, and are permitted to a reasonable extent in the right use of the water. Verdicts and judgments for fanciful or insignificant damages in such cases ought not to be rendered. Courts are very cautious, and ought to be so, in issuing injunctions in such cases, as more damage may be done by the injunction than

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[152] *Id.* at 416.

[153] *See* ROBERT L. KELLEY, GOLD VERSUS GRAIN: THE HYDRAULIC MINING CONTROVERSY IN CALIFORNIA'S SACRAMENTO VALLEY (1959). For a discussion of the choice between legislation and lawsuits in that controversy, see Jason Scott Johnston, *On the Commons and the Common Law*, *in* THE COMMON LAW AND THE ENVIRONMENT 211 (Roger E. Meiners & Andrew P. Morriss eds., 2000).

[154] *Fitzpatrick*, 50 P. at 417.

> could be prevented by its issuance. It is a field of litigation filled with great annoyance and difficulty to both legislatures and courts. It will continue to be such as long as the interests of men conflict.[155]

Here we see the reasoning of the common law in full flower: the facts of the cases were of fundamental importance; rights were to be protected but courts were to be cautious in using their powers to alter private behavior.

In another important part of the decision, the Montana Supreme Court addressed the impact of the legislature's earlier adoption of a recording scheme. Did the provision of a means of recording water rights claims mean that the earlier method of simply appropriating water was no longer available? Following an earlier California case, the court found it did not. Before the recording statute, the court noted,

> Questions of priority, however, as well as of the original capacity, etc., of ditches depended chiefly on oral testimony,—on the memory of eyewitnesses, often at fault through lapse of time. Confusion and insecurity to vested rights resulted. To obviate this as much as possible, the [recording] statute was enacted. It required a notice of location to be posted at the point of diversion, to apprise others who contemplated the acquisition of water rights from the same stream that the locator had taken his initial step to appropriate water. It required a recorded notice of appropriation, in order that a record might be supplied, giving the history in detail of each appropriation, which would inure to the benefit of their successors in interest, as well as to the appropriator's, and not leave them dependent upon the mere memory of witnesses when conflicts should arise. In enacting this law the legislature did not contemplate that one who failed to comply with the terms of the statute, but who, in the absence of any conflicting adverse right, had nevertheless actually diverted water and put it to a beneficial use, should acquire no title thereby. The essence of an appropriation—a completed ditch, actually diverting water, and putting it to a beneficial use—remained the same as it had been before. The object of the statute was to preserve evidence of rights, and also to regulate the doctrine of relation back. It follows that the statute controls this doctrine of relation back, and that one who seeks to avail himself of it since the passage of this act can only do so by a compliance with the statutory requirements.[156]

Here the court demonstrates the role of the legislature in mod-

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[155] *Id.* at 190.

[156] Murray v. Tingley, 50 P. 723, 725 (Mont. 1897).

ifying the common law. Water rights preceded legislation, which existed only to ease questions of proof by creating an optional objective means of proving claims. The court's rejection of the notion that the statute implicitly replaced the common law means of acquiring rights, rather than supplementing it, is notable for its firmness and terseness, suggesting that it saw no reason to elaborate on the issue.

Finally, consider the one case in which the state supreme court overruled a prior territorial court opinion on the same subject in water law.[157] In *McDonald v. Lannen*, an 1897 opinion, the court reexamined *Barkley v. Tieleke*,[158] an 1874 territorial supreme court opinion that had "frequently been cited in the textbooks as a precedent"[159] on the issue of the effect of an invalid attempt to transfer a water right. *Barkley* concerned a mining water rights claim and *McDonald* raised the issue in an agricultural context. Conceding that *Barkley*, "under the conditions of facts involved therein, was a most just decision," the court nonetheless overturned it as applied in the agricultural context.[160]

Barkley had held that a failed attempt to transfer a water right meant that the attempted purchaser acquired rights only as an appropriator on his own; he received no priority as a result of the ineffective attempt at a sale. *McDonald* rejected this approach because it conflicted with the approach to property in land. An appropriator of land out of the public domain received rights good against all but the government and has a claim that "is always carefully protected by the courts."[161] Such land claims were solid enough to permit the claimant to appropriate water for agricultural purposes.[162] They could also be sold.[163] Following *Barkley* with respect to agricultural water rights would mean, however, that the property owner would sell his land but not his water where a mistake was made in the transfer. Since the water was likely to be crucial to making use of the land, this would be "an inequitable doctrine" and "wholly unreasonable."[164] Note that *Barkley* remained good law with respect to mining water

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157 McDonald v. Lannen, 47 P. 648 (Mont. 1897).

158 2 Mont. 59 (1874).

159 *McDonald*, 47 P. at 649.

160 *Id.*

161 *Id.*

162 *Id.*

163 *Id.*

164 *Id.* at 650.

rights claims: "Different rules apply to the acquisition of title to mining claims from those applicable to agricultural."[165]

Again we see the power and flexibility of the common law approach. A rule that worked well in the mining context[166] was adapted to the facts of agricultural land. The rule is developed incrementally, allowing the relevant distinction to emerge from disputes. The purpose of the distinction is also notable: facilitating private transactions rather than implementing legislative policy.

B. Water Law in the Wyoming Courts

Before the legislature created a statutory procedure for appropriating water, people claimed water in Wyoming as elsewhere in the early western settlements: they simply diverted the water and applied it to a beneficial use.[167] "The simple formality of posting a notice at the point of diversion, while not required, was probably used in many instances."[168]

The Wyoming Territorial Supreme Court did not decide any significant water rights cases.[169] Although this may appear surprising in light of Montana's record, Wyoming's history offers a plausible explanation. Unlike most of the rest of the West, Wyoming had no significant mining industry and hence fewer opportunities for use of water rights early in its history. It also had relatively few residents and little privately held land in the territorial period. Free range cattle on public land and railroads, passing through, dominated land use during the territorial period. As statehood neared, however, increasing conflict between homesteaders and cattlemen developed.

Wyoming had a monolithic political culture built around a single fault line: cattlemen vs. farmers/homesteaders. In Montana, by contrast, there were at least three such fault lines: cattlemen vs. farmers; mining interests vs. cattlemen; and mining interests vs. farmers. In addition, Montana's interest groups had internal fault lines: mining was split between rival companies and between labor and capital, for example.

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165 *Id.*.

166 *See* Barkley v. Tieleke, 2 Mont. 59 (1874).

167 3 HUTCHINS, *supra* note 7, at 618.

168 *Id.*

169 There are no such cases indexed under water law topics in volumes 1-3 of *Wyoming Reports*.

As discussed below, this conflict affected the development of the Wyoming system of central planning for water rights. Prior to statehood, the Territorial Legislature passed only three acts relating to water rights: an 1869 statute requiring notices of mining water claims, filing of such claims with counties, and a schedule for ditch construction; an 1886 statute requiring recording of appropriations and commencement within sixty days of recording; and an 1888 modification of the 1886 statute.[170] After statehood, the new Wyoming Supreme Court also addressed relatively few substantive water law issues, not surprisingly as the new Board of Control took jurisdiction of then-pending and new water cases.[171]

Despite the new administrative structure, or perhaps because of it, substantive questions remained. Indeed, the new structure introduced additional potential for confusion about the nature of water rights claims, moving the state supreme court to open one opinion by cataloging the potential bases for the action, before noting that it need not decide which one applied.[172]

One impact of the new administrative structure was to stretch out contested proceedings. *Johnson v. Little Horse Creek Irrigating Co.*, a case pending at statehood, was transferred to the Board of Control in November 1890, which decided the case in May, 1891. The appeal to the district court was dismissed in March 1892, and the supreme court decision was issued in May 1893.[173] The lengthy proceedings are all the more remarkable because the case involved only rudimentary procedural questions. Perhaps because parties were testing the courts' attitude toward the new system, some apparently frivolous appeals were made.[174]

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[170] 3 HUTCHINS, *supra* note 7, at 618-19.

[171] *See, e.g.*, Johnson v. Little Horse Creek Irrigating Co., 33 P. 22 (Wyo. 1893) (noting that the case, pending at statehood, had been transferred to the Board of Control).

[172] Moyer v. Preston, 44 P. 845 (Wyo. 1896)

> Whether this action was one brought under the then existing statutory provisions or an adjudication of the priorities of rights to use water for beneficial purposes, or was purely a personal action, brought by defendant in error to restrain plaintiff in error from unlawfully diverting the waters of a natural stream, to the detriment of defendant in error, and for damages for a past diversion of such water, and incidentally a determination of the priorities between such parties, need not be determined.

Id. at 845.

[173] *Johnson*, 33 P. at 22.

[174] *See, e.g.*, McPhail v. Forney, 35 P. 773, 773 (Wyo. 1894). In this case, the plain-

Despite the administrative structure, the Wyoming Supreme Court was occasionally called upon to apply the common law to water issues, as in *Frank v. Hicks*.[175] *Frank*, a complicated case involving a mortgage, judgment creditors, bonds, and worse, addressed the issue of whether or not a deed of trust, or more generally any conveyance of land, for a parcel of land that did not mention water rights implicitly included the water rights with the land.[176] The court drew on several sources to resolve the issue. First, it looked to "what we know as men of the general condition of the country."[177] Arid land required water to have value: "[l]and and water together are of great value. The value of the land without the use of the water is trivial."[178] Second, the court considered a range of precedents dealing with appurtenances to land, from treatises and both western and non-western courts.[179] Finally, the court considered how the various common law rules on appurtenances fit within the prior appropriation system. Thus, for example, the court found that because of the requirement of beneficial use, water rights were distinct from easements in gross.[180] Reasoning from these sources, the court concluded that the deed covered both land and water rights despite not explicitly mentioning the water rights.[181] The court concluded by noting that "[t]he case at bar seemed at first blush to be not free from difficulty" but that "the apparent difficulties vanish on being approached" and "[t]he authorities admit of no other conclusion" than the one reached.[182] A difficult case was thus resolved through common law reasoning.

C. Summary

The common law of prior appropriation had significant strengths. A flexible, fact-sensitive set of principles grew out of

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tiff claimed more than one-fifth the water in a ditch, despite owning only one-fifth of the water rights, because he owned more than one-fifth the land irrigated. The court declared that the claim "might well be decided against him on the pleadings as well as on the evidence." *Id.* at 774; *see also* Daley v. Anderson, 48 P. 839, 840 (Wyo. 1897) (using "ingenious" reasoning to question timeliness of filing).

175 35 P. 475 (Wyo. 1894).

176 *Id.* at 478.

177 *Id.* at 481.

178 *Id.*

179 *Id.* at 481-84.

180 *Id.* at 484.

181 *Id.*

182 *Id.* at 485.

the experience of the West with water disputes. Water law rested on clear principles, economized judicial resources by focusing on factual inquiries, and facilitated private action by individuals. Water law was not prescriptive but rather established the means of creating property rights by individuals and resolved disputes over the substance of those rights by resort to readily proved criteria (e.g., seniority). Courts were aided by legislatures' creation of transaction costs-reducing procedural innovations like registry of rights.

The common law also had some weaknesses, particularly in its early years. Proof issues often turned on fallible memories of ditch capacities for water and the like. In addition, appellate judges had difficulty understanding the record, which often turned on detailed local knowledge shared by the trial court participants but missing from the appellate record.[183] Finally, litigation was a reasonably costly proposition because of the time and distance involved in seeing a case through the judicial system.

Many of these problems had been addressed by the late 1880s, however, through procedural innovations. For example, by at least the mid-1880s, a printed form had been developed for use in making water claims. The form offered claimants advantages in filing claims by providing a means of ensuring that all necessary

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[183] In one opinion, the Montana Supreme Court was moved to note, in hopes that its remarks would serve as an example of "a practice which we hope will hereafter be avoided," that

> [o]ur labors in the case before us would have been somewhat simplified, and, indeed, would be generally simplified in water right cases, by having incorporated into the record a diagram of the situation of the ditches over which the litigation has arisen. Witnesses upon the trial of such causes are apt to presume that the jurors and the trial judge have some personal knowledge of the lay of the land, and of the ditches conducting water thereto. This assumption is perhaps often well taken as applied to jurymen, who frequently know the more important ditches and water claims in their counties, and therefore easily comprehend the full meaning of a witness when he refers to a ditch by the local name given it in the neighborhood, and it may be that the trial judge is well enough acquainted with the section to readily understand the meaning of any such reference; but when the case comes to the appellate court, and the testimony is, for instance, that "on the north side the wheat crop could not be irrigated by the McLaren ditch," and there is no map to convey any idea of north, south, east or west, or to illustrate where the McLaren ditch is, and no lucid explanation of its situation, the task of locating it becomes laborious, and can only be performed by deductions from scattering statements of the several witnesses who referred to the ditch as if every one knew of its owner, course and size.

Wood v. Lowney, 50 P. 794, 794-95 (Mont. 1897).

information was recorded.[184] Even without printed forms, however, those interested in securing their rights in water produced thorough legal descriptions to file in county clerks' offices.[185]

As a path out of the commons in the uncertain conditions of the newly settled West, the common law of prior appropriation offered two major advantages. First, under the common law individuals are left free to innovate, putting the burden on those who object to an innovation to show they were harmed by the change.[186] Second, Coasian bargaining around common law decisions is possible, allowing parities to correct mistaken official decisions through private action.[187]

III

THE DEVELOPMENT OF THE WYOMING SYSTEM

The preceding section presented a picture of a common law of prior appropriation functioning tolerably well in both Montana and Wyoming. Why then did Wyoming undertake such a radical change when she gained statehood in 1889? In particular, given the lack of water rights court cases in Wyoming compared to Montana, why was it that Wyoming undertook to revolutionize water law? The answer lies outside the specific area of water law and in the larger political struggle dominating Wyoming in the 1880s and early 1890s. I now briefly summarize that struggle to put the change in water law into context.

A. Conditions in Wyoming[188]

Wyoming's development differed from the development of many of the other western states. Unlike most, Wyoming offered no significant gold deposits and so never experienced a placer gold rush. Indeed, for a time after the railroad crossed Wyoming,

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[184] *See, e.g.*, Statement of Claim Under Oath to District Clerk to Water Right (on file with the American Heritage Center, Laramie, Wyo., Davis and Thomas Collection, Accession #16, Box 1, Folder "Statements of Water Rights").

[185] *See, e.g.*, Notice of Water Rights and Irrigating Ditch (on file with the American Heritage Center, Warren Collection, Accession #13, Box 294, Folder 10 (handwritten claim filed in 1885)).

[186] *See* Yandle & Morriss, *supra* note 11, at 147.

[187] *See id.* at 148.

[188] This section draws heavily on Andrew P. Morriss, Law on the Range (unpublished manuscript, on file with author); Morriss, *Miners, Vigilantes & Cattlemen*, *supra* note 64; and Andrew P. Morriss, *Returning Justice to Its Private Roots*, 68 U. CHI. L. REV. 551 (2001) (review).

there was talk of disestablishing the territorial government.[189]

Wyoming lacked gold,[190] but it had plenty of grass.[191] As a result, the free range cattle industry spread through Wyoming Territory during the 1870s and 1880s[192] and the territory soon came to be dominated by large free range cattle outfits run by "cattle kings."[193]

Wyoming in the era of the cattle kings was largely shaped by three sets of institutions: the cattle industry, the homestead laws, and the relative informality of the legal system.[194] Although the range cattle industry spread throughout the West after the Civil War, it took a peculiar form in Wyoming. Wyoming Territory presented both extraordinary opportunities for cattlemen and unique difficulties. The opportunities lay in the seemingly endless plains filled with grass waiting to be eaten and transformed into meat bound for the Chicago meatpackers.[195] The difficulties were related to the impossibility of acquiring significant amounts of that grass as private property.

Wyoming was made up of large tracts of public property, unavailable for sale but open to homesteading in small tracts, and large tracts of railroad property.[196] The "checkboarding"[197] of the railroad property meant that the one large private landowner was unable to use or sell large, contiguous parcels of land.[198] The

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189 *See* T.A. LARSON, HISTORY OF WYOMING 119-20 (2d ed. rev. 1978) (describing discussion of eliminating territory).

190 LEWIS L. GOULD, WYOMING: A POLITICAL HISTORY, 1868-1896, at 9 (1968).

191 *Id.* at 10.

192 HELENA HUNTINGTON SMITH, THE WAR ON POWDER RIVER 9-11 (1966); HAMILTON, *supra* note 109, at 384-85.

193 "[B]etween 1882 and 1886 ninety-three cattle companies with a capitalization of more than $51,000,000, incorporated in Wyoming." GOULD, *supra* note 190, at 66.

194 *See* Morriss, *Law on the Range*, *supra* note 188; Morriss, *Miners, Vigilantes & Cattlemen*, *supra* note 64, at 652-59, 666-68.

195 *See* GOULD, *supra* note 190, at 65 (describing "limitless grazing lands and huge herds").

196 The Union Pacific received over 4.5 million acres of land in Wyoming. The federal government owned almost half the territory's surface rights and more than three-quarters of the mineral rights. LARSON, *supra* note 189, at 63, 539.

197 Checkerboarding was the practice of allocating railroads alternating sections of land on either side of their tracks as an incentive and aid to construction. The intervening sections remained publicly owned. The consequence was, however, that neither the railroad nor the government could then sell a contiguous tract of more than one section along the rail line.

198 Cattle operations required at least four sections to be successful and even under liberal interpretations of federal land law only a quarter of that could be legally obtained. WEBB, *supra* note 18, at 393, 412, 415.

"rigid allegiance to the letter of the homestead system" by the Cleveland administration and its Wyoming appointees in 1885-88 only made matters worse.[199] Thus, a cattleman who sought to privatize the commons through purchase was unable to do so.[200]

The desirability of creating such parcels can be seen in the extralegal measures cattlemen attempted to utilize to acquire the parcels despite the lack of land for sale.[201] Cattlemen fenced public lands in a variety of innovative ways, attempting to develop a means of exclusion that would stand up in the courts.[202] All these attempts fell before the fence cutters of the soldiers sent to remove the illegal fences.[203]

The cattle industry was able to develop despite the lack of private property because in the 1870s Wyoming had few residents to object to the appropriation of the public domain. In the early days, a rancher chose a headquarters, usually along a stream.[204] "At first he had no neighbors, and his range covered about all the country that the cattle wanted to roam over; but after a time another ranchman would establish himself" nearby on the same stream.[205] As more neighbors arrived, the range was divided, even though no rancher legally owned the range land.[206] A rancher "did possess what was recognized by his neighbors (but not by law) as range rights"—a right to water and to the surrounding range.[207] Cattle, if not people, were plentiful: by 1885-86, there were probably about 1.5 million cattle in Wyoming.[208] Cattlemen developed means of solving the common problem

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[199] GOULD, *supra* note 190, at 106.

[200] That such purchases were desirable can be seen from the experience of Texas, where public land was held by the state rather than the federal government and transactions involving millions of acres were possible. The XIT (or "Ten in Texas") ranch, for example, was created when a syndicate of investors traded a $3 million state capitol building for three million acres in the Texas panhandle. PAUL I. WELLMAN, THE TRAMPLING HERD 281-83 (1939).

[201] Such measures were popular among residents of Wyoming, who "were willing to tolerate fraud in the land system in exchange for the ability to acquire their own holdings as quickly as possible." GOULD, *supra* note 190, at 86-87.

[202] LARSON, *supra* note 189, at 179; WEBB, *supra* note 18, at 238.

[203] GOULD, *supra* note 190, at 85-86 (describing fence cutting campaign by federal officials); *see also* JOSEPH KINSEY HOWARD, MONTANA HIGH, WIDE, AND HANDSOME 109 (1959); LARSON, *supra* note 189, at 179-80.

[204] WEBB, *supra* note 18, at 228.

[205] *Id.*

[206] *Id.* at 229.

[207] *Id.*

[208] LARSON, *supra* note 189, at 167. Herd size fell about fifteen percent in the severe winter of 1886-87. *Id.* at 191.

amongst themselves. Cooperative roundups and cattlemens' association rules allowed them to share the costs of improving stock and apportion the "free" grass.

These customary range rights, however, proved ineffective at stopping the homesteaders who began to arrive in force in the 1880s. At the same time that cattlemen were barred from acquiring economically viable parcels, homesteaders could legally acquire land, albeit in uneconomical sizes. Homesteading encouraged settlement even before farming would be economical in a region, in effect making the price of land include years of hardship while waiting to make farming economically viable.[209] The size of homestead claims set with eastern conditions in mind, not the arid lands, were too small to allow a homesteader to survive: 160 acres was simply not adequate in much of the West. The ill effects of the homestead policy were aggravated by the use of a grid for surveys. Since surveys did not follow the topology, many sections were left without water.[210]

In addition to the problems caused by the homestead laws, le-

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[209] *See* Richard L. Stroup, *Buying Misery with Federal Land*, 57 PUB. CHOICE 69, 70-71 (1988); Terry L. Anderson & P. J. Hill, *The Race for Property Rights*, 33 J.L. & ECON. 177, 195 (1990) ("[P]ioneers paid for the land in terms of foregone wealth, privations, and hardships."). *But see* Douglas W. Allen, *Homesteading and Property Rights; or, "How The West Was Really Won,"* 34 J.L. & ECON. 1, 22-23 (1991) (arguing homesteading served important purpose of establishing U.S. control of empty lands before Mexico, Britain, Texas, Spain, Russia, or Indians could preclude American expansion).

[210] HOWARD, *supra* note 203, at 35; *see also* ERNEST STAPLES OSGOOD, THE DAY OF THE CATTLEMAN 18 (1929) (describing how customary legal institutions function in areas of Spanish and Mexican settlement to allocate water access and concluding that "[t]he survey and sale of this land in regular sections would probably drive out the present population. . . ."). *But see* Lux v. Haggin, 10 P. 674, 705-19 (Cal. 1886) (disputing that appropriation under Mexican law was inconsistent with riparian rights).

Although too small for long term economic viability, a 160-acre parcel did allow control of a much larger area of surrounding lands if the 160 acres included the only water in the area. Cattlemen attempted to homestead parcels with water both with their family members and with trusted employees, but they were unable to do so on a large enough scale to block the homesteaders. Once a homesteader settled in, he sometimes fenced his parcel to keep out the roaming cattle herds—keeping the cattle from both his crops and the water that flowed across his land. Morriss, *Law on the Range*, *supra* note 188. The fences also blocked the cattle from drifting before winter storms, leading to increased losses. A.S. MERCER, THE BANDITTI OF THE PLAINS; OR THE CATTLEMEN'S INVASION OF WYOMING IN 1892 [THE CROWNING INFAMY OF THE AGES] 13 (U. Okla. Press 1954) (1894).

Homesteaders came in increasing numbers in the 1880s as the federal government and railroads actively promoted settlement in arid regions incapable of supporting small scale farming in the long term. OSGOOD, *supra*, at 43-44.

gal infrastructure was scarce, and correspondingly expensive throughout the West. Formal legal institutions were relatively few and far between in the early days of the plains cattle industry. This led the cattlemen to develop their own customary legal institutions.[211] Thrown together by economic necessity for roundups, and by social conditions in Cheyenne where the dominant social institutions were built around the cattle industry,[212] the cattle kings found common action relatively easy. Combined with their natural prominence in political affairs because of their great wealth, they began to treat the boundaries between the territorial government and the cattlemen's association as blurred.

The Wyoming cattle kings clashed with homesteaders over a variety of issues, not just control of land and water. In part, the conflict was due to the incompatibility of farming and ranching: "The farmer's fence has cut across [the cattleman's] range and his bewildered cattle and horses have blundered into it."[213] Another reason for conflict was the pressure put on the range by overstocking,[214] itself due to the government's insistence that Wyoming was a commons. The increasing numbers of cattle grazing in Wyoming through the mid-1880s,[215] for example, contributed to the disaster of the winter of 1886-87.[216]

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[211] As Walter Prescott Webb put it:

> The cattle kingdom was a world within itself, with a culture all its own, which, though of brief duration, was complete and self-satisfying. The cattle kingdom worked out its own means and methods of utilization; it formulated its own law, called the code of the West, and did it largely upon extra-legal grounds.

WEBB, *supra* note 18, at 206.

[212] *See* Morriss, Law on the Range, *supra* note 188.

[213] HOWARD, *supra* note 203, at 13; *see also* II GRANVILLE STUART, FORTY YEARS ON THE FRONTIER 187 (Paul C. Phillips ed., 1925) ("The cattlemen did not want to see fences on the range as during severe storms the cattle drifted for miles and if they should strike a fence they were likely to drift against it and perish with the cold.").

[214] Overstocking caused a variety of problems—there was not enough food and shelter on the range for all the cattle, cattle paths caused erosion, and streams dried up (in part because beaver were trapped out and their dams no longer retained moisture). ATHERTON, *supra* note 6, at 156. Native grasses also were replaced by brush. *Id.* at 165.

[215] Part of the increase was due to the 1885 eviction of 200,000 cattle from leased lands in Indian Territory (Oklahoma). SMITH, *supra* note 192, at 125.

[216] 1886-87 was a terrible year for the cattle business in Wyoming. The summer of 1886 was a severe drought, "more cattle than ever before had been piled onto the range" and still more cattle were being brought into Wyoming. *Id.* at 35-36. When the severe winter hit, some herds lost more than ninety percent. *Id.* at 36-37. The result of the combination of bad weather, mismanagement, and overstocking was

Other conflicts centered on the homesteaders' treatment of the range cattle, in addition to the land, as a commons. The experience of the early 1880s convinced many cattle kings of the need for fencing, herd management, and even winter feeding.[217] Cattlemen also began to improve their herds with higher grade cattle.[218] Homesteaders who ran a small number of cattle could free-ride on the high grade bulls provided by the ranchers. Worse, they asserted claims to a share of the "mavericks," unbranded cattle found during a general roundup.[219] Open range ranching meant there were many of these mavericks,[220] and, at first, anyone with a branding iron could claim a maverick.[221]

These conflicts were not contested on a level playing field. Political power in Wyoming was firmly in the hands of the cattle kings.[222] In 1890, the first year of statehood, eight of the twelve members of the upper house of the legislature were members of the cattlemen's association.[223] That association

> not only controlled the legislature, it had a friend in the governor's chair, friends on the bench, and a friend in the White House in Washington (President Benjamin Harrison) who were subservient to its wishes. It had, in short, or it was, a machine which ruled Wyoming.[224]

This dominance was also reflected in the constitutional convention, where prominent cattlemen like H.E. Teschemaker

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"the most appalling mass slaughter of animals the West had ever seen or would see again, second only to the slaughter of the buffalo." *Id.* at 38. The average loss in Wyoming was probably about fifty percent. *Id.* at 46. Absentee ownership accentuated the problems creating "all the abuses common to absentee ownership." OSGOOD, *supra* note 210, at 103-04. Even this disaster only accelerated the changes in the industry already under way, however, and did not cause an abrupt change in ranching techniques. ATHERTON, *supra* note 6, at 5.

217 ATHERTON, *supra* note 6, at 168-69.

218 WEBB, *supra* note 18, at 239.

219 Mavericks were largely calves which were missed during a roundup or which were orphaned. SMITH, *supra* note 192, at 51. They also included unbranded mature cattle.

220 The huge roundups conducted each year contributed to the maverick problem because their huge size and speed meant more cattle were missed, and so more unbranded calves grew up on the range. *Id.* at 33-34.

221 LARSON, *supra* note 189, at 182-83.

222 Although Gould argues that the cattle kings were less powerful than other historians have claimed, he concedes that the Association members in the legislature "acted as a cohesive unit" on cattle-related measures. GOULD, *supra* note 190, at 70.

223 SMITH, *supra* note 192, at 85.

224 *Id.* There are significant parallels with federal water projects in the United States in the twentieth century. See REISNER, *supra* note 3, for an account of federal water projects.

served as delegates, and others, like Francis Warren and Joseph Carey, played significant roles behind the scenes.[225] As the *Cheyenne Daily Leader* reported on the first day of the convention, "perhaps a regular council of war was not held" by the state's powerful "but quiet scheming seemed to be the order of the day."[226]

Despite the financial problems caused by the harsh winters of the mid-1880s, the cattle kings, those who controlled the association, remained dominant, in part because there was little competition. "The harsh climate, combined with the regional aridity, reduced farming to a marginal economic activity in much of the territory."[227] The Union Pacific, which had dominated the territory in the early 1880s, had declined in influence, "employing only seven percent of [the] territorial work force" by the time of the constitutional convention.[228]

Irrigation, however, was a significant business in Wyoming by the end of the 1880s. As a *Cheyenne Daily Leader* editorial in January 1889 boasted,

> a distinctive feature of Wyoming's irrigation is the fact that it outstrips all the states and territories in the number of streams available for irrigation. In every part of the territory are favorable locations for the investment of capital in the construction of irrigation works of great magnitude. The records show 1,718 ditches completed, watering an area of 1,260,000 acres.[229]

Such a business gave the cattle kings important interests to protect in legislation and constitutional provisions dealing with water rights.

Wyoming's cattle kings set out to solve their conflicts with small holders through a variety of means. They banded together (and appropriated territorial funds) to hire stock detectives to chase down rustlers. In the legislature they passed laws authorizing the seizure of cattle with "rustler brands" and allocating mavericks to themselves.[230]

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225 KEITER & NEWCOMB, *supra* note 10, at 5 (noting that it has been suggested that Warren, Carey, and territorial chief justice Willis Van Devanter "constituted 'an invisible delegation of extraordinary power'").

226 *It is in Session*, CHEYENNE DAILY LEADER, Sept. 3, 1889, at 2.

227 KEITER & NEWCOMB, *supra* note 10, at 2.

228 *Id.*

229 Editorial (untitled), CHEYENNE DAILY LEADER, Jan. 27, 1889, (on file with the American Heritage Center, Carey Collection, Accession #1212, Box 15, Scrapbook).

230 *See* Morriss, *Miners, Vigilantes & Cattlemen*, *supra* note 64, at 667-70.

Despite all their efforts, however, they were unable to end their troubles with homesteaders for two main reasons. First, they could not stop the flow of homesteaders into the territory, because the federal land laws creating the incentives were beyond their control. Second, even where they controlled the mechanisms of government in Wyoming, one institution remained beyond their grasp: local juries. Despite their extensive and expensive efforts to track down rustlers, for example, the cattle kings were unable to win many convictions in court because jurors refused to accept the associations' detectives' testimony.[231]

On the eve of statehood, a group of cattlemen took drastic action: two alleged rustlers, Ella Watson and James Averell, were lynched in 1889.[232] Watson, alleged to be a prostitute in many accounts, was accused of accepting stolen cattle in payment for her services and Averell was accused of rustling, although historian Helena Huntington Smith concluded these charges were "based on the flimsiest sort of hearsay."[233] Watson and Averell also were homesteading some land one of the cattle kings wanted and had refused to sell out.[234] Historian George Hufsmith argues persuasively that Watson and Averell were innocent settlers and that the myth of prostitution and rustling was created by the cattle interests to cover up their real motive for lynching the two—to gain control of their land.[235]

One of the most striking features of the lynching was the widespread *positive* publicity it generated for the cattlemen.[236] Indeed, the secretary of the cattlemen's association wrote to a member after the lynching that the lynchers "simply did what many of us would like to do but we dare not in other parts of the range. If thieving on the range is to be stopped, it must be done by just such heroic measures."[237] After statehood the cattlemen launched an ever more ambitious attempt to kill their oppo-

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231 *See* SMITH, *supra* note 192, at 81; GOULD, *supra* note 190, at 139.

232 SMITH, *supra* note 192, at 121-34; MERCER, *supra* note 210, at 17-20.

233 SMITH, *supra* note 193, at 121.

234 *Id.* at 122-23; MERCER, *supra* note 210, at 18-19.

235 GEORGE W. HUFSMITH, THE WYOMING LYNCHING OF CATTLE KATE 1889 (1993).

236 *See* SMITH, *supra* note 192, at 126-29.

237 Letter from the Wyoming Stock Growers Association to B. Connor (July 28, 1889) (on file with the American Heritage Center, Wyoming Stock Growers Association Collection, Accession #14, Box 3, "Letters Volume 10 1888").

nents—the "Invasion" of Johnson County.[238]

Finally, the cattle kings had their fingers in many pies. Indeed, as a newspaper article noted, "the Wyoming cattleman is a versatile genius" and so "nothing is more natural than that the range cattle growers who once were undisputed possessors of vast acres of government lands should now be expending vast sums in reclaiming the desert plains and devoting the same to agricultural uses."[239] Joseph Carey, for example, was not only a prominent cattleman and political figure, but was also a major investor in a variety of businesses, including the Wyoming Development Company (WDC). The WDC had enormous interests in irrigation and water rights. An 1890s telegram from a bond dealer in Chicago, for example, promised the WDC that "the probabilities are that we will have very little trouble in handling the million dollar issue" the company sought, giving a sense of the scale on which it operated.[240]

The WDC advertised in 1886 that it had constructed "more than five hundred canals and ditches, extending over 1,000 miles in length and covering at least 100,000 acres."[241] However, the WDC could not secure title to the land it was providing water for, and so its ability to reap the reward for its investment was uncertain at best. Indeed, in June 1889 Elwood Mead wrote to Francis Warren, then governor of the territory, arguing that the "unsuitability of the land laws" had put the WDC into "a very unpleasant predicament."[242] People had filed land claims on property that the company's canals would reach in an attempt "to secure the greater portion of this unearned increment of increased value" due to the availability of irrigation. The company had therefore taken steps to dispossess the speculators, who had in turn managed to block the WDC's friends' land titles at the General Land Office. Mead therefore sought Warren's assistance to lobby the federal government, so that irrigation could be encouraged by allowing irrigators to claim the benefits of their

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[238] *See* Morriss, *Miners, Vigilantes & Cattlemen, supra* note 64, at 666-76.

[239] *Not in the Way of Progress* (newspaper clipping on file with the American Heritage Center, Carey Collection, Accession #1212, Box 15, Scrapbook).

[240] Telegram from E.C. Gibson to Jos. Carey (July 26, 189?) (on file with the American Heritage Center, Carey Collection, Accession #1212, Box 8).

[241] Wyoming Development Company Brochure (on file with the American Heritage Center, Carey Collection, Accession #1212, Box 8).

[242] Letter from Elwood Mead to Francis Warren (June 15, 1889) (on file with the American Heritage Center, Carey Collection, Accession #1212, Box 8).

investments. Because of the lack of property rights, the cattlemen could not voluntarily and peacefully acquire the land that benefited from their investments in irrigation infrastructure. This created an opportunity for an alternative institutional solution, and Elwood Mead had one to offer.

B. Elwood Mead, Policy Entrepreneur

In 1888 three leading citizens associated with the cattle industry pushed legislation creating the post of Territorial Engineer through the legislature.[243] They invited Elwood Mead, a thirty-year-old engineer from Colorado, to take the position. Mead was an ambitious reformer with a zeal for water law.[244]

Mead had served in the Colorado State Engineer's office and so was familiar with that system, which relied on litigation to determine water rights.[245] He was, however, young and untested. Even Mead supporter Francis Warren initially complained that Mead was "still wearing pinafores"[246] and Territorial Governor Thomas Moonlight advised Mead to turn the job down.[247]

Whether Mead was responsible for the rise of the Wyoming system is debatable. One explanation for the Wyoming system is that Mead was a "visionary," frustrated by Colorado's failure to adopt his reforms.[248] Mead certainly seems like a visionary—he had bold ideas about what appropriate water policy (and other policies) should be and did not hesitate to seize opportunities to implement his vision through the use of state power. For example, like many in the late nineteenth century Mead saw private monopoly as a critical problem and used his office to institute

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243 KLUGER, *supra* note 44, at 15 (attributing bill to James A. Johnston, Gibson Clark, and Francis Warren). On Warren's cattle industry connections, see GOULD, *supra* note 190, at 79. On Johnston's connections see *infra* notes 266-67 and accompanying text. On Clark, see PROGRESSIVE MEN OF THE STATE OF WYOMING 472, 473 (1903) (noting that Clark was appointed to the Wyoming Supreme Court in 1892, while the cattlemen controlled the state government, and that he moved in "the best society circles" in Cheyenne, placing him among the state's elite).

244 KLUGER, *supra* note 44, at 15.

245 The Colorado Adjudication Acts of 1879 and 1881 provided for litigation to determine rights, under supervision of the state engineer. 1879 Colo. Session Laws 99-100; 1881 Colo. Session Laws 142.

246 KLUGER, *supra* note 44, at 15.

247 *Id.*

248 *See, e.g.*, Wilkinson, *supra* note 70, at 7 ("Frustrated by Colorado's refusal to accept his proposals for state administration of water rights, Mead moved from Fort Collins to Laramie in 1888, just before Wyoming statehood, to serve as the first territorial engineer.").

reforms aimed at blocking it.[249] However, another possible explanation for the Wyoming system is that small water consumers used the Wyoming system to freeze favorable doctrines into administrative rules.[250] A third is that the prior system was grossly inefficient. For example, Hutchins describes the problem with the common law of prior appropriation as being that

> [t]here was nothing in the posting and filing method—as it operated in actual practice—to prevent an intending appropriator from initiating a right and beginning construction of work, so long as he was not stopped by litigation. This was the case even though claims on file often reached absurd totals. The administrative procedure, on the other hand, aimed at discouraging the making of applications for water in streams with respect to which the administrator had determined, for his own official purposes, that appropriative rights in being already laid claim to more water than the stream carried in ordinary seasons. It tended to warn the would-be appropriator of the risk, in quantitative measure, that he would run of having his right attach to only high floodflows, if he insisted on carrying it through to completion. Of course, he might obtain a storage right of considerable value. But the only available direct flow right might be such as to give him access to water only in occasional years, or at least only in early seasons.[251]

All of these explanations miss several crucially important facts. First, as outlined above, Wyoming was controlled by the powerful businessmen, the same men who were also the free range cattle interests. It is unlikely that a young engineer from Colorado took these powerful interests by surprise. Moreover, small water users were not a significant force in Wyoming politics. Even if they had wanted to turn water rights questions over to a new administrative agency, it is unlikely that they could have done so against the wishes of the range cattle industry.

Second, small holders were doing well under the common law, particularly compared to how they were faring in the legislature.[252] Throughout the 1880s, water rights were being regularly

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[249] *See* Thompson, *supra* note 104, at 3.

[250] *See, e.g.*, Wilkinson, *supra* note 70, at 7 ("Initially, small users installed the court-made rules in state statutes and, importantly, in the workings of state administrative agencies.").

[251] 1 HUTCHINS, *supra* note 7, at 313.

[252] The cattlemen's frustration at the common law courts' failure to accept their paid stock detectives' testimony in rustling cases, for example, shows the independence of the judicial system for the small holders and the problems it caused for the cattle kings. Compare the cattle kings' success in the area of maverick legislation with their frustration over the rustling cases.

established in Wyoming.[253] There is thus little reason why they would have sought such a change.

Third, there was a group with both the motive and the means to affect a change: the businessmen who were the range cattle interests. Regularly losing rustling cases in the courts, the range cattlemen would be clear beneficiaries of shifting control of an important resource out of the courts and to a state agency. Moreover, the inexperienced Mead, coming to the job from Colorado, would have no independent power base and so would be susceptible to guidance from the politically powerful interests who secured his appointment.[254] Indeed, despite his later writings and efforts on behalf of small holders, Mead showed considerable *realpolitik* skills in Wyoming. For example, in his 1889 letter on behalf of Carey's Wyoming Development Company to Francis Warren, Mead argued that the land laws, whatever their "technical construction . . . may be," needed to be altered to reward investors like Carey.[255] The rewards were necessary because the task of irrigation required large investments and because "the works of this company are of the type demanded by our future conditions and necessities."[256] Mead closed with the thought that "it would seem proper that the authorities in control of these matters [land claims] should be informed in order that justice should be done and the enterprise and public spirit that produced them, be properly recognized."[257] A great deal of money was at stake—a U.S. Senator visiting Wyoming as part of an investigation into irrigation legislation during the constitutional convention estimated that irrigation would convert "essentially worthless" land into fifty dollars an acre[258] or even three hundred dollars an acre.[259]

Fourth, Mead was hardly alone in proposing centralization of water resources. In California, for example, State Engineer Wil-

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253 *See* Robert Homer Burns, *Water Vital to Man and Beast: The Life-Blood of the Laramie Plains*, *in* ROBERT HOMER BURNS ET AL., WYOMING'S PIONEER RANCHES 681 (1955) ("The decade from 1880 to 1890 was a very busy one for the ranchmen were making water filings continually and digging ditches whenever the ground was not frozen.").

254 *See* KLUGER, *supra* note 44, at 15 (noting that Mead's candidacy was pushed on the governor by "persistent pressure").

255 Letter, Mead to Warren, *supra* note 242.

256 *Id.*

257 *Id.*

258 *Senatorial Visitors*, CHEYENNE DAILY LEADER, Sept. 17, 1889, at 2.

259 *Magical Irrigation*, CHEYENNE DAILY LEADER, Sept. 19, 1889, at 1.

liam Hammond Hall led a determined and unsuccessful campaign for central planning of water (by him) from 1878 to 1888.[260] The key difference was that Hammond and others failed while Mead succeeded. It hardly seems likely that a young, out-of-territory engineer with no power base of his own could triumph without powerful interests finding reason to support him, where more sophisticated and politically powerful men repeatedly failed elsewhere.

Fifth, Wyoming Constitution Article VIII[261] was written and championed by Mead, James A. Johnston and Charles H. Burritt, later mayor of Buffalo, Wyoming.[262] Burritt was "the most active member on behalf of the establishment of the irrigation code and the provisions for irrigation in the constitution."[263] As an attorney Burritt went on to defend the Johnson County Invaders in the aftermath of the failed Invasion,[264] allying himself with the

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[260] Charles P. Korr, *William Hammond Hall: The Failure of Attempts at State Water Planning in California, 1878-1888*, 45 S. CAL. Q. 305 (1963).

[261] The full committee on agriculture and irrigation was Johnston, Burdick, Irvine Sutherland, Holder, Baldwin, and Burritt. *They Are At Work*, CHEYENNE DAILY LEADER, Sept. 6, 1889, at 3. Burritt introduced the proposal on September 7, 1889. *Plenty Provisions*, CHEYENNE DAILY LEADER, Sept. 8, 1889, at 3. The initial proposal by Burritt was for three sections. Section one called for the convention to establish a state board of irrigation commissioners; section two assigned them "a general supervision of the appropriation, distribution and division of the waters of the state;" and section three declared that "all waters within the boundaries of the State are the property of the State." Some Articles of the Constitution, 1889, *microformed on* Constitutional Convention, Wyoming, File No. 35, Secretary of State, Microfilm #1299 (Wyoming State Archives, Cheyenne, Wyo.).

[262] LARSON, *supra* note 189, at 254. Burritt is described by Hubert Howe Bancroft as one of the "individual owners" engaged in stock raising. 25 HUBERT HOWE BANCROFT, THE WORKS OF HUBERT HOWE BANCROFT 792 n.15 (San Francisco, History Co. 1890).

[263] *Charles H. Burritt Left His Mark on Pioneer Life of Early Buffalo*, BUFFALO BULL., Aug. 17, 1961, at 1. Burritt also claimed that water issues were critically important to Johnson County. *Irrigation and Water Rights*, BIG HORN SENTINEL, Sept. 21, 1889, at 3. Burritt's contemporaries were well aware of his interests—one delegate hinted that "corporate interests [were] involved in this question," drawing an angry response from Burritt that included an admission of his "connection" with "parties owning irrigation ditches in Johnson County." WYOMING CONSTITUTIONAL CONVENTION, JOURNAL AND DEBATES OF THE CONSTITUTIONAL CONVENTION OF THE STATE OF WYOMING 535 (1893) [hereinafter CONST. CONVENTION J.].

[264] LARSON, *supra* note 189, at 283, 279. Before the Invasion, Burritt was one of three signatories to an affidavit filed with the state supreme court outlining the activities of an alleged "very large and organized band of stock-thieves and persons who have no respect for and openly and frequently violate the laws of the state." Affidavit of Charles H. Burritt, Horace R. Mann, and Thomas J. Bouton (on file with the American Heritage Center, Carey Collection, Accession #1212, Box 13, Folder 3, at 1).

cattlemen in their attempt to use force to drive out their opponents. Johnston was from Laramie County, a strong cattlemen's region and home of one of the first stockmen's associations.[265] He had a long-standing interest in "the preservation of the waters of Wyoming," dating back to 1883, according to the Wyoming Historical Blue Book.[266] This was hardly surprising since Johnston was a participant with Carey and others in the Wyoming Development Company, whose fortunes depended in large measure on irrigation.[267] Others prominent at the convention also were tied closely to the cattlemen, as shown by the fact that they later participated in or assisted the Invasion.[268] This group was able to exercise great influence because many of the other members of the convention were ignorant of the details of water law.[269]

Sixth, the Wyoming constitutional convention's actions regarding water are atypical of its dominant political philosophy in several respects. The water sections relied heavily on an administrative apparatus at a time when this was unusual[270] and doubly surprising given "the convention's sense of faith in the judiciary as a guardian of individual rights, a faith that was not

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265 LARSON, *supra* note 189, at 170, 254.

266 MARIE H. ERWIN, WYOMING HISTORICAL BLUE BOOK 636 (1943).

267 *See* Record Book of Wyoming Development Company 97, 172 (on file with the American Heritage Center, Carey Collection, Accession #1212, Box 8) (noting Johnston to be a trustee of company in 1892 and president in 1894).

268 *See* LARSON, *supra* note 189, at 283 ("[A]t least five of the leaders of the 1889 constitutional convention were involved in the Invasion.").

269 *See, e.g.*, CONST. CONVENTION J., *supra* note 263, at 501 (Delegate Smith: "[W]e have advanced just far enough in water interests to realize the importance of this matter, beyond that we might say we know almost nothing."); Delegate Smith: "We don't know whether this proposed system is a wise one, yet we are putting it in the Constitution." *Id.* at 502; Delegate Brown: "I do not like to talk about a matter about which I am not very well informed, and I desire to confess to this convention that I do not think I am very well informed upon this question of irrigation." *Id.* Delegate Conway: "It seems to me, considering the importance of this matter, and the evident lack of consideration we have given it, we should not pass these sections over so rapidly. I for myself feel that I am too ignorant to vote upon it intelligently." *Id.* at 498.

Interestingly, one of the few "no" votes on Article VII came from the president of the convention, Melville C. Brown, a man whose selection as president had been reported as one of the rare public defeats for the "Warren-Carey faction." *See President Brown*, CHEYENNE DAILY LEADER, Sept. 4, 1889, at 3. On Brown's "no" vote, see *The Supreme Court*, CHEYENNE DAILY LEADER, Sept. 22, 1889, at 3 (noting that Brown voted no because he feared Article VIII "gave corporations an opportunity to defraud the public").

270 1 HUTCHINS, *supra* note 7, at 301.

reflected in its view of legislative or executive power."[271] The Wyoming Constitution contained "an exceptionally large number of provisions relating to water" and "created the first complete water rights administrative organization in the West."[272] This structure, unique in western water law, gave the State Engineer (initially Mead) authority over acquisition of appropriative rights and gave the Board of Control (the State Engineer plus four water division superintendents) authority over adjudication of controversies.[273] Wyoming's centralization of power was unique—the agency "not only exercised comprehensive control over the distribution of water to appropriators, but received and acted upon applications for permits to appropriate water under an exclusive procedure, and adjudicated water rights by means of orders or decrees which were final unless appealed to the courts."[274] The uniqueness of Article VIII is contrasted with the substantial portion (albeit less than half) of the constitution that was borrowed from other states' constitutions.[275]

Seventh, the progress of and debates[276] in the Wyoming Constitutional Convention on Article VIII offer some support for my interpretation. The initial proposal concentrated on the key points of state ownership and central planning; only later did the superstructure of the apparatus develop.[277] Delegate M.C. Brown of Albany County, for example, argued that the assertion of ownership of "all the waters in the state, whether they have been acquired by prior appropriation or not" was necessary because without it, "the people who have appropriated a portion of the water [would be] absolute owners of it." Without state ownership,

> it would be utterly impossible for the legislature, or any power of the State, to control, regulate, or in any manner interfere with its use. It is only by the declaration that we are to be the absolute owners of all the water that we may be able to control unreservedly the uses to which it may be put.[278]

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271 KEITER & NEWCOMB, *supra* note 10, at 7.

272 1 HUTCHINS, *supra* note 7, at 300.

273 *Id.* at 307. The first Board of Control was made up of Mead, James A Johnston, W.J. Clarke, N.J. Brown, and William Hinton. 1st Biennial Report, State of Wyoming 1 (on file with author).

274 3 HUTCHINS, *supra* note 7, at 617-18.

275 KEITER & NEWCOMB, *supra* note 10, at 4.

276 The constitutional convention was short—only twenty-five days of debate. *Id.*

277 *See supra* note 261.

278 CONST. CONVENTION J., *supra* note 263, at 289.

Burritt also argued along similar lines later in the debate that "notwithstanding all the legislation of Congress, notwithstanding all the constitutional provisions of Colorado and Wyoming, water remains so far as the right to control it is concerned, with the State, just the moment that a state comes into the union."[279] Because states had eminent domain powers, Burritt argued, it necessarily controlled water as well as land.[280] But the convention rejected a floor attempt to add language regulating irrigation companies as common carriers.[281]

The Board of Control, which delegate Burritt acknowledged to be "a still more radical change"[282] than the assertion of state ownership, was presented as necessary to correct the errors of the courts. Burritt argued, for example, that to leave water rights to the courts was to have

> this thing wrong end to, that we have got the cart before the horse in submitting a matter to the court about which they have no knowledge, officially or practically, and to enable it to get any knowledge it would have to spend a series of years studying the question.[283]

As the *Cheyenne Daily Leader* put it, Burritt's speech was "a revelation little short of the sensational. . . . The courts are irresponsible for the reason that the decisions are made on the ex parte statements of interested persons. Many citizens yesterday learned for the first time of the glaring evils of this ridiculous system."[284] Interestingly, among the errors of the courts, Burritt claimed, was that "large tracts are apportioned a few inches and smaller ones several feet."[285] A member of the committee on water rights argued that the new system would stop a claimant from

> rush[ing] out to the creek . . . and without consulting anybody, finding out anything about whether there is any water there or not, he rushes in and begins a ditch, and rushes into court and begins a lawsuit. Now this system proposes to revise the order of things, and instead of rushing all over the country and beginning a ditch and taking chances about getting any water, we propose to have them get permission to construct ditches from

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279 *Id.* at 499.
280 *Id.*
281 *Id.* at 294-96.
282 *Id.* at 293.
283 *Id.* at 296.
284 *Smith is a Schemer*, CHEYENNE DAILY LEADER, Sept. 13, 1889, at 3.
285 *Id.*

> the board of control. In other words, all the information necessary to enable a man to do the wise thing in this matter will be with the board of control.[286]

It is difficult to imagine a change more favorable to the cattle kings' interests.

Finally, events after the fact suggest that Article VIII is best read as a power grab by the cattlemen. By 1894, for example, James A. Johnston was the superintendent of Water Division No. 1, and so a member of the statewide Board of Control as well as the primary administrator for one-fourth of the state. Johnston was a stockholder in the Wyoming Development Company and used his official stationery at least once to correspond with Senator Carey seeking advantage for the company.[287]

Mead's own arguments support this interpretation as well. He argued that the state would have to be free to allocate water among the "four important industrial elements" of domestic use, livestock needs, irrigation, and mining and manufacturing. "It is questionable," Mead wrote to the convention, "whether the diversion of their [streams'] water does not entail more loss and damage on the grazing interests than it benefits agriculture from its use in irrigation . . . [and thus to] make irrigation a preferred priority will seriously embarrass and injure one of our most stable and valuable resources."[288] Mead may have had his own reasons for centralized control,[289] but allowing a state board they controlled to take charge of water rights would have been crucial to the cattle kings' ability to withstand the homesteaders' claims.[290] With even the great champion of small holders arguing cattle grazing's importance over irrigation, the cattlemen must have been well satisfied with Mead's work.

C. The Wyoming System as an Institution

The Wyoming system had two key features that distinguish it

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[286] CONST. CONVENTION J., *supra* note 263, at 504-05.

[287] Letter from James A. Johnston to Senator Carey (June 20, 1894) (on file with the American Heritage Center, Carey Collection, Accession #1212, Box 8).

[288] *An Important Letter*, CHEYENNE DAILY LEADER, Sept. 13, 1889, at 2.

[289] Mead argued centralization was necessary to ensure that the system "be cheaply and effectively administered" by making its administration "as simple and direct as is the management of a great railway system." *Id.*

[290] Francis Warren's opponents in Wyoming so characterized his attempt to turn federal lands over to the state (nominally intended to promote irrigation): "Once the state owned the land, they asserted, Warren would manipulate the administrative machinery to increase his own holdings." GOULD, *supra* note 190, at 133.

from the common law. First, the Wyoming system substituted a central planner, generally the state engineer, for the decentralized judge and jury system as the primary decision maker in the system.[291] As water law expert Wells Hutchins summarized the innovation, it "produced for the first time an effective administrative control over making new appropriations, and coordinated it with adjudication and distribution under an administrative hierarchy."[292] Having one decision maker made it possible for greater consistency in decisions,[293] but also made interest group capture a greater likelihood. This is just what happened. Wilkinson, for example, concludes that water agencies are "captured agencies in the most extreme sense."[294]

Second, water rights became dependent on the state, rather than being property rights entitled to protection from the state.[295] Water, Mead wrote to the Wyoming constitutional convention, "is a public commodity which should only be utilized and segregated by individuals in order that the public may be benefited thereby. To accomplish this it should be under the control of the state."[296] Since the state "owned" the water and determined who could use it, water rights holders lost the potential for constitutional protection from state action that they would have had under the common law. This was a crucial element in the Wyoming system. As Hutchins commented,

> the purpose of a constitutional or statutory declaration of pub-

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[291] Appeals to the courts, of course, are possible but an appeal is not an original proceeding and the facts are already determined. Moreover, Wyoming law provides that while appeals are pending, water is to be distributed as ordered by the Board of Control, WYO. STAT. ANN. § 41-4-408 (Michie 2001), and that in cases where a stream runs through more than one judicial district or county, the Board of Control determines which court will hear the appeal. *Id.* § 41-4-401.

[292] 1 HUTCHINS, *supra* note 7, at 301.

[293] It is important to not overstate the case for centralization. "Gathering all an externality's participants within a single regulatory unit does indeed provide benefits, and the larger the framework the more likely that result becomes. But most hydrological externalities are confined to a basin, so the benefit is exhausted before regulation becomes national." David D. Haddock, *Must Water Regulation Be Centralized?*, *in* WATER MARKETING, *supra* note 65, at 43, 44.

[294] Wilkinson, *supra* note 70, at 11.

[295] This was long the dominant view of water rights. For example, the leading water scholar for much of the last part of the twentieth century, Professor Joseph Sax, saw "the right to use water" as "a societal creation designed to promote social value, not a natural right." Barton H. Thompson, Jr., *Water Law as a Pragmatic Exercise: Professor Joseph Sax's Water Scholarship*, 25 ECOLOGY L.Q. 363, 371 (1998).

[296] *An Important Letter*, CHEYENNE DAILY LEADER, *supra* note 288.

> lic or State ownership [of water] is to lay the foundation for State control over the management and use of stream waters. . . . So far as State control and actual use of these flowing waters is concerned, the significant and essential principle is that *private* ownership in the *corpus* of the water does not exist.[297]

The importance of state ownership is summarized in a brief filed in a later water rights case: "[T]he state is the absolute owner of the waters within its own boundaries and may regulate and control them at will, provided all equal interests are equally protected."[298] Since the courts failed to recognize water rights as property rights deserving of compensation under the Takings Clause of the U.S. Constitution when legislatures and regulators altered the boundaries of the rights,[299] legislators and regulators faced lower costs resulting from such alterations.

One area in which legislatures began tinkering regularly was the introduction of preference orderings to deal with conflicts among uses.[300] "A typical ordering might run down from most-preferred home and farm uses, through manufacturing, to power and mining uses."[301] Other variations on the initial first in time principle were soon added: authority to reject appropriations as "a menace to the safety or against the interests and welfare of the public," preferences for particular uses, preferences for municipal uses, and withdrawal of water from general appropriation for public uses.[302] To the extent that such transfers had an impact,

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297 1 HUTCHINS, *supra* note 7, at 141.

298 Brief of Davis and Thomas 3 (on file with the American Heritage Center, Davis and Thomas Collection, Accession #16, Box 1, Folder "Brief").

299 *See* Thompson, *supra* note 295, at 370 ("[I]n Sax's view, courts until recently have consistently rejected constitutional claims to compensation brought by those water users who believed their rights were damaged by legal change."). Of course, appropriative rights are a form of property rights but they are property rights subject to state redefinition at far lower cost than traditional property rights in land.

300 *See* 1 HUTCHINS, *supra* note 7, at 158 ("[C]ertain States have authorized preferences and imposed restrictions upon appropriations made under prescribed statutory procedures, the effects of which under some circumstances is at variance from the right of the first applicant to be accorded the first priority.").

301 Scott & Coustalin, *supra* note 51, at 918.

> States that list beneficial uses in statutes normally began with a basic list many years ago, covering the late nineteenth century needs of domestic use, farming, and some industry, and then supplemented their statutes over time to add more 'modern' purposes, such as instream uses for recreation and fish and wildlife.

Neuman, *supra* note 64, at 924. States also sometimes specify in statutes that particular uses are not beneficial. *Id.*

302 1 HUTCHINS, *supra* note 7, at 178-79.

they represented a transfer of wealth from older, more senior holders of rights engaged in less favored uses to holders of newer rights, now privileged by their favored status—a classic example of rent-seeking behavior.[303] As the western mining industry declined in relative economic importance, lawmakers could reward newly dominant constituencies by altering water law. For example, a preference for municipal uses favors those who can capture local government units to gain control of appropriated water over those who cannot.

Nevertheless, the Wyoming system lacked an important feature that we might have expected to see: it did not significantly change the substantive rules of water law, at least at first.[304] The first changes affected only who decided rights conflicts and the level of protection rights would receive against the state. In short, the Wyoming system substituted a political appointee for local juries as decision maker and made water rights contingent on state forebearance, at least on the margins.[305] This was a remarkable transformation in 1889-90, "a time when the fields of administrative law and practice in the United States were in their early stages."[306] Both changes enhanced the interests of those who controlled the levers of power in Wyoming at the expense of individuals.

The standard account of the Wyoming system stresses its efficiency and technical superiority over the common law system it replaced. Hutchins, for example, summarized the benefits of centralization as follows:

> It became increasingly evident [in the late nineteenth century] that if the potential of the West's water resources was to be realized in the developing economy, something had to be done about public control of these resources and of their utilization. Necessarily, efficient public control went beyond legislative

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303 *See* ANDERSON & SNYDER, *supra* note 17, at 59.

304 Wilkinson, *supra* note 70, at 10 ("The statutes setting up the water agencies made essentially no change in the underlying body of law."). Change came later as a result of the different incentives under the new system. *See* ANDERSON & SNYDER, *supra* note 17, at 54 (describing changes caused by administrative systems).

305 Shifting such decisions to a political body also creates a new set of conflicts that the common law prevented. Centralization means that one political agent is responsible for representing multiple interests. "The common law dictates that one agent may represent multiple principals with conflicting interests only if each principal consents. National usurpation of the agent's role for all of a basin's different parts conflicts with that very sensible common law doctrine." Haddock, *supra* note 293, at 50. Haddock's point applies equally well to any centralized system.

306 1 HUTCHINS, *supra* note 7, at 301.

> declarations as construed by the courts in individual controversies and as enforced by their decrees. It involved continuing action by the executive arm of the State government, through the agency of administrative organizations equipped to find facts and to act upon them. It called for such action by applying clearly worded directives in exercising the police power of the State for the protection and utilization of public property.[307]

The efficiency of the resulting water allocation is open to question, of course, both on technical and economic grounds since it often involves uneconomic public works projects with adverse environmental consequences.[308] Moreover, water law can rely on local specialized decision makers rather than on the state engineer and thus make use of expertise without centralization.[309] Local expertise can often be crucial to the success of water-related projects.[310]

Shifting to a regulatory approach had other costs as well. The transaction costs of innovation now rested on those seeking change in the institution rather than on those objecting to adaptations.[311] Parties lacking actual interests at stake were now permitted to involve themselves.[312] The broad class of public choice problems now attached to the rule generation process.[313] A dynamic of intervention was created, with the incentives all pointing toward more state involvement rather than less.[314] Finally, Coasean bargaining became more expensive and, in many cases, impossible because of the mandatory nature of regulatory schemes.[315]

Was the system Mead set up really "central planning?" An

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307 *Id.* at 298.

308 *See, e.g.*, REISNER, *supra* note 3, at 222 ("Streamflow calculations and reservoir carrying capacity were based on nine months of gauging in a wet year . . . . No investigation was made of the need for drainage.") (describing the Belle Fourche project in South Dakota, the Bureau of Reclamation's "preeminent fiasco").

309 *See, e.g.*, Colorado's practice of using various entities to administer the planning system below the state level. Lawrence J. MacDonnell, *Five Principles That Define Colorado Water Law*, 26 COLO. LAW. 165, 166 (June 1997).

310 *See, e.g.*, REISNER, *supra* note 3, at 714 (noting that Reclamation Service engineers at the beginning of the 1900s "tended to view themselves as a godlike class performing hydrologic miracles for grateful simpletons" yet failed to adequately address drainage, soil condition, or economics of projects—information known to the "grateful simpletons"—and so caused projects to fail).

311 *See* Yandle & Morriss, *supra* note 11, at 147.

312 *See id.*

313 *See id.*

314 *See id.* at 148.

315 *See id.*

1889 letter from Mead to one of his water commissioners makes clear that Mead was a very modern central planner. The commissioner was instructed to record, and transmit to Mead, "a complete record of the times and volumes of water allotted to the various ditches."[316] Mead also instructed his commissioner that "priority of right does not justify waste and where improper or wasteful use is observed the supply is to be restricted,"[317] a position in advance of Mead's authority, since it predates the 1889 constitution.

Like modern central planners, Mead sought to use administrative controls to increase production. Mead's interest in increasing efficiency was clearly aligned with the interests of the large canal companies in which his patrons were involved. For example, in July 1889 Mead cosigned with Joseph Carey and J.A. Johnston a letter to a congressional committee considering irrigation legislation that argued that

> [i]f this Territory could, during the past five years have controlled the disposal of the irrigable lands within its borders, it could, while disposing of it to actual settlers only, have afforded such protection to canal companies as would have given our agriculture four times its present importance and more than doubled our population. Instead of this, there have been repeated instances where arbitrary and unreasonable rulings have subjected our people to heavy and wholly unnecessary expense and to cause the whole land policy to be regarded as oppressive.[318]

Mead's system, although predating the ideological apparatus of modern central economic planning, was thus clearly a central planning system for water.

D. The Spread of the Wyoming System

The two initial elements of the Wyoming system with which we are concerned here spread quickly across the West, moving water rights issues out of the general court system and into specialized systems of adjudication, and redefining water rights as state-

316 Letter from Elwood Mead to Water Commissioner, Dist. No. 1, at 1 (Mar. 27, 1889) (on file with the Wyo. State Archives, Cheyenne, Wyo., Laramie Clerk of Dist. Ct., Water Records, Box 1, Folder: "Water Commissioners General Correspondence, 1887-1902").

317 *Id.* at 2.

318 Letter 3 (July 31, 1889) (on file with the Wyo. State Archives, Cheyenne, Wyo., Laramie Clerk of Dist. Ct., Water Records, Box 1, File: "Water Commissioners' General Correspondence, 1887-1902").

owned property.[319]

The shift to administrative control took place slowly at first and then began to spread relatively quickly. Nebraska followed Wyoming in 1895. In the decade after 1900 eight more states followed suit.[320] By 1920, only Montana and Colorado maintained nonadministrative approaches.[321] Why the sudden change? A key factor in promoting the shift was the federal government's insistence on "reform" of water rights laws as a condition for access to federal reclamation funds after the passage of the Reclamation Act of 1902.[322] To the extent that federal water programs were both truly "inevitable"[323] and inevitably centralized, movement to planning may have itself been inevitable. Notably, public money was not necessary to the creation of at least some infrastructure for water—during the mid-nineteenth century extensive privately funded infrastructure was built across the West.[324] Rather than reacting to local demands for rationalizing chaotic water rights systems, the shift thus appears to be in part the result of pressure from Washington, D.C.

Common law water rights adjudication also failed to meet the needs of water bureaucrats because it could not provide the information needed for planners to plan. The information demands of water planning are quite high.[325] Interestingly, of the fifteen western states that followed Wyoming's lead to centralize decision making, only Nebraska, Nevada, and Texas followed Wyoming all the way to full integration of water rights into the administrative systems. The others retained a greater role for the courts,[326] suggesting that Wyoming went well beyond the point of

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319 1 HUTCHINS, *supra* note 7, at 301.

320 *See id.* (Idaho, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah).

321 Wilkinson, *supra* note 70, at 8-9; *see also* 1 HUTCHINS, *supra* note 7, at 301 (Arizona, California, Kansas, Texas, and Washington all adopted centralized systems in 1910-1919.).

322 Wilkinson, *supra* note 70, at 8. Federal influence's general role has been to "break apart the foundation for an effective system of water rights." ANDERSON & SNYDER, *supra* note 17, at 60.

323 REISNER, *supra* note 3, at 110-11 (claiming that the Reclamation Act of 1902 was "inevitable" by end of nineteenth century).

324 *See* ANDERSON & SNYDER, *supra* note 17, at 35-43 (describing various forms of private financing).

325 *See*, *e.g.*, Krogh, *supra* note 16, at 13-14 (describing information needs for planning).

326 *See* 1 HUTCHINS, *supra* note 7, at 302-03. Nevada and Texas later retreated from the Wyoming model. *Id.* at 303.

diminishing returns in adopting such an extensive program of centralization.

The notion of public ownership of water resources also spread rapidly. Sixteen western states lay claim to their water resources in their state constitutions[327] or water codes.[328] This change seems to have been an insignificant part of the debate. "In the 1880s and 1890s, American debates about water law were not about government licensing versus private rights. Little attention was paid to this dichotomy."[329] Nonetheless, water rights held by sufferance from the state are quite different from property rights. As Scott and Coustalin point out,

> [w]here previously the holder held his water right, like his right to his farm, as an interest good against the government and all the world, he now held it of an administrative agency on behalf of the government, which typically claimed powers to control rights of ownership over all waters in its jurisdiction.[330]

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[327] *See* Table 2 *infra*; *see also* ALASKA CONST. art. VIII, § 13 (stating that all waters are "reserved to the people for common use" subject to appropriation); COLO. CONST. art. XVI, § 5 (declaring water of every natural stream "the property of the public" and subject to appropriation); MONT. CONST. art. IX, § 3(3) (maintaining that water is property of "the state for the use of its people"); NEB. CONST. art. XV, § 5 (positing that water of natural streams' use is "dedicated to the people"); N.M. CONST. art. XVI, § 2 (declaring that unappropriated water "belong[s] to the public"); WYO. CONST. art. VIII, § 1 (noting that water is "property of the state").

[328] ARIZ. REV. STAT. ANN. § 45-141A (West 1994) (stating that waters "belong to the public and are subject to appropriation"); CAL. WATER CODE § 102 (West 1971) (maintaining that water is "the property of the people" but may be acquired by appropriation); KAN. STAT. ANN. § 82a-702 (1998) (dedicating water "to the use of the people"); NEV. REV. STAT. ANN. § 533.025 (Michie 1995) (noting that water "belongs to the public"); N.D. CENT. CODE § 61-01-01 (1995) (declaring that waters "belong to the public" and are subject to appropriation); OR. REV. STAT. § 537.110 (1999) (stating that water "belongs to the public"); S.D. CODIFIED LAWS § 46-1-3 (Michie 1999) (declaring water "the property of the public" and can be appropriated); TEX. WATER CODE ANN. § 11.021 (Vernon 2000) (proclaiming water "the property of the state"); UTAH CODE ANN. § 73-1-1 (1953) (pronouncing all waters "the property of the public"); WASH. REV. CODE ANN. § 90.03.010 (West 1992) (noting that subject to existing rights, waters "belong to the public").

[329] Scott & Coustalin, *supra* note 51, at 913. Catherine Miller argues that labeling water as public property "did confer important ideological incentives and power on those seeking access to a limited resource." MILLER, *supra* note 49, at 5.

[330] Scott & Coustalin, *supra* note 51, at 915. One example of the difference can be seen in the impact of statutory schemes for registering water rights claims. In states where water rights were based on appropriation, water claims could make use of registration schemes to improve the quality of proof, but unregistered appropriations could still produce property rights if other proof was adequate. *See, e.g.*, Murray v. Tingley, 50 P. 723, 725 (Mont. 1897) (noting that in enacting a registration law "the legislature did not contemplate that one who failed to comply with the terms of the statute, but who, in the absence of any conflicting adverse right, had nevertheless

Interestingly, Scott and Coustalin found that such water law reforms in common law jurisdictions "hardly ever seem to improve the security of title in the user."[331]

One result of this shift has been the capture of water rights law by special interests in a number of states. The evolution of statutory water law has not continued, despite the failure of courts to protect statutory water rights as property against changes on the margins:

> Existing water users enjoy significant political power; they are the victors of the transformative economy and have the resources and connections necessary to kill off serious legislative threats. Existing users are further aided in their efforts to defeat new initiatives because the public frequently refuses to pay for new legislative endeavors, even when the public strongly favors and values the effort.[332]

This continues to be true today: Reed Benson, the director of an Oregon environmental group, recently documented the capture of water law by special interests in Washington, Oregon, Idaho, and Montana, concluding that "[i]n general, existing water users in the Northwest have been remarkably successful at continuing their established practices even where these practices violate venerable principles of western water law, and even though applying that law would often benefit other interests."[333] Indeed, Wyoming provides one of the most striking examples of the creation of a special interest group through the administrative allocation system. Wyoming allocated to existing water users proportionate shares in "excess water" not already claimed. In 1985, Wyoming granted all those holding water rights additional rights to one cubic foot per second for each seventy acres of land.[334]

The ability of existing users to privilege their uses over the requirements of the law is accomplished by a number of means. In

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actually diverted water and put it to a beneficial use, should acquire no title thereby"); De Necochea v. Curtis, 22 P. 198, 199 (Cal. 1889) (similar construction).

331 Scott & Coustalin, *supra* note 51, at 828; *see also* Thompson, *supra* note 104, at 7 (noting that "water users often do not trust" governments on water rights issues because "[o]ver the past several decades, the government has changed and reallocated water rights in a number of important ways to meet environmental and other goals").

332 Thompson, *supra* note 295, at 374.

333 Reed D. Benson, *Maintaining the Status Quo: Protecting Established Water Uses in the Pacific Northwest, Despite the Rules of Prior Appropriation*, 28 ENVTL. L. 881, 911 (1998).

334 *See* WYO. STAT. ANN. §§ 41-4-329 to 41-4-331 (Michie 2001).

some cases, the existing users rely on legislative actions. For example, Benson concluded that the "Idaho Legislature has . . . acted repeatedly to legitimize existing, otherwise illegal irrigation uses through the Snake River Basin Adjudication."[335] In others, the existing users rely on capture of agencies. The northwestern states, for example, do not enforce their water codes without a complaint from users[336] and often lack the resources to police their systems adequately.[337]

IV

THE COMMON LAW AND THE WYOMING SYSTEM COMPARED

There are important similarities between the western states' common law of water and the administrative systems that supplanted it. Like the common law, the statutory systems are generally vague on key terms, many of which were borrowed directly from the common law. Few states define beneficial use, for example, and "there seems to be little significant variation among the states in the general interpretation and application of the beneficial use doctrine."[338]

The differences overwhelm the similarities, however. First, the common law of water rights puts decisions as to the facts of disputes into the hands of juries, not bureaucrats. Although jurors may be assisted by expert testimony at trial, juries, of course, lack the potential for consistent expertise theoretically possible in a bureaucracy with respect to scientific and engineering questions.[339] Juries also lack, however, the incentive structure of those same bureaucrats.[340] As a result, while an individual jury may "run away" and render an unacceptable verdict in a particular case, juries as a whole are unlikely to veer consistently in a

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[335] Benson, *supra* note 333, at 896.

[336] *Id.* at 890 ("[A]ll four states take enforcement action against water users almost exclusively in response to complaints from other users.").

[337] *Id.* at 894 ("Despite increasing pressures on water resources in the 1990s, none of the state legislatures have provided any significant increases in agency enforcement resources.").

[338] Neuman, *supra* note 64, at 925.

[339] *See, e.g.*, Krogh, *supra* note 16, at 20 (vesting of water rights questions "in an agency with specialized knowledge and expertise as to water rights" is one of "two principal advantages" of an administrative system).

[340] *See* ANDERSON & SNYDER, *supra* note 17, at 21 ("Politicians and bureaucrats face incentives that are very different from those in the private sector, but those incentives are no less important to outcomes.").

particular direction unless potential jurors perceive themselves as having a consistent interest in the outcomes of water cases.[341] In contrast, centralized water rights systems concentrate power, prompting today the labeling of a state engineer as "the most powerful person in the state."[342] Indeed, the correspondence of the water commissioners shows the impact of the changes. An 1894 letter from a landowner to a water commissioner, for example, complained that his water had been cut off despite there being only one right prior to his, so that the city of Cheyenne, which had no right to appropriate, could have the water.[343] Rather than seek judicial relief for this infringement of property rights, however, the landowner was reduced to asking after the fact for an explanation of why his water was taken from him.

Second, the common law of water rights developed incrementally and through a decentralized process of choosing disputes for adjudication rather than as a result of centralized allocation of decision-making resources. Actual disputes, not bureaucratic priorities, created the pressure for changing rules. This made the common law system more resistant to capture by special interests. In addition, requiring an actual solution to a real problem forces the courts to "formulate solutions appropriately grounded in context."[344] Even where states rely on adjudicatory mechanisms as part of their administrative schemes to resolve conflicts in rights, the adjudications are significantly different from common law trials. In such administrative proceedings the state is present as a party, technical advisor to the court, or administrative fact finder.[345]

Third, the common law's incrementalism allows it to adapt its rules to new needs and circumstances.[346] Statutory and administrative schemes, on the other hand, require due process for

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[341] Thus in products liability cases, for example, some have suggested that jurors are more likely to see themselves as potential future victims of product-related injuries than as potential defendants in such suits. To the extent that water law disputes are determined by jurors from communities of users with heterogeneous interests, this should not be a significant factor in water rights cases.

[342] REISNER, *supra* note 3, at 11.

[343] Letter from M.G. Manley to Water Commissioner for Crow Creek 1 (May 18, 1894) (on file with the Wyo. State Archives, Laramie, Wyo., Laramie Clerk of Dist. Ct., Water Records, Box 1, Folder: Water Commission, General Correspondence, 1887-1902).

[344] Thompson, *supra* note 295, at 376.

[345] Neuman, *supra* note 64, at 926.

[346] Even proponents of the "public" nature of water rights implicitly recognize this. *See, e.g.*, Thompson, *supra* note 295, at 376 (noting that Joseph Sax's early

changes and so are less flexible and tend to change in a discontinuous manner. Where new facts produce new questions, there is often "no direct, determinant link between power and the outcome of any particular conflict."[347] Political control of resources, on the other hand, "exacerbates conflict and encourages waste in the decision-making process."[348] Further, it enables mistakes to take place on a grander scale. Thus, the scientific mistake that rain would "follow the plough" became entrenched in federal homestead policy in the arid West, with disastrous consequences.[349]

Which system is better? One criticism of the common law system was that the decentralized and piecemeal resolution of disputes meant that rights were uncertain. Until a water rights holder had litigated against all possible other claimants, for example, it was not certain that his rights would prevail. The practical impact of this seems likely to have been minimally based on the experience of the courts in dealing with water law claims, as expressed in the opinions surveyed for this article, and by the broader review of water law around the world conducted by Scott and Coustalin. They concluded that

> the weight of seniority and increasing domain of prescriptive rights made court rulings on rights disputes predictable and certain. While water users under nineteenth and twentieth century common law have never had a 'quality of title' to equal that of freehold land users, their title has been found to be surprisingly robust.[350]

Moreover, common law rights were, once determined, certain. Administrative rights are not. Hutchins, for example, concludes that administrative systems "accord to no one the unqualified right to appropriate water."[351] Not only are there various restrictions on approval of applications but "there are some provisions for taking possession of existing senior rights to the use of water for low preference purposes, in order that they may be exercised

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environmental writings "constitute a plea to the courts (whether or not intended by Sax) to persist in their common law role of adapter").

347 MILLER, *supra* note 49, at 176 (describing the Miller & Lux Cattle Company's experience in water law in California courts).

348 Anderson & Hill, *supra* note 66, at xiv; *see also* Korr, *supra* note 260, at 314 (describing failure of attempts at instituting planning regimes in California in 1880s due to political fights for control of water law).

349 *See* REISNER, *supra* note 3, at 5.

350 Scott & Coustalin, *supra* note 51, at 828.

351 1 HUTCHINS, *supra* note 7, at 400.

by junior appropriators for high preference purposes."[352]

A second criticism is that formal court proceedings are "unnecessary and wasteful" for adjudicating "[t]he vast majority of water rights" which "can and do proceed to final determination without dispute."[353] Of course, under the common law *only* contested rights would be subject to litigation; undisputed rights between parties could be memorialized with contracts. Only in a system mandating that all rights be adjudicated, such as a central planning system, would the additional expense of adjudicating uncontested rights be necessary. Although not conclusive proof, the opinions in water law cases in Montana and Wyoming do not appear to have been significantly different than opinions in other areas by those courts.

A third criticism is that decentralized water rights systems "waste" water compared to a hypothetical optimal allocation produced by central planning. William Hammond Hall, California State Engineer in the 1880s and a frustrated planner, complained, for example, that "[t]he State by throwing open the waters of her streams to appropriation has directly laid the foundation for their wasteful and injudicial use, and wrangling over their distribution from their natural channels."[354] This criticism is not unlike those made in modern neoclassical economic theory in which an omniscient central planner's solution to an optimization problem is compared to market solutions, which are then found wanting. Like those models, the "waste" critique is correct when comparing the two static outcomes. It neglects, however, two crucial features of the real world: the dynamic nature of resource use and the lack of omniscience by central planners. Water use, even if optimized today, must change tomorrow to remain optimal. A planned solution is thus unable to remain optimal without continual readjustment. Market solutions, on the other hand, allow for continuous adjustment without central intervention. Reaching a planned optimum requires a great deal of information to be available to the planner. Markets, by contrast, allow decentralized processing of information.

For example, consider the "use it or lose it" rule common to prior appropriation systems. Such a rule is likely to produce waste as rights holders use water merely to preserve their

352 *Id.*

353 Krogh, *supra* note 16, at 21.

354 Korr, *supra* note 260, at 308 (quoting Hammond).

rights—yet when combined with transferable water rights, the inefficiencies disappear. A rights holder faced with the need to "use it or lose it" can simply transfer his rights to a user with a higher valuation for the water than the wasteful alternative use. And with the common law's ability to adapt to new facts, new uses like in-stream flow can be recognized.

If we focus on facilitating private transactions involving water, we can also compare the two systems. Private transactions require private property rights. "Because rights cannot be perfectly enforced, ownership will always be probabilistic."[355] Greater certainty promotes more attention to capturing the benefits of ownership.[356] Scott and Coustalin suggest six characteristics of property rights that can be used to evaluate the two systems: "duration or permanence; flexibility; exclusivity or specificity; quality of title or security; transferability or assignability; and divisibility."[357] Assuming that allowing some degree of markets and property rights is the means to accomplish the allocation of water, how well do the two systems stack up?

Duration. The common law system recognized property rights in the conventional sense. The central planning system made rights less secure against legislative attacks on the margin.

Flexibility. The common law demonstrated a flexible, fact-specific approach to applying water law principles. The central planning approach set its dictates in statutes and regulations, reducing flexibility.

Exclusivity. Common law water rights were property rights, enforced against specific claimants in court and potentially good against the entire world. Central planning rights are shared with the planning agency and the legislature.[358]

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355 ANDERSON & SNYDER, *supra* note 17, at 23.

356 *Id.*

357 Scott & Coustalin, *supra* note 51, at 823.

358 The shift to central planning was justified, in part, by claims that it would be more effective at cataloging and distributing water rights. Thus, Elwood Mead had claimed that many bodies of water in Wyoming were overappropriated under the common law system. Whether this claim has been borne out by practice is unclear and a worthy topic for future research—a 1995 study in Colorado found that none of 919 (out of a population of 1,053) water transfer decrees filed with the Colorado State Engineer before 1969 contained a volumetric limitation on the water rights after the transfer, 814 had no flow rate limits, 906 had no seasonal limits, and 810 had neither flow or seasonal limits. James N. Corbirdge, Jr., *Historical Water Use and the Protection of Vested Rights: A Challenge for Colorado Water Law*, 69 U. COLO. L. REV. 503, 514 (1998) (citing Joe Tom Wood, HAPPY BIRTHDAY, ORR (1995)).

Quality of title. Planned systems of water rights can provide high quality title to water. Title, under such systems may be equal to that under the appropriative system, especially if the planned system devotes resources to monitoring the rights. On the other hand, such systems provide instruments of unpredictable government water policy changes that can easily upset and erode the 'quality' of individual licenses and permits.[359]

Transferability. Common law rights were quickly recognized as transferable. Central planning rights depend on planners' acquiescence in transfers, raising transactions costs.

Divisibility. The hallmark of common law property rights is their ready divisibility. Property rights in land have been split into uncountable combinations. The same is potentially true of common law water rights, although their development was cut short before this could occur. Central planning rights require planners' acquiescence to division and so raise the transactions costs of division.

Another issue is how the system will deal with changes in use patterns. In recent years in-stream uses have increasingly been recognized as valuable (promoting fish populations for species preservation and tourism, for example). Similarly, population growth in the West has made water for urban uses increasingly valuable. How would the two systems react to these changes?

The common law system of secure property rights would require new users to purchase senior rights through voluntary transactions to shift the use. As new uses became more valuable, the gains from trade would increase. So long as legal barriers did not restrict trades (e.g. by failing to recognize in stream uses as "beneficial uses") or impose significant transactions costs (e.g. by taxing transfers), an increase in value of alternative uses would produce increased trades. The sale of the senior rights' holders' rights would lead to a wealth transfer from the purchasers to the rights' holders.

Under the central planning system, the increase in value might also lead to trades. Trades would require planners' acquiescence, however, raising the transactions costs of trading and so reducing its frequency. Moreover, those seeking transfers would have an alternative to purchasing rights. Senior rights' holders could be attacked in the legislature or courts, as well as persuaded to

[359] Scott & Coustalin, *supra* note 51, at 832.

trade.[360] Similarly, junior rights holders have attacked the seniority principle in the legislatures.[361]

The crucial insight here is that under the common law system there would be no planning; uses would be determined by the private transactions of individuals. In a sense, that stands the usual analysis of nineteenth-century common law on its head: modern water law scholars often attribute to nineteenth-century judges a desire to maximize wealth, encourage economic development or further other policy goals.[362] Nineteenth-century Americans, including judges, were undoubtedly concerned about economic growth. That does not mean, however, that they shaped water law to accomplish economic policy ends.

The common law of water rights was just that—a law of property *rights*. As a result its rules could often appear rigid and inflexible. Indeed, modern critics also complain that the common law's legacy is a set of rules that do not allow for consideration of what the modern critics consider important policy objectives.[363]

A system built around property rights also creates different incentives for decision makers.

Private entrepreneurs provide new goods and services only if the benefits from those goods and services exceed the costs of the resources used in production. And with well-specified property rights, the supplier will pay the costs and capture the profits. On

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[360] Anderson & Hill, *supra* note 65, at xiv (stating that when water is valuable, "competing parties invest large amounts of time and effort into influencing the political process"); Scott & Coustalin, *supra* note 51, at 918 ("As water has become valuable, it has become less costly for challengers to directly attack existing titles in the courts and tribunals and indirectly in legislative committees and administrative agencies. Users are now vulnerable to legal reductions in their entitlement which would have been unthinkable in the past.").

[361] *See* Scott & Coustalin, *supra* note 51, at 919.

[362] *See, e.g.*, McCurdy, *supra* note 64, at 257 (noting that under Stephen Field, California Supreme Court "wove" its "policy concerns into legal doctrine").

[363] Professor Eric Freyfogle, for example, is critical of the California Supreme Court's decision in *Lux v. Haggin* for failing to address policy concerns: "The court in *Lux* failed to ask many questions that we today would ask if similarly engaged in the task of shaping a water law system. It failed to consider policy factors and legal options we would find influential." Freyfogle, *supra* note 26, at 487-88. Freyfogle concludes that

> [c]onsidered from a policy perspective, *Lux* is hard to understand. How could a court so clearly faced with the chance to bring order to the California water system so blithely refuse the task? . . . *Lux* cannot properly be understood from a policy perspective, nor can the other leading water law decisions of the late nineteenth century.

Id. at 524.

the other hand, politicians or bureaucrats who provide goods and services to interest groups in the political sector do not directly face the costs of supply.[364]

Turning resources like water over to political decision makers shifts decisions into an incentive structure in which decision makers do not bear the costs of their decisions.[365]

What was the cost of centralization for Wyoming? What negative consequences does central planning have for water rights in Wyoming, the Wyoming economy, or for the West as a whole? These are difficult empirical questions, which for the most part must await further research. What I have argued here is that the result of central planning for water has been a less adaptive, less flexible system that cannot provide an outcome as efficient as a decentralized, market-based approach. The size and scope of inefficiencies must await further work.

V

Implications for the Future: Making Markets Possible

What lessons can be drawn from the disparate developments in water law in Montana and Wyoming? Certainly a historical lesson can be learned—the standard account of the development of the Wyoming system leaves out much of the relevant political detail. Rather than an efficiency-oriented reform aimed at producing order out of chaos by reducing the common law to an

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364 Anderson & Snyder, *supra* note 17, at 26.

365 Marc Reisner's account of the behavior of a Bureau of Reclamation bureaucrat, Mike Strauss, gives a good example of the incentive problems for central planners. In the early 1950s, Straus had failed to reconfirm his ticket on an airline flight, as was required. The flight was overbooked and Straus should have been bumped from the flight. When asked to leave the plane, however, "Straus refused to budge; he pretended not to hear." Eventually a volunteer was found to get off the plane. "But Strauss appeared unmoved; he wasn't even embarrassed. 'It didn't faze him a bit,' said a Reclamation man who was with him. 'He thought he was performing the greatest work in the country, and he felt like the holiest bureaucrat in the land.'" Reisner, *supra* note 3, at 138. Bureaucrats' incentive problems go well beyond forcing others to bear the inconveniences of the bureaucrat's failure to act responsibly, but the same sense of "holiness" that allows a bureaucrat to displace a passenger on a plane also allows decisions on a larger scale to be made without regard to the consequences for even large numbers of individuals. Thus, Reisner concludes that the Bureau of Reclamation, "almost as soon as it was created" as the Reclamation Service, "found itself working on behalf of the wealthy and powerful and against the interests of the constituency it was created to protect, the small western irrigation farmer." *Id.* at 102.

engineering scheme, the Wyoming system was the result of the capture of a well-meaning reformer by politically powerful interests. Direct allocation of rights is obviously subject to political influence;[366] indirect influences introduced through planning schemes can be as well.

More generally, we can learn an important lesson about the importance of decentralized institutions like the common law in preserving political freedom. Law is more than a set of rules, it is also a network of institutions that both create and enforce the rules. "Engineering" approaches to legal reform can have unintended consequences far beyond their immediate reach. It is no small irony that Elwood Mead, whose career was built around an ideology that glorified yeoman farmers,[367] played such a significant role in designing an institution aimed at eradicating them from Wyoming. The nineteenth-century water law systems can therefore teach us valuable lessons about how we should approach problems today that cry out for "engineering" solutions. Moreover, the values that such solutions aim to introduce into the law can often be obtained in other ways. Thus, the expertise of specialists in state agencies can be made available to courts in a variety of ways: expert testimony, formal intervention, *amici* briefs, and official reports, to name but a few.[368]

Many modern environmental problems are described in terms reminiscent of those used to describe water rights in the nineteenth century. Greenhouse gas emissions, urban sprawl, water pollution, endangered species protection, and countless others are all described in effect as commons in need of reengineering. Since 1970, the beginning of the "modern" era of environmental legislation, American law has been moving steadily away from the common law approach and toward central planning in these areas—even as central planning has been revealed as a spectacular failure in the rest of the world. The story of water rights sug-

366 *See* ANDERSON & SNYDER, *supra* note 17, at 59 ("Perhaps the most obvious example of rent seeking occurs when allocative decisions are placed in the hands of a state agency or a court.").

367 Of course, his later attempts at central planning of farming communities hardly had beneficial impacts on the yeomen farmers for whom he was trying to plan. *See, e.g.*, KLUGER, *supra* note 44, at 85-101 (describing Mead's failure at creating collective farms in California after World War I).

368 Note that I am not recommending that agencies be empowered to make initial factual findings. *See* Krogh, *supra* note 16, at 30 (describing how "integrated" systems of water rights rely on state agencies to prepare reports "that form[ ] the basis for a later judicial determination of water rights").

gests that this process should not go unchallenged by those who care about the environment.

In doing so, however, proponents of the common law, markets, and private property as institutions capable of addressing these problems must be ready to combat the view that all institutional structures are equally zero-sum games. Catherine Miller expresses this idea in her conclusion to her account of the Miller & Lux Cattle Company's decades of water rights litigation: "The laws governing resources are inexorably linked to economic power. Privatization, like the earlier call for government action, is but a mechanism to transfer wealth, another call to subsidize one group of claimants at the expense of another."[369] Miller's conclusion accurately describes the "Wyoming System" of central planning; it does not accurately portray the decentralized alternative.

To the contrary, the combination of common law, markets, and private property is not linked, inexorably or otherwise, to economic power. Rather it is the framework, and perhaps the only framework, that allows for the development of a spontaneous order in which economic power cannot control events.[370] This is the most important lesson of the development of western water law, and it is central to the development of water markets today.

Five characteristics of the western common law of prior appropriation could play an important part in developing water institutions elsewhere. First, the common law conserved scarce legal resources. It did so by reducing the number of disputes that had to be resolved (only actual disputes rather than all possible disputes, as would be necessary to fully allocate a resource) and by developing rules only as needed. This is an important feature for areas where legal resources are scarce. As Paul Rubin has noted, devoting legislators' time to developing comprehensive codes often diverts the attention of the few legally trained individuals in a transitional society into less productive areas.[371]

Second, the common law developed rules incrementally. Not only did this conserve legal resources, but it allowed the law to develop based only on the flash points of actual disputes. The development of the law thus took place first in those areas with

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[369] MILLER, *supra* note 49, at 185.

[370] *See* Thompson, *supra* note 104, at 1 (describing benefits of markets for water rights).

[371] *See* Rubin, *supra* note 92, at 10-11.

disputes, an efficient allocation of legal resources. Moreover, the incremental, dispute-based resolution of disputes helped prevent capture of the rule-making institutions.

Third, the common law was a fact-based rule generation mechanism. Relying on the facts of actual disputes helps even the playing field between individuals and organized interests in several ways. Fact-based dispute resolution, as opposed to legislative development of rules, concentrates the decision maker on local knowledge, an area where individuals have a comparative advantage over special interests. An organized interest group may be able to marshal impressive resources to persuade a policymaker, but those resources are less effective in a tribunal that must determine which person owns a particular property right. Fact-based rule generation also at least partially unlinks the determination of rules from the agendas of interest groups. A legislature might be persuaded to tackle a specific area, but a court can only decide issues before it as the result of actual disputes.

Fourth, the western experience provides examples of specific procedural devices that reduce proof and transaction costs. Registries for rights claims, for example, provide cheap and objective proof of claims. Rules like seniority simplify dispute resolution.

Fifth, fairness and recognition of customary rights is crucial to acceptance of a rights allocation system. The common law of prior appropriation succeeded in part because it rested on a simple idea that people widely viewed as fair.

The danger is that "reformers" will push developing countries to adopt inappropriate institutions out of a misguided zeal for the technical sophistication of comprehensive solutions. This is a real fear—economists sometimes fail to appreciate the importance of indigenous institutions and rely instead on "proven" sets of rules from other cultures.[372] Copying a set of laws that "work" in one country into another country's legal system may satisfy an institutional lender's desire for clarity while destabilizing existing institutions that served to protect customary rights.[373]

The reform this suggests is simple. Nations interested in im-

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[372] *See, e.g.*, Rudiger Dornbusch, *Strategies and Priorities for Reform, in* 1 THE TRANSITION TO A MARKET ECONOMY: THE BROAD ISSUES 169 (Paul Marer & Salvatore Zecchini eds., 1991) (advocating adoption of foreign legal codes by transition economies).

[373] On the impact of copying legal institutions generally, see ALAN WATSON, LEGAL TRANSPLANTS (2d ed. 1993).

proving their prospects for adequate water for growing populations need to develop a means to recognize the customary water rights that currently exist, reduce the transaction costs of trading those rights, and enforce voluntary agreements for trade. Doing so may require little more than accepting that some water rights disputes are best left to customary legal institutions or, where such institutions have been decimated by state action, providing an alternative enforcement mechanism. It does not require drafting comprehensive water codes, establishing central planning agencies, or attempting to allocate all water resources.

Anderson and Snyder subtitled their book on developing water markets "Priming the Invisible Pump." This phrase captures the essence of the common law's contribution to the development of appropriate institutions. The structures needed are invisible in many ways, they operate in the background. Rather than directly allocating rights or establishing a planning body to make the rights allocations more "efficient" or more "fair," the common law allowed individual actions to determine rights allocations by providing a framework for recognizing those actions. The gain, however, was that the "invisible pump" was indeed primed and began to deliver water where it was needed.

It may be that the specific rules of prior appropriation fit the needs of other societies as well as the American West. Or they may not. The institution of the common law, however, surely fits the needs of a diverse set of societies facing water crises, real or potential. Precisely because it cannot implement "The Plan," the common law can create the opportunity for individuals to each implement their own plans for water and for their lives.

TABLE 1: STATEHOOD AND CENTRALIZATION

State	Territory Organized	Statehood	Years as Territory	Centralized System Adopted
Arizona	1863	1912	49	1919[374]
California	—	1850	0	1913[375]
Colorado	1861	1876	15	——[376]
Idaho	1863	1890	27	1903[377]
Kansas	1854	1861	7	1917[378]
Montana	1864	1889	25	1973[379]
Nebraska	1854	1867	13	1895[380]
Nevada	1861	1864	3	1905[381]
New Mexico	1850	1912	62	1905[382]
North Dakota	1861	1889	28	1905[383]
Oklahoma	1890	1907	17	1905[384]
Oregon	1848	1859	11	1909[385]
South Dakota	1861	1889	28	1905[386]
Texas	—	1845	0	1913[387]
Utah	1850	1896	46	1903[388]
Washington	1853	1889	36	1917[389]
Wyoming	1868	1889	21	1889[390]

374 Act of Mar. 26, 1919, ch. 164, 1919 Ariz. Sess. Laws 278.

375 Act of June 16, 1913, ch. 586, 1913 Cal. Stat. 1012.

376 3 HUTCHINS, *supra* note 7, at 215.

377 Act of Mar. 11, 1903, No. 146, 1903 Idaho Sess. Laws 223.

378 Act of Mar. 13, 1917, ch. 172, 1917 Kan. Sess. Laws 218.

379 MONT. CODE ANN. § 85-2-302 (2001); *see* Wilkinson, *supra* note 70, at 8; 3 HUTCHINS, *supra* note 7, at 308 ("Prior to 1973, Montana was unique among the coterminous western States in having state agencies concerned with water but with extremely limited functions pertaining to the regulation of water rights."). 1973 Mont. Laws 452, MONT. REV. CODE ANN. §§ 9-870 to 9-889 (Smith 2000).

380 Act of Apr. 4, 1895, ch. 69, 1895 Neb. Laws 244; NEB. CONST. art. XV, §4.

381 Act of Mar. 1, 1905, ch. 46, 1905 Nev. Stat. 66.

382 Act of Mar. 16, 1905, chs. 102, 104, 1905 N.M. Laws 270, 284.

383 Act of Mar. 1, 1905, ch. 34, 1905 N.D. Laws 44.

384 Act of Feb. 25, 1905, ch. 21, 1905 Okla. Sess. Laws 274.

385 Act of Feb. 24, 1909, ch. 216, 1909 Or. Laws 319.

386 Act of Mar. 3, 1905, ch. 132, 1905 S.D. Laws 201.

387 Act of Apr. 9, 1913, ch. 171, 1913 Tex. Sess. Law Serv. 358 (Vernon); TEX. CONST. art. XVI, § 59a.

388 Act of Mar. 12, 1903, ch. 100, 1903 Utah Laws 88.

389 Act of Mar. 14, 1917, ch. 117, 1917 Wash. Laws 447.

390 WYO. CONST. art. VIII.

TABLE 2: PUBLIC OWNERSHIP CLAIMS

State	Public Ownership of Water Claimed In	Year of First Claim
Arizona	Code	1919
California	Code	1914[391]
Colorado	Constitution	1876[392]
Idaho	Constitution	Code § 42-101; Walbridge v. Robinson, 125 P. 812 (Idaho 1912)
Kansas	Code	82a-702
Montana	Constitution	Mettler v. Ames Realty Co., 201 P. 702 (Mont. 1921)
Nebraska	Constitution	Art. XV, sec. 5
Nevada	Code	Bergman v. Kearney, 241 F. 884, 893 (D. Nev. 1917)
New Mexico	Constitution	Art. XVI, sec. 2; N.M. Stat. Ann. § 75-1-1; Harkey v. Smith, 247 P. 550 (N.M. 1926)
North Dakota	Code	Const. XVII, sec. 219, 61-01-01
Oklahoma		
Oregon	Code	537.110
South Dakota	Code	46-1-3
Texas	Code	Art. 7467
Utah	Code	73-1-1
Washington	Code	90.03.010
Wyoming	Constitution	1889

[391] CAL. WATER CODE § 102 (West 1971).

[392] COLO. CONST. art. XVI, § 5; COLO. REV. STAT. ANN. §§ 148-2-1, 148-21-2 (West 1990).

TABLE 3: WATER LAW SYSTEMS & ARIDITY

	Aridity[393]	Basic System
Arizona	More	Prior Appropriation
California	Less	Mixed
Colorado	More	Prior Appropriation
Idaho	More	Prior Appropriation
Kansas	Less	Mixed
Montana	More	Prior Appropriation
Nebraska	Less	Mixed
Nevada	More	Prior Appropriation
New Mexico	More	Prior Appropriation
North Dakota	Less	Mixed
Oklahoma	Less	Mixed
Oregon	Less	Mixed
South Dakota	Less	Mixed
Texas	Less	Mixed
Utah	More	Prior Appropriation
Washington	Less	Mixed
Wyoming	More	Prior Appropriation

[393] Based on 1 HUTCHINS, *supra* note 7, at 2, 192.

TABLE 4: MONTANA WATER LAW CASES

Year[394] [T = Terr.; S = State]	Water Law Opinions[395]	All Opinions	% Water Law
1868 (T)	0	19	0%
1869 (T)	1	5	20%
1870 (T)	2	20	10%
1871 (T)	1	29	3.4%
1872 (T)	2	32	6.3%
1873 (T)	0	4	0%
1874 (T)	1	27	3.7%
1875 (T)	0	15	0%
1876 (T)	0	44	0%
1877 (T)	0	24	0%
1878 (T)	2	31	6.5%
1879 (T)	0	15	0%
1880 (T)	0	14	0%
1881 (T)	0	13	0%
1882 (T)	0	24	0%
1883 (T)	0	17	0%
1884 (T)	0	12	0%
1885 (T)	0	35	0%
1886 (T)	1	46	2.2%
1887 (T)	2	70	2.9%
1888 (T)	1	70	1.4%
1889 (T)	2	60	3.3%
1890 (S)	0	71	0%
1891 (S)	2	107	1.9%
1892 (S)	5	70	7.1%
1893 (S)	0	90	0%
1894 (S)	4	110	3.6%
1895 (S)	5	180	2.7%
1896 (S)	3	135	2.2%
1897 (S)	6	135	4.4%
1898 (S)	2	101	1.9%
1899 (S)	3	105	2.8%
Total – Terr.	15	613	2.4%
Total – State	30	1447	2.1%
Total	45	2060	2.2%

[394] Year of court of last resort opinion.

[395] 1869: Caruthers v. Pemberton, 1 Mont. 111 (1869); 1870: Thorp v. Woolman, 1 Mont. 168 (1870); Harris v. Shontz, 1 Mont. 212 (1870); 1871: Noteware v. Sterns, 1 Mont. 311 (1871); 1872: Woolman v. Garringer, 1 Mont. 535 (1872); Atchison v. Peterson, 1 Mont. 561 (1872); 1874: Barkley v. Tieleke, 2 Mont. 59 (1874); 1878: Toombs v. Hornbuckle, 3 Mont. 193 (1878); Fabian v. Collins, 3 Mont. 215 (1878); 1886: Alder Gulch Consol. Mining Co. v. Hayes, 9 P. 581 (Mont. 1886); 1887: Bass v. Buker, 12 P. 922 (Mont. 1887); Ford v. Gregson, 14 P. 659 (Mont. 1887); 1888: Tucker v. Jones, 19 P. 571 (Mont. 1888); 1889: Welch v. Keene, 21 P. 25 (Mont. 1889); McCauley v. McKeig, 21 P. 22 (Mont. 1889); 1891: Sweetland v. Olsen, 27 P. 339 (Mont. 1891); Meagher v. Hardenbrook, 28 P. 451 (Mont. 1891); Carron v. Wood, 26 P. 388 (Mont. 1891); 1892: Leonard v. Shatzer, 28 P. 457 (Mont. 1892);

Floyd v. Boulder Flume & Mercantile Co., 28 P. 450 (Mont. 1892); Quigley v. Birdseye, 28 P. 741 (Mont. 1892); Raymond v. Wimsette, 31 P. 537 (Mont. 1892); Salazar v. Smart, 30 P. 676 (Mont. 1892); 1894: Crawford v. Minnesota & Montana Land and Improvement Co., 38 P. 713 (Mont. 1894); Creek v. Bozeman Water Works Co., 38 P. 459 (Mont. 1894); Kleinschmidt v. Greiser, 37 P. 5 (Mont. 1894); Johnson v. Bielenberg, 37 P. 12 (Mont. 1894); 1895: Middle Creek Ditch Co. v. Henry, 39 P. 1054 (Mont. 1895); Beatty v. Murray Placer Mining Co., 39 P. 82 (Mont. 1895); Miles v. Du Bey, 39 P. 313 (Mont. 1895); Hopkins v. Butte & Montana Commercial Co., 40 P. 865 (Mont. 1895); Kimpton v. Jubilee Placer Mining Co., 41 P. 137 (Mont. 1895); 1896: Emerson v. Eldorado Ditch Co., 44 P. 969 (Mont. 1896); Smith v. Hope Mining Co., 45 P. 632 (Mont. 1896); Gassert v. Noyes, 44 P. 959 (Mont. 1896); 1897: Sloan v. Glancy, 47 P. 334 (Mont. 1897); McDonald v. Lannen, 47 P. 648 (Mont. 1897); Arnold v. Passavant, 49 P. 400 (Mont. 1897); Fitzpatrick v. Montgomery, 50 P. 416 (Mont. 1897); Murray v. Tingley, 50 P. 723 (Mont. 1897); Wood v. Lowney, 50 P. 794 (Mont. 1897); 1898: Crowder v. McDonnell, 54 P. 43 (Mont. 1898); Power v. Switzer, 55 P. 32 (Mont. 1898); 1899: Glass v. Basin Mining & Concentrating Co., 55 P. 1047 (Mont. 1899); Smith v. Denniff, 57 P. 557 (Mont. 1899); Haggin v. Saile, 59 P. 154 (Mont. 1899).