The Origins of Federal Reclamation

Ideology and Irrigation in the American West

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Abstract

A monumental body of work exists already dealing with irrigation and reclamation in the American West. Despite this abundance of scholarship on the subject, very few authors and historians have analyzed ideology and its impact on irrigation in the West. This paper examines the four predominating ideologies in western development during the last 25 years of the 19th century. It follows the varying ideologies and their impact on the development of the West. It culminates with the passage of the Newlands Reclamation Act of 1902, which allowed for the creation of federal reclamation projects in the West. Each of the ideologies is represented by a key figure in western development. John Wesley Powell embodied a populist approach to irrigation, steeped in the American agrarian tradition. William Stewart, a Senator from Nevada, epitomized the capitalist forces influencing western development at the time, including mining and railroads. William Smythe and his journal *Irrigation Age* captured the industrial spirit of the 1890s that aimed to combat economic recession with the productive capacity of the West. Finally, Francis Newlands represents the progressive era of western development, which instilled an ideology of federal oversight of irrigation and reclamation.
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Preface

The inspiration for this work came from a trip I took during the summer of 2009 with the Lafayette College Geology Department to Arizona and Utah to analyze the geology of some of the many national parks in the region, including Grand Canyon, Zion, and Arches. While I was there, I was repeatedly confronted with one simple reality: water is scarce out there. Having matured in the humid eastern United States, witnessing the engineering power of the Glen Canyon and Hoover Dams was a new and memorable experience for me. I was intrigued by this control of nature, especially by Glen Canyon and its reservoir, Lake Powell. Seeing the vast expanse of blue contrasted with the red hues of the Navajo sandstone desert made me wonder how this came into being. Why did settlers of this barren sea of rock and sand decide to construct monuments of human technology and engineering? Why did they decide not to merely survive in relative obscurity as their Mormon and Native American predecessors had? Did they have no grasp of the limits of this desert, or of its harsh aridity? Essentially, where did the ideological impetus for these mega dams come from?

During the course of the trip, I became intrigued by John Wesley Powell, the namesake of Glen Canyon’s reservoir (an ironic fate, I would come to learn). Powell was the initial aim of this project. As my research into Powell’s life progressed, I was able to map out Powell’s career, a life of scientific research and exploration, with his later years spent as a government bureaucrat. As I looked over his career, I found several figures of opposition. His controversial ideas on western development, particularly his vision for western irrigation, found him few friends in Washington. Nonetheless, Powell persisted well into his elder years promoting his ideal plan for the West. The benefit of hindsight and history has proven, in my
view, that his plan for the West was best: the natural limits of the West governed western expansion, and there was no place for overly optimistic frontier expansion. Americans simply could not settle the West as they had the East; there was a maximum human capacity of the West, despite its seemingly limitless geographical bounds. Unfortunately for Powell and ultimately the West, his plan was discarded in an overwhelming wave of frontier fanaticism. Manifest destiny mandated that the West be developed, and Powell could not stand in its way.

This project is my attempt to chronicle the ideological forces on irrigation that dominated the western expansion debate at the time, beginning with Powell and moving into the 20th century with the passage of the Newlands Reclamation Act of 1902 that allowed for the creation of federal reclamation projects. It encompasses four distinct ideologies, each embodied by one figure during the time period. While this work does eventually conclude that one ideology in particular would have ultimately benefited the West more than others, its intention is to analyze each of these ideologies, taking into account its formation, development, and success or demise. By the end of this work, it is my hope that the reader can analyze the current water situation in the West with the historical context that shaped the contemporary debate over water in the West, a debate that has only intensified by most standards.
Contents

Introduction .................................................................................................................................................. 1

Chapter 1: Water, the West, and John Wesley Powell ........................................................................... 7

Chapter 2: Big Bill Stewart and the Irrigation Survey ....................................................................... 17

Chapter 3: William Smythe and the In-between Years ..................................................................... 30

Chapter 4: Newlands and the Progressive Era of Reclamation ......................................................... 44

Conclusion ............................................................................................................................................... 56

Bibliography .......................................................................................................................................... 65
**Introduction**

Water is the basis for all life on this planet. Without reliable and potable sources of water, human populations cannot survive. For all of time, the ability of humans to live in a certain region invariably depended on the ability to find a reliable source of water. For the most part, this demand has been met in the United States. The most populous region of the United States (the Northeast) has little trouble locating sources of water. Ignoring a discussion regarding contamination, accessibility, and the ability to use all of these sources, it is fairly safe to conclude that the northeastern United States is currently able to satisfy most water demands.

The picture is not so rosy for the American West, and it never has been. Water has been and continues to arguably be the greatest obstacle to conquering the West. History has shown that water was the limiting factor in the development of the West. Yet, oddly enough, some of the largest population centers in the United States are located in the West. Los Angeles is one of the largest metropolitan areas in the country, and Las Vegas, in spite of the currently depressed housing market, has experienced some of the largest growth in the country over the last decade.¹ It would appear that, regardless of the apparent scarcity of water in the West, there is an infrastructure in place that allows large populations to not only inhabit this region, but to thrive in it as well.

These urban centers have not been able to support their populations from the naturally occurring surface water or groundwater resources of the region, which are fleeting or virtually non-existent. There is a historically recognized line that demarcates the arid region of the United States: the 100th Meridian. The commonly held definition of this line states that

to the west of it, there is traditionally not an adequate level of rainfall to support agriculture. Some have made attempts to more accurately delineate this boundary. F.H. Newell, who historian Donald Pisani called “one of the nation’s leading hydraulic engineers” in the 1930s, divided the country into three sectors with regards to rainfall patterns. To the east of the 95th meridian (a line running from approximately Minnesota to Texas), there is an annual precipitation of forty-eight inches on average. From the west of the 95th meridian to the 103rd meridian, the Great Plains region, there is thirty inches on average. To the west of that, there is only twelve.\(^2\) All three of these regions possess varying levels of agricultural production.

Thus, it is not difficult to imagine the challenge that the West has posed to most settlers. With precipitation so sparse on an annual basis, agriculture was predictably difficult. However, that is not to say it was impossible. Indeed, history has shown that when societies are placed under significant stress to locate water, a solution is customarily found. The ancient civilizations of the Nile River Valley were able to thrive in spite of the challenges presented. The Mormons famously made the dry basin of northern Utah inhabitable during the second half of the 1800s. In a chapter of his book *Rivers of Empire* titled “The Lord’s Beavers,” Donald Worster supports the assertion that the Mormons were the first group of European descendants to practice irrigation on a large scale. Worster depicts the Mormon society as the realization of a cooperative, centralized system of irrigation, organized and executed by the Church hierarchy. The Mormons quickly took advantage of the scarce water available and appropriated it for their purposes, enacting a brilliant model of irrigation outside of government hands.\(^3\)

\(^2\) Donald Pisani, *To Reclaim a Divided West* (Albuquerque: Univ. of New Mexico Press, 1992), xiii.
So history does show that the region is not completely inhospitable. But the urban metropolises of today’s West seem to be a far cry from the agrarian districts established by the Mormons of the 19th century. This begs the question, what changed? How were settlers able to find and secure the sources of water that so many others were unable to, enabling such rampant growth and development? The simple answer is reclamation. At some point during the relatively brief history of the American West, engineers were able to harness the rivers of the region, creating reservoirs that allowed for a consistent supply of water.

But where did the funding and the support for these projects originate? Essentially, what allowed these reservoirs emerge? Worster also argues in Rivers of Empire that, “Control of water has again and again provided an effective means of consolidating power with human groups.” In other words, whoever controls the water controls the society. A great deal of power is vested in the hands of those who appropriate the water, especially when water is a scarcity. In regards to the American West, who controlled the water?

There are plenty of answers to these questions already considered and argued by many other historians, such as Worster and Pisani. The purpose of the research presented here then, is not to merely provide a rehashing of their arguments, but to present a new story told from a new angle about the supply of water in the West and how it was finally controlled. It will examine several of the varying ideologies on irrigation, and the impacts and successes of each on the quest for water in the West.

The responsibility of supplying water ultimately shifted to the shoulders of the federal government with the passage of the 1902 Newlands Reclamation Act. During the 20th century, under the heading of the Bureau of Reclamation, the federal government undertook a number of projects that brought a consistent water supply to these regions. There has been a

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4 Worster, Empire, 20.
great deal written about this topic in the past few decades, including Pisani, Worster, and others. In an attempt to provide a new perspective to the topic, I will examine the irrigation ideologies of four different figures that rose to prominence in connection with irrigation in the last twenty years of the nineteenth century: John Wesley Powell, William M. Stewart, William E. Smythe, and Francis G. Newlands.

When William Morris Stewart came to Washington in 1887, he already had one stint in politics under his belt. Ready to begin his second run in the Senate, Stewart’s number one priority was the remonetization of silver, an important issue to Nevada, which benefited from reliance on silver. Stewart was very much aligned with the mining interests of his state; during his first term of service in the Senate, Stewart crafted a law in 1872 that allowed any mining operation in public lands and waived royalties to the government. Stewart wasn’t able to find the momentum at first on this issue during his second campaign. Looking to meet his state’s needs, Stewart took up the issue of irrigation instead. While Nevada did not show tremendous irrigation promise at the time, Stewart was keen on maximizing its potential and bringing government capital to Nevada. In order to do this, he would have to involve another prominent figure of the West: John Wesley Powell.

Powell gained recognition for his two expeditions that took him down the Colorado River to explore the canyons of the Southwest, including the Grand Canyon. By the time Stewart came back to Washington, Powell had ascended to the position of Director of the Geological Survey under the Department of the Interior. By this point, Powell had become an important figure on the topic of irrigation. In 1878, Powell presented Congress with his study of the West, titled *A Report on the Lands of the Arid Region of the United States*. Powell’s

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report contained a less than upbeat description of the arid region, containing two significant preliminary conclusions: first, that the arid region has only a small portion that is irrigable; and second, that the available streams will not serve all of the lands that can be considered irrigable. Powell’s most controversial ideas dealt with the topic of who would be able to obtain these lands. Powell outlined an appropriation scheme that vested water rights with small irrigation districts of local farmers. The report further cautioned against allowing too many private interests to take advantage of the land: “If… the practical control of agriculture shall fall into the hands of water companies,” wrote Powell, “evils will result therefrom that generations may not be able to correct.”6 However controversial or contentious Powell’s recommendations were, he was able to support his conclusions with his own scientific research and fieldwork.

In Powell, Stewart saw the possibility of bringing funding and scientific research in irrigation to his state. Powell’s recommendations fell on deaf ears a decade prior because many felt he was too hostile to the forces developing the West—too “old-fashioned, agrarian, backward-looking, and nostalgic” to be put in charge of developing water resources on the frontier.7 Now, with Stewart, the “Silver Senator,” Powell received another chance at seeing his ideas come to fruition. Stewart essentially hired Powell to perform a survey of the West to assess its potential for irrigation. But once again, Powell’s contentious recommendations were scorned, and Powell became the subject of Stewart’s vendetta. Powell eventually lost much of his authority at the hands of Stewart.

In the wake of the Irrigation Survey’s failure, William Smythe emerged on the scene ready to lead his own irrigation crusade. Development by any means lay at the heart of

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Smythe’s vision. Smythe’s plan for the West called for the establishment of a new empire in the region, accomplished through industrial raised up because of irrigation. In the preface of his book, *The Conquest of Arid America*, Smythe put into poetic verse his vision for western development:

> The Nation reaches its hand into the Desert.  
> *The barred doors of the sleeping empire are flung wide*  
> *open to the eager and the willing, that they may enter in and claim their heritage.*

Smythe circulated his viewpoint and the viewpoints of his followers in the journal *Irrigation Age* throughout the 1890s, urging the irrigation of the West by any means.

National reclamation came to the West in 1902 under the supervision of Representative Francis Newlands of Nevada. The passage of the Newlands Reclamation Act of 1902 allowed for the government to establish a fund that would finance irrigation projects throughout the West, overseen by the Secretary of the Interior with the assistance of the Director of the Geological Survey.\(^8\) The Newlands Act can be seen as a culmination of the varying irrigation ideologies in the decades leading to its passage. Each of these ideologies shaped the debate that ultimately led to the Newlands Act, including the approaches of Powell, Stewart, and Smythe.

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Chapter 1: Water, the West, and John Wesley Powell

Every man who turns his attention to this department of industry is considered a public benefactor. But if in the eagerness for present development a land and water system shall grow up in which the practical control of agriculture shall fall into the hands of water companies, evils will result therefrom that generations may not be able to correct...


Understanding the legal context to water use in the West is key to understanding the development of a national policy on reclamation, and ultimately, a federally sponsored program of reclamation. In the East, the riparian rights doctrine governed the use of water. Ownership of the riverbank property determined the use of surface water. While water was not technically the property of the riverbank owner, it was allocated to these property owners with some limitations: the user could not change the course of the stream, dramatically reduce the volume of flow in the stream, or make the stream unusable to those downstream through pollution. However, enforcing this doctrine became a difficult issue when the primary method of water use is irrigation, which implicitly involves removing volumes of water from the original course of the stream without a guarantee that the water will be returned. The challenge of abiding by the riparian doctrine, while at the same time ensuring that everyone’s needs for water were met would have inevitably forced the Mormon colonies of Utah to devise a new doctrine of water rights—which they did with success through a cooperative establishment organized and protected by the Church-sponsored government.

But as miners and other developers began settling the western region in the 19th century, the development of a less cooperative and more competitive doctrine governing water use evolved in the West. During the mid-1800s, the doctrine of prior appropriation

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emerged as the standard regarding water rights claims in the West. Motivated by mining
interests in California, the maturation of this doctrine ultimately placed water on the same
level as other commodities—as a form of owned property. As a result, water was transformed
from its prior status in the East as a “correlative” right that extended from owning riverbank
property into an actual private property.\textsuperscript{11}

Prior appropriation did serve as a solution that allowed rapid settlement in the region
and the use of the immense resources sought by many. However, it was a stopgap measure in
many ways, intended to placate the industry interests that had a stake in the West. It
possessed severe shortfalls that spelled trouble for the future. Additionally, it did not promote
protection of waterways, allowing environmental degradation to occur on a massive scale.
Donald Pisani succinctly summarized the impact of this new doctrine, stating, “Prior
appropriation stimulated economic development at the price of creating powerful
corporations, dangerous monopolies, and endless court contests among rival claimants.”\textsuperscript{12}

This framework set the tone for western development for several decades following
the Civil War. William Gilpin emerged as the unofficial spokesperson for settlement of the
West in the post-war years. In the West, Gilpin saw the promise of boundless mineral
resources, inexhaustible agricultural potential, and what would someday become a thriving
center of the United States. Prevailing thought at the time saw the region as a dustbowl, an
uninhabitable desert virtually incapable of supporting human development. Gilpin, as
territorial governor of Colorado, made efforts to dispel these notions, or misperceptions, as
he would most likely call them.\textsuperscript{13} Whatever Gilpin’s effect on popular opinion was, it was
coincidental, as the direction had already been chosen towards rapid western development.

\textsuperscript{11} Ibid, 11-2.
\textsuperscript{12} Ibid, 32.
\textsuperscript{13} Worster, River, 109-14.
The federal government had already done plenty by the end of Reconstruction to stimulate rapid settlement of the West, including railroad subsidies, the development of Indian reservations to eliminate Native American claims to land, the establishment of military forts to settle among other things, Indian affairs, and the enactment of several land laws that promoted the transfer of public lands into the hands of private developers, including the Homestead Act, the Free Mining Act, the Timber Culture Act, and the Desert Land Act. The stage was set for a swift move westward.\textsuperscript{14}

This westward movement would be heavily influenced by a longstanding American tradition of the “family farm,” the idyllic idea of a pastoral Jeffersonian farm setting. The agrarian model was the best protector of democracy. The Homestead Act attempted to shape western expansion to fit this tradition. The Act, passed in 1862, allowed for settler families to acquire 160 acres of federal land in the West. After five years of settlement, the settler could own the land.\textsuperscript{15} The Homestead Act substantially shaped the face of western development for the next century. Despite subsequent ventures by private investors that violated the spirit of the law, the Homestead Act dictated how the West would be settled. To underscore the importance of this Act, environmentalist Marc Reisner wrote:

\begin{quote}
One hundred and sixty acres. If anything unifies the story of the American West—its past and its present, its successes and its dreadful mistakes—it is this mythical allotment of land. Its origins are found in the original Homestead Act of 1862, which settled on such an amount—a half-mile square, more often referred to as a quarter section—as the ideal acreage for a Jeffersonian utopia of small farmers.\textsuperscript{16}
\end{quote}

\textsuperscript{14} Pisani, Reclaim, 7.
\textsuperscript{15} \textit{U.S. Statutes at Large}, 37\textsuperscript{th} Cong., 2\textsuperscript{nd} Sess., 392-3.
Politicians that advocated for the Homestead Act certainly had one intention in mind when they promoted this legislation: appealing to the rhetoric of the family farm, an unshakable tradition in American politics.

There are no written records on John Wesley Powell’s post-Civil War opinions regarding western development. Powell returned from the War a wounded veteran, losing an arm in battle, and he had not yet become an established figure on the issue of irrigation or any other national issue for that matter. However, Powell could certainly voice an opinion on the difficulties of farming, even in a fertile and seemingly “easy” landscape such as his home state of Illinois. Having grown up in an agricultural setting, Powell was well aware of the difficulties farming posed to even the best prepared settler, and the tremendous amount of work that was required. Therefore, his background would have naturally advised him that pragmatic and thoughtful planning of the limited resources of the West would be a necessity if any agricultural program were to succeed. He understood the challenges facing settlement in the arid region based upon his own experiences, and realized that arrangements must be considered to protect these resources from mismanagement and exploitation.17

During the post-War period, Powell spent a few years in higher education, but his interests lay elsewhere and he was distracted the whole time. An exceedingly curious man of the outdoors, Powell was inescapably drawn to nature. His eyes eventually turned to the West and its unexplored features. Unable to ignore this hunger to explore, Powell arranged a small excursion to the Rocky Mountain region during the summer of 1867. During this trip, he became set on the idea of an expedition of the Colorado River from the confluence of the Grand and the Green Rivers. From this point on, he was focused upon his planned exploration. Summarizing his journey to the Rocky Mountain region before the Illinois State

17 Worster, River, 113-4.
Board of Education in December of that year, Powell concluded his presentation by stating that he hoped, “‘to complete the exploration’ of the Colorado River during the next year.”

Powell had begun the mental planning for the expedition that would define his career, and would give rise to a leading perspective on western development.

In order to make his trip a reality, Powell had to secure massive amounts of funding and support. He solicited educational organizations with which he held connections for financial support. He also appeared before Congress for support, and repeatedly explained that he wanted to study and make known to others all of the “unexplored” regions of the area, sparking the interest of many. From the government, Powell obtained food rations from federal outposts in the West. The rest of the support for the mission came from private financiers.

On May 24, 1869, the Powell expedition set off into the Green River. After a slow going for the first two months, the group reached the confluence of the Grand and the Green Rivers and the beginning of the Colorado River. With an unknown distance left to traverse, the group embarked on the most mysterious portion of the trip: the Grand Canyon. Violent rapids on the river challenged the expedition. Supplies were routinely lost as rafts were damaged. At this point, there was no safe and easy exit from the canyon. The members of the group would have to continue on the river until it left the immense depths of the canyon.

Upon the completion of the expedition, Powell and his group could flaunt a vast amount of information that was unknown about this region, which many planned to quickly settle and develop. The available maps of the region were woefully inaccurate; the maps produced by the government and Mormon settlers both placed the junction of the San Juan

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18 Ibid, 125.
River much farther upstream from where Powell finally encountered it. The geology of the canyons was largely unknown. Powell became the first to extensively study the Redwall limestone that composed a large portion of the Grand Canyon.\textsuperscript{21}

Powell returned east after his journey to report on his finding. Despite the breadth of his trip, he had only partially satisfied his appetite for adventure, laying the groundwork for a career studying this region. While the exploration was certainly expansive and produced a wealth of knowledge, the logical next step to Powell was a comprehensive survey of the West to characterize the whole area and assess its potential for agriculture, irrigation, and other land uses. Powell’s insatiable desire to explore the river would return him and his company to the West to survey the country above the canyon in a broader survey of the region that was planned in order to observe the plateaus and other major formations, as well as locate places open for development, such as areas that could sustain agriculture and possible points to cross the Colorado River.\textsuperscript{22}

Powell’s appropriation was renewed following his expedition down the Colorado River, and he led another expedition into the West to survey the region and assess its features. During this second journey, Powell was focused on gathering geological and geographical data to characterize the region. The trip was a success: Powell and his group were able to collect the data Powell wanted, as well as prepare better maps of the region.\textsuperscript{23}

In the years following his two expeditions, Powell became a consultant to Congress on the issue of public lands in the West, but would not assume a position of great power. During the Grant administration, corruption and incompetence resulted in the misuse and mismanagement of public lands. The understaffed General Land Office, which oversaw the

\textsuperscript{21} Ibid, 182-3.
\textsuperscript{22} Ibid, 217-8.
\textsuperscript{23} Ibid, 254-6.
federal lands in the western territories, performed dreadfully, distributing land grants for the enormous federal territory in the West with haste and irresponsibility. To further characterize the picture of corruption in the Grant Administration, the Homestead Act of 1862, which granted 160 acres of land in the West to private citizens for improvement, became largely ineffective, with a very small portion of the available lands going to actual homesteaders.\textsuperscript{24}

The presidency of Benjamin Hayes that followed brought to Washington a timbre of reform in contrast to the excesses of the Grant administration. Powell was not spared from any inspection; his appropriation for the Powell Survey of the West was heavily scrutinized. Powell’s limited publication record did not help matters and opened him up to investigation when some suspected him of inactivity and general laziness with government aid. Under the threat of consolidation with other surveys of the West, Powell attempted to make his views known before Congress. Appearing before the House Committee on Public Lands on March 23, 1878, Powell called for a new system of land survey and parcel, saying that the previous methods that were developed in the humid region of the East proved inadequate for the arid region, stating, “new conditions obtain, which seem to demand some modification of the system of parceling and surveying.”\textsuperscript{25} The West was unique in its limited agricultural potential and demanded a new system that reflected these incongruities with the East. The lands were not continuously fertile; rather, there were scattered pockets of productive soil, and according to Powell, new survey and allocation methods were necessary. The systems that were refined in the East would fail if they were applied to the West because the terrains were so radically disparate.

\textsuperscript{24} Ibid, 339-40.
\textsuperscript{25} Ibid, 346.
To accommodate this new methodology that Powell advocated, he tailored his surveys to practical development of the region, with a keen eye toward the agricultural potential scattered about the area. However, Powell understood the overwhelming challenges that western development faced and was able to voice his concerns while remaining optimistic. In his Report on the Lands of the Arid Region of 1878, Powell presented a detached perspective on the issue, painting a somber picture of the West that precluded booming industrial development and massive urban residence. Instead, Powell focused on the plight of the small-scale farmer that required irrigation in order to make the desert region work. Irrigation was essential if agriculture was to even be considered, according to Powell’s report. At the same time, as attractive and necessary as that strategy was, it would have to be practiced correctly and responsibly in order to work: most of the small streams of the region had been appropriated and utilized to capacity, and the total area of the land available exceeded the potential area to be serviced through irrigation by Powell’s estimates, severely limiting the land available for productive use. Therefore, irrigation would have to rely on the remaining large streams of the region. In order to employ these large streams, he suggested that water storage facilities would become vital. Though the use of canals that diverted river flow into storage ponds was an attractive solution, the creation of large storage reservoirs in the headwaters of streams would become the primary source of water according to Powell.\textsuperscript{26}

The appropriation of water among settlers was a pressing issue to Powell in his report. Powell cautioned against allowing the creation of monopolies that would control the scarce water available in the West by buying up rights before settlers could. Because of the scant supply of water, the landowners in the West would be at the mercy of the owner of water. Therefore, preventing the creation of water monopolies was a far more urgent issue.

\textsuperscript{26} Powell, \textit{Report}, 17-21.
than breaking the creation of land monopolies, as the owner of water rights would truly possess power in the West. As Powell wrote, “Monopoly of land need not be feared. The question for legislators to solve is to devise some practical means by which water rights may be distributed among individual farmers and water monopolies prevented.”

Powell’s concerns were rightly placed. A new system of water rights was evolving in the West that treated water as a commodity, facilitating the creation of water monopolies in the hands of water companies. Powell’s report protests the development of this new legal standard of water rights, advocating the riparian system established in the East: “The right to use water should inhere in the land to be irrigated and water rights should go with land titles…Water rights are practically being severed from the natural channels of the streams.”

While others were separating water rights from property rights in the West, Powell was decrying the divorce of the two: “The user right should attach to the land, not to the individual or company constructing the canals by which it is used.”

In the wake of the report, Powell lobbied for a legislative component to his recommendations with little success. Somewhat unsurprisingly, his efforts failed because the same economic interests that sought to develop the resources of the West—the ones he criticized in his reports—set the tone in Congress on the topic of western development. It would seem that Powell’s vision was far more unrealistic and unpopular than the agendas of those shaping land and water use in the West at the time.

Powell’s report reflects a sober, pragmatic assessment of the land use potential of the West. Resisting the enthusiasm and excitement of western development that was rampant at

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27 Ibid, 53.
28 Ibid, 54-5.
29 Ibid.
30 Worster, River, 358.
the time, Powell wrote a commonsensical outline of the promises and challenges of developing the region. While it fell on deaf ears at the time, Powell’s report and his subsequent overtures in Congress and Washington represented a practical and reasoned approach to western development amidst a whirlwind of inflated optimism regarding the issue. Furthermore, Powell elevated the practice of scientific research and resource management to the level that it deserved.

Nonetheless, this legacy within Washington would all be for naught given Powell’s results to this point in his life. While he certainly advanced knowledge of the West, the overwhelming neglect of his suggestions by those in power precluded him from the initial level of prominence and respect that his achievements should have warranted. But this did not spell the end of Powell’s career; with the assistance of Senator William Stewart of Nevada, Powell would become a major figure on irrigation in Washington. Unfortunately for Powell, he would eventually once again be greeted with the same level of contempt and disregard that he experienced in his first encounter with Congress.
Chapter 2: Big Bill Stewart and the Irrigation Survey

William Morris Stewart returned to Washington 1887 ambitious to resume the position of prominence and power that he had previously occupied as a Senator from Nevada. After spending twelve years out of the Senate, Stewart returned to politics by renewing some of his previous campaign issues. Running for the Republican nomination, Stewart ran on a platform focused on three issues unique to Nevada: annexation of territory from Utah and Idaho, remonetization of silver, and western irrigation. Stewart saw the difficulties that Nevada faced in trying to promote economic advancement, and to that goal, Stewart ran on a platform that sought national attention for statewide problems. On January 11, 1887, Stewart was chosen by the Nevada legislature as the next Senator from Nevada.31

After meeting setbacks in his pursuit for annexation of Utah, Stewart moved to irrigation, a familiar topic to him. In 1873 during his first stint in Congress, Stewart introduced and advocated a bill that would provide federal support for an irrigation survey in the San Joaquin and Tulare valleys of California, marking the first time that the federal government supported an irrigation survey. Furthermore, during his respite from politics, Stewart bolstered his knowledge of water law by working with California landholders as legal counsel and became intimately involved in the development of California water laws. Stewart’s interest in irrigation was based on the belief that economic progress in Nevada was directly tied to reclamation of the state’s agricultural lands. Within the first year of his term, Stewart vigorously pursued his campaign promise of an irrigation solution for Nevada. In

December, he actively sought legislation that would benefit the development of irrigation in Nevada, such as designating and reserving sites for reservoirs.\textsuperscript{32}

John Wesley Powell, as Director of the Geological Survey, soon became enlisted in Stewart’s campaign. Stewart and the Senate asked Powell to estimate the cost of a comprehensive irrigation survey of the West to assess the potential for reclamation in the region, and to “‘segregate the lands susceptible of irrigation…from other lands,’ and designate ‘places for reservoirs, canals, and other hydraulic works.’” Powell, after initially answering $250,000, went on to say that a truly comprehensive investigation of the region would cost $5.5 million, most of which would go towards compiling topographic information that would make clear the best sites for irrigation in the West.\textsuperscript{33}

Powell’s initial testimony ultimately led to an appropriation to fund an irrigation survey of the West. Speaking before the Senate in July 1888, Stewart lauded the potential boon in knowledge to be gained from Powell’s work, in addition to the practicality of such an undertaking. Furthermore, Stewart declared the urgency of this matter in no uncertain terms, calling the issue an “emergency,” as “the places for reservoirs are being taken by private parties.”\textsuperscript{34} Powell’s survey would map out the topography and the geology of the arid region, the topography survey being, in Stewart’s words, “the most important part of this geological survey.” However, Stewart went on to say that, while the topography was the principal expense of the appropriation, the irrigation survey proposed was of foremost importance, as it would designate what lands could be irrigated successfully. While Stewart touted the scientific gains to be gleaned from Powell’s work, his focus was unmistakably on finding reservoir sites in the region. He continually returned to this promise in his support for the bill,

\textsuperscript{32} Ibid, 113.
\textsuperscript{33} Worster, River, 473.
\textsuperscript{34} Congressional Record, 50\textsuperscript{th} Cong., 1\textsuperscript{st} Sess., 7031.
but often with the distinction that this bill would only fund a survey for reservoir sites, not the actual construction of any reservoirs or other irrigation structure.\(^{35}\)

Stewart was able to secure an appropriation for Powell’s Irrigation Survey in the Sundry Civil Appropriation Bill of October 2, 1888. The appropriation was only $100,000, less than half of Powell’s initial estimate of the work to be done. But it was nonetheless a modest victory for the Senator that flew back into Washington with a very clear mission: promoting irrigation in Nevada by any means necessary.\(^{36}\) In addition, Stewart was able to successfully establish the Select Committee on Irrigation and Reclamation of Arid Lands as a subcommittee of the Public Lands Committee.\(^{37}\) William Stewart, in his second stretch as a Senator, was quickly asserting himself as one of the key politicians dealing with irrigation in the West. The appropriation for the Powell Survey seemed as if it was a mutually beneficial blessing for both Stewart and Powell. With Powell in his fold, Stewart could potentially bring a swift solution to both Nevada and the West’s irrigation woes. And with this appropriation, Powell received another shot at promoting sustainable and responsible reclamation in the West.

However, the relationship did not play out so nicely. The arrangement began to disintegrate when Stewart took his newly established Senate subcommittee on a tour of the West. Powell had been working vigorously to map out potential reservoir sites in the West. Powell’s group had selected 127 reservoir sites, and surveyed 34 of them, earning him a renewal of his appropriation for $250,000.\(^{38}\) In the summer of 1889, Stewart began his jaunt of the West to promote the Survey. Quickly, Stewart could see that he and Powell had widely

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\(^{35}\) Ibid, 7014-5.


\(^{38}\) Worster, \textit{River}, 479.
differing views on the future of irrigation. On August 5, 1889, Powell spoke before the North Dakota Constitutional Convention in Bismarck, saying:

*Fix it in your constitution that no corporation—no body of men—no capital can get possession and right of your waters...What is ownership of land when the value is in the water? You should provide in the constitution which you are making...that property in water should be impossible for individuals to possess. You should forbid the right to acquire property in water.*

As the tour moved to Montana, Powell once again espoused the same populist principles that he had spoke of in North Dakota. As before, Powell recommended that the state constitution include protections against the control of water by corporate interests, such as mining, with agriculture as the chief focus of the state’s economy. While Powell’s comments were unlikely to spur any kind of major change, they certainly caught the attention of an unsuspecting Senator Stewart. Stewart was concerned enough by Powell’s comments to write to him expressing concern that Powell was losing sight of his mission. “I fear that we will not be in a position to make a good showing as to my state,” wrote Stewart, evincing his growing anxiety in Powell’s ability to reach the findings that he wanted.

Up to this point, any tension between Powell and Stewart was concentrated below the surface, limited to the growing suspicions of Stewart and the irrepressible ambitions of Powell. This drastically changed late that summer when the Idaho Constitutional Convention informed the Secretary of the Interior that speculators were following Powell’s crew and filing claims on the potential reservoir sites that had been surveyed. An amendment in the 1888 appropriation bill was included to prevent this type of land speculation in response to Powell’s survey, inserted by Representative George Symes of Colorado. The amendment

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withdrew from settlement “all lands made susceptible of irrigation.” Stewart himself had discussed the wording of the amendment in the Senate, agreeing to such wording: “all the land which may be designated for reservoirs and canals for irrigations shall be reserved as the property of the United States and shall not be subjected to entry or settlement until hereafter provided for by law.” However, local land offices in Idaho did not receive notice of this amendment until August 5, 1889. Secretary of the Interior John Noble then quickly instructed the Commissioner of the General Land Office, William M. Stone to “immediately cancel all filings made since October 2, 1888, on such sites for reservoirs, ditches or canals, whether made by individuals or corporations, and…hereafter receive no filings on any such lands,” ultimately rescinding any claims made since the organization of the Irrigation Survey.

Solicitor General William Howard Taft’s opinion on the matter only fed the flames of outrage voiced by many western Congressmen following the Land Office’s action. In his opinion, Taft essentially extended the amendment to include not just possible reservoir sites, but all public land in the arid region. By Taft’s judgment, all public land to the west of the hundredth meridian was now closed to entry, effectively repealing existing land laws that governed public lands in the arid region. Naturally, an outraged Stewart blamed Powell for the whole affair. Whether or not Powell actually had a hand in the matter, Stewart convinced himself that he did, stemming from the growing distrust that Stewart had in Powell’s ability to efficiently and quickly map out irrigable land in the West.

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42 *Congressional Record*, 50th Cong., 1st Sess., 7031.
44 Ibid, 426.
Stewart’s suspicions of Powell’s involvement in the controversy were not completely unfounded. In the 10th Annual Report of the U.S. Geological Survey to the Secretary of the Interior, written by Director Powell, Powell advocated withdrawing all of the public lands of the arid region from settlement. Powell wrote that the best solution to the problem of disposing of the irrigable lands was to “withdraw all the lands of the arid region from ‘sale, entry, settlement, or occupation,’ except those selected as irrigable lands,” allowing only these entries through homestead and desert land laws. However, it is still a far stretch to say that Powell had a hand in the proclamation withdrawing all of the lands. Earlier in the report, Powell advocates the same scheme that Stewart had envisioned: ceding the public lands to the states to be used as a source of revenue. Powell promoted this strategy as a solution to the problem of what he called “divided jurisdiction”: placing the control of the rivers and water in the hands of the state, but leaving the lands in the hands of the United States Government. Powell’s recommendations rested in a pragmatic analysis of the situation, and while he certainly did suggest withdrawing all of the public lands in the arid region, it is a considerable leap to blame Powell for the ultimate action taken by the Secretary of the Interior based upon his report.

Even if Powell had not directly instituted the repeal of those public lands, Stewart suddenly realized the immense power that he and Congress had bestowed upon Powell. As Powell biographer Wallace Stegner wrote, “[The irrigation survey appropriation] had made him, so far as the development of the West went, the most powerful man in the United States.” Becoming all too aware of this fact, Stewart began a public campaign to discredit

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46 Elliot, Servant, 116.
47 USGS 10th Annual Report, Part II, 27.
48 Stegner, Beyond, 319.
Powell, a crusade that bordered on monomaniacal. Stewart was willing to take himself and irrigation down if it meant that Powell went with them, saying, “In the conflict [with Powell] there is great danger that the whole matter of irrigation will be defeated altogether. But I would rather be defeated than have the whole country tied up under Powell.”

Stewart launched his merciless campaign to vilify Powell in spring 1890. Stewart and his irrigation subcommittee released a report in two parts addressing western irrigation. The majority report, written by Stewart and joined by the other Republicans on the committee, advocated transferring the survey over to the Department of Agriculture and out of Powell’s hands. By doing so, Congress would be “giving ‘full play to the enterprise of the pioneers of the west.’” The minority report, written by the Democrats, recommended the antithesis, warning that if the survey is taken out of Powell’s leadership, and if Powell’s blueprint for the West is not adopted, “the lands and the water of the arid West will be aggregated in the hands of the wealthy few.” When his majority report was not enacted immediately, Stewart adopted a more direct approach to crushing Powell. Speaking on the Senate floor, Stewart publicly questioned Powell’s use of his appropriation. Specifically, Stewart called into question Powell’s use of his appropriation for the Irrigation Survey to create topographical maps. On May 29, 1890, Stewart pointed this out to the Senate, stating that Powell “had no right to use one cent of the money appropriated for irrigation for a topographic survey.” However, just two years prior, Stewart was on record in the Senate advocating these same topographic surveys: “The most important part of this geological survey is the topographical

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49 Elliot, Servant, 116-7.
50 Worster, River, 500.
51 Ibid.
52 Congressional Record, 51st Cong., 1st Sess., 5419.
survey. That is the foundation of the geological survey. You must have the topography in order to give the geology."\textsuperscript{53}

Either Stewart failed to see the implicit correlation between topographic mapping and reservoir site selection, or he had a convenient change of heart on the matter of topographical maps. Stewart was incredulous of the fact that Powell was spending his appropriation on topography, despite the fact that he was present in the Senate just two years prior when it was clearly pointed out that 80\% of Powell’s irrigation appropriation would go toward topographic survey. He nonetheless took the opportunity to publicly blast Powell as unscrupulous and power hungry, stating, “if the settlers of the West are turned over to Major Powell, with his views on this subject, with his absurd notions of the necessities of topographical surveys…there can be no development or progress in the West for years.”\textsuperscript{54}

Stewart worked vigorously all summer to remove Powell from power. Despite little success initially, Stewart was able to assemble a group of like-minded Senators from the West who had similar apprehensions about Powell’s ambitions. On July 2, Powell was called before the appropriations committee, which included Stewart and other western Senators unhappy with Powell’s progress. Stewart and the others on the committee were mostly concerned with Powell’s vision of how the West would be irrigated. Powell was asked point blank about how the irrigation structures he envisioned would be constructed by “private enterprise,” to which Powell replied in the affirmative.\textsuperscript{55}

The general philosophy of many on this committee was starkly against government development of irrigation. Rapid settlement of the West by private enterprise defined the outlook of most of these Senators, such as Senator Sanders of Montana, who made the

\textsuperscript{53} Congressional Record, 50\textsuperscript{th} Cong., 1\textsuperscript{st} Sess., 7014.
\textsuperscript{54} Congressional Record, 51\textsuperscript{st} Cong., 1\textsuperscript{st} Sess., 5420.
\textsuperscript{55} Worster, River, 504
conclusion that Powell’s Irrigation Survey was based upon the belief in a paternal government, devoid and repressive of private investment and initiative. In his belief, “government [cannot] do any better for these people than to leave it to their instincts and sagacity and their own care for themselves.”\textsuperscript{56} In other words, the government should play no role in advancing irrigation. The members of the committee thus saw Powell standing in stark contrast to their own ideology, suspicious that he advocated an anti-capitalist, progressive approach to irrigation. This was simply not the case, as evidence by Powell’s testimony and his own extensive reports through the years. But it did not prevent the committee from questioning his motives; while he may have voiced his preference for private initiative in western development, his Irrigation Survey left him open to questions of whether or not he actually preferred private enterprise.

Stewart aimed to portray the Irrigation Survey as just another ineffectual bureaucratic invention run by another self-serving bureaucrat. Stewart wanted Powell to appear as harmful to the cause of western development, bent on conducting his own ambitious research with the government footing the bill. According to Stewart, Powell was just another do-nothing scientist who had fooled Congress into funding his work. On the topic of selecting reservoir sites, which Powell was instructed to do in the initial Irrigation Survey appropriation, Stewart claimed that Powell had accomplished nothing, marking no reservoir sites on maps and not starting any of the work that Congress has charged him to do, going so far as to say that Powell “has not marked one that can be exhibited on the map. He cannot show it. He says he has not.”\textsuperscript{57}

\textsuperscript{56} Ibid.
\textsuperscript{57} \textit{Congressional Record}, 51\textsuperscript{st} Cong., 1\textsuperscript{st} Sess., 7276-8.
While Stewart’s statement was not completely true, he came to this conclusion as a result of a letter from the Commissioner of the General Land Office, Lewis Groff, to Secretary of the Interior John Noble, dated July 7, 1890. Stewart wrote to Groff on July 5 to inquire about the progress of the Irrigation Survey—namely, whether the General Land Office had received any information from Powell in order to segregate reservoir sites and irrigable lands, as well as the nature of any reservations Powell made on the maps. In his response, written to Noble, Groff stated that, as a result of the October 2, 1888 appropriation, the “reservation [of reservoir sites] does not…depend upon the designation of the lands by [Powell], but it is general within the terms of the statute itself.” Furthermore, regarding the lands selected by Powell, Groff wrote that, “the description of the tracts selected for reservoir sites…may be understood as indicating the location of the actual site…but this office is, of course, without information as to the precise locus of the contemplated reservoir…beyond what may be inferred from the limits of the described selection…It is stated in some cases that more accurate descriptions of the sites will be hereafter furnished by the Director [Powell].”58 Stewart took Groff’s reply to mean that Powell was either concealing the potential reservoir, or he just didn’t have any. Taking advantage of Powell’s apparently vague reports to the General Land Office, Stewart took the opportunity to discredit Powell’s work.

All of this ran counter to Powell’s own reports as Director of the Geological Survey. His 10th Annual Report of the USGS for 1888-1889, printed in 1890 contained a second volume devoted solely to the Irrigation Survey. In this addendum, Powell reported that 127 reservoir sites had been segregated, and of these, 34 had been surveyed. Additionally, 4 canal

58 Ibid.
sites had been surveyed between Montana and Colorado. In total, Powell segregated 30,555,120 acres of irrigable lands in just his first year of work.\(^5^9\)

The investigations of the committee entered the debate of Congress on July 15 to determine whether to renew the appropriation or not. The debate lasted several days, with Stewart as the chief opponent to Powell’s appropriation. By this point in the summer however, he was not alone. Preston Plumb, who had been concerned with Powell since the beginning, charged that Powell had artfully crafted his survey so that no one could ever settle the arid lands. Powell also had allies during this time. Many in the Senate spoke out in favor of the amendment reserving lands from entry, and Senator James K. Jones was one of the most outspoken defenders of Powell’s work at one point directly criticizing Stewart’s stance. In response to Stewart’s comments that the topography work was of no value to the Irrigation Survey, Jones incredulously retorted, “But the Senator from Nevada seems to think that it is a matter of no consequence and no concern as to how much water falls in any given watershed,” alluding to Powell’s topographic maps and their potential to predict the storage capacity of surveyed reservoir sites.\(^6^0\)

Senator John Reagan of Texas also bolstered Powell’s position. Reagan had been a vocal supporter of Powell and his work in the past, and he routinely went on record in the Senate during this debate in defense of Powell. Reagan, along with Jones, also happened to hold a seat on Stewart’s Committee on Irrigation and Reclamation of Arid Lands. Following the May hearings held by the committee, Reagan, Jones, and Senator Gorman of Maryland penned the minority report intended to not only combat the mischaracterizations contained in Stewart’s majority report and to defend Powell and his work. The minority report cited the

\(^{5^9}\) USGS 10\(^{th}\) Annual Report, Part II, viii.
\(^{6^0}\) Congressional Record, 51\(^{st}\) Cong., 1\(^{st}\) Sess., 7321.
errors contained in the majority report—specifically, that the topographic survey was not intended to be part of the irrigation survey. Topographical work had been part of the Geological Survey’s work for years prior, and the Irrigation Survey appropriation was reportedly intended to be autonomous to any topographical work. The minority argued however, that it was impossible to segregate the two bodies of work, pointing out that the initial appropriation called for Powell and the Survey “to make the necessary maps.” The topographical work was vital to the success of the Irrigation Survey, and to argue that Powell misappropriated his funding by using it on topographical work was a “baseless” charge.  

But their efforts could not save Powell and the Survey. Just over a month later, the Senate finally ended Powell’s appropriation when eastern Senators sided with western Senators eager for Powell’s dismissal.  

Powell, who two years prior possessed what seemed like limitless political capital, had now been rejected and destroyed by the same Senator who had empowered him. While the dispute between Stewart and Powell had been closed, large questions remained about the future of western irrigation and the government’s role in that future.

Stewart’s crusade to vilify Powell ultimately ended the Irrigation Survey. The clash between Stewart and Powell is an example of a recurring conflict of two irrigation ideologies: the protection of wealth and private industry on the one hand, and the interest of the small-scale farmer on the other. In this instance, neither party truly won. Powell was unable to implement his strategy for development, and Stewart was unable to further open the West to private industry. Stewart actually severely limited the success of his own irrigation ideology by enlisting the federal government to become involved. The Irrigation

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61 Ibid, 7284.
62 Worster, River, 505.
Survey set a precedent that the government would play a role in irrigation and western development, setting the stage for national reclamation a decade later. But the decade that followed was characterized by stagnation and a lack of direction for irrigation as a result of the Irrigation Survey and its tumultuous end.
Chapter 3: William Smythe and the In-between Years

Following the defeat of the Powell Irrigation Survey, the question of irrigating the public lands in the West was still unanswered. In the aftermath of the survey, a decade of stagnation and failed efforts to implement an effective program of irrigation followed. The topic was pushed to the backburner on the national level because of the Stewart-Powell feud, and both men moved on to other topics. Stewart disavowed irrigation and shifted back towards his most consistent political interest, silver. On the issue of irrigation, Stewart concluded that, “it must be prosecuted by private enterprise and not otherwise, and that all the Senators and Representatives from the West can accomplish is to secure laws suitable to the development of the country and such as will permit labor and capital to be united in developing these desert lands.” While this statement is completely in line with Stewart’s political ideology, it leaves unanswered why he supported Powell’s work. The Irrigation Survey never called for the construction of federally funded reservoirs and other projects, but if Stewart wanted a purely private solution to the issue, it would have been more advantageous to keep Powell and the federal government uninvolved, indicating that Stewart’s own approach to irrigation may have become clearer to him after securing Powell’s assistance.

Likewise, Powell turned his attention to other responsibilities. In addition to being the Director of the U.S. Geological Survey, he also served as the Director of the Bureau of Ethnology. And despite Powell’s defeat, he still remained as the foremost figure on the topic of irrigation. In the years following the Irrigation Survey, his expertise continued to be highly regarded, and questions regarding irrigation routinely came to his desk from those seeking

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63 Elliot, Servant, 117.
irrigation solutions. In each of his responses, he lamented the mistakes of western irrigation schemes to the present, and continued to advocate a “commonwealth” approach, based in community planning and regulation of resources.64

Yet, despite Powell’s relatively strong standing on the issue of irrigation in circles outside of government and his ability to voice his opinions freely, government would still be able to determine the fate of science and the course of his projects. Indeed, the dissolution of the Irrigation Survey proved to foreshadow the coming era in science. With the Democratic administration of Grover Cleveland in office, science generally suffered a blow, as the new regime was demonstrably cool to the sciences. Lavish appropriations became a thing of the past in the new era of fiscal conservatism. In an effort to redefine himself and the USGS, Powell began to appeal to his past days as explorer, and claimed lineage to the exploration legacy that began with Thomas Jefferson and Lewis and Clark. Powell attempted to validate the work of the USGS and the defunct Irrigation Survey by marrying them to a long tradition of frontier exploration and natural curiosity.65

Nonetheless, Powell could not prevent the budget cuts that were imminent, nor could he end Stewart’s scorn. Stewart’s vendetta against Powell shaped much of the debate on the issue of scientific appropriation during the 1892 budget deliberations. Directly calling into question the work of the USGS, Stewart charged it was “nonsense,” and represented a “mockery of science.”66 Not only did Stewart assail the Survey, he did not relent in his crusade against Powell, continuing his charge that Powell was a conniving, self-serving bureaucrat, solely interested in attaching his name to more and more projects by manipulating politics in Washington, stating that, “[Powell] knows too well how to fool the

64 Worster, River, 508.
65 Ibid, 511.
66 Congressional Record, 52nd Cong., 1st Sess., 5889.
people; he knows too well how to hire admirers...he knows too well the geology of the District; ...But he knows too little of the geology of the earth, and he has recorded too little of it to satisfy me.”

Even two years after Stewart had successfully killed the Irrigation Survey, Stewart’s enmity towards Powell had not subsided, signaling that the clash of these two ideologies had not ceased.

With the failure of the Irrigation Survey, and the general disregard for scientific research ubiquitous in Washington during the early years of the decade, a vacuum opened on the irrigation issue. Because of Powell’s fall from power, the topic moved to the back burner, and a new leadership was slow to surface. Yet, with no national policy decided or implemented and no realistic options offered by the government, a new movement began to take hold. Indeed, a new fervor among westerners was sparked in the wake of the Irrigation Survey. William Smythe emerged as the leader of the new approach on irrigation. Smythe, a former newspaperman from Omaha who decided to pursue the “conquest of arid America,” heralded a new day in irrigation with the publication of the *Irrigation Age* journal featuring articles highlighting the future of irrigation in the West. He branded his new, invigorated movement as “a philosophy, a religion, and programme of practical statesmanship rolled into one.”

In an effort to formulate a consensus on irrigation, Smythe and others facilitated the International Irrigation Congress in 1893 in Los Angeles. The Congress brought together leading figures on Irrigation, including Powell. Despite the end of the Irrigation Survey and the overall failure for a national irrigation policy to take hold, most of the attendees were remarkably optimistic regarding the future of irrigation. Rather than pessimism, the Congress

67 Ibid, 5890.
69 Smythe, *Conquest*, 267.
was characterized by optimism and an inspired sense of enthusiasm in the prospect of western development, driven by the technology and ingenuity of irrigation. The Congress was the dawn of a new day for western expansion. The delegates to the Congress, as proclaimed by Robert Brewster Stanton, were eager for the “future possibilities of the great empire that is being built up in the arid regions of America upon a foundation of pure, sparkling water.” Irrigation was the tool that would enable the expansion of a new imperial age in America, the conquering of the next great frontier. If there was any sense of trepidation to move forward with western expansion in the wake of the crushing defeat of the Irrigation Survey, it could not be found from the majority of the delegates to the Congress. Smythe’s *Irrigation Age* further reinforced the optimism collected during the Congress. In one issue, Smythe declared that:

> The year of 1894 will be the greatest year in the history of American irrigation. This may not be true in miles of ditches built, or the number of acres reclaimed, but it will be true in a sense that is far beyond the matter of ditches and acres, for irrigation is now a problem of institutions and a civilization...1894 will surpass all the years of the past...in what it will add to the history of American irrigation.

Smythe’s pronouncement embodied the spirit of the new movement that had taken hold on irrigation. It represents the different tone on irrigation advocated by Smythe and others, a rhetoric that was not quite new, yet certainly unique. The themes of progress and development were of course present. But Smythe’s movement was not driven by agriculture and the promise of merely surviving in the desert as irrigation had previously promised. Smythe and others promoted the productive capacity and potential for new industry that the West held. Railroads and mining would spur a new age of production and development, and

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71 William Smythe, “The Progress of Western America,” *Irrigation Age*, VI, no. 1, 2.
new expansion would spring up in the desert. Irrigation would unlock all of this western
development.

Smythe was leading a “social revolution,” with irrigation as its Bible.\textsuperscript{72} He envisioned
a new industrial day in the West, the new American empire. As historian Stanley Davison
points out, “To [Smythe] the special value of irrigation was in the institutions which he
believed would arise from it…and these institutions were largely of a communistic nature.”\textsuperscript{73}
Davison’s observation notes the communistic nature of new institutions in the West, drawing
a comparison between Powell and Smythe. By describing Smythe’s vision in this way,
Davison calls to mind the anti-monopolistic stance of Powell, and his belief that the lands of
the arid region should be reserved for the small farmer, free from the control of water
companies, as espoused in Powell’s \textit{Report on the Lands of the Arid Region}. Furthermore,
Smythe and Powell both placed importance on the element of democracy as it concerned
irrigation. Powell had previously written that the lands of the West should be protected from
the “rapacity of individuals,” guarded by “an equitable division of the waters,” conducted by
publicly organized bodies.\textsuperscript{74}

Similarly, Smythe placed great emphasis upon the ability of irrigation to foster
democratic structures and values. Smythe ascribed to irrigation the ability to originate
democracy. In the imminent empire that was forthcoming on the shoulders of irrigation,
democratic structures would rise up in the American tradition. Irrigation stimulated utopian
political structures, allowing the ideal form of governance to take hold. Smythe attached lofty
goals to irrigation when discussing democracy in the West, stating, “The essence of the

\begin{footnotes}
\item[73] Ibid, 140.
\item[74] Powell, \textit{Report}, 50.
\end{footnotes}
industrial life which springs from irrigation is its democracy. The first great law which irrigation lays down is this: There shall be no monopoly of land." Irrigation would keep in check the abuses of the land that had been feared in the past.

However, there is a subtle yet key difference in these two approaches. While Smythe believed that democracy would be fostered by irrigation, Powell espoused the view that democracy would need to be fostered in order for irrigation to take place. Powell did not make the same connection as Smythe, seeing any future western development to be indelibly tied to the initial adoption of adequate political structures rooted in small community planning and equality prior to the organization of future irrigation projects. The difference in the cause and effect analysis of irrigation and democracy by Powell and Smythe may seem negligible, but it is not; the optimism and idealism of Smythe is countered by the persistent pessimism of Powell, who advised the often difficult preparatory step of creating the necessary political structures in order for irrigation and reclamation to flourish, embodying two wholly different ideological approaches to irrigation and reclamation. The contrast exemplifies the transitioning rhetoric during this time period. Just as Powell was defeated, Smythe captured one of his most noteworthy themes, democracy, and imbued it into his own appeals on the topic, successfully subscribing to Powell’s legacy while not truly embodying it.

Powell, despite his precipitous fall in the preceding years, still held a massive stature in irrigation circles, large enough to be extended an invitation to the Irrigation Congress that was being planned. Frederick H. Newell, Powell’s assistant, attended the Congress along with him, rounding out the variety of representatives that composed the delegation. In addition to other government figures such as Powell and Newell, representatives from water

75 Smythe, Conquest, 43.
companies and other capitalists attended, encompassing a diverse field of opinions on the purpose and promise of irrigation, as well as newly converted enthusiasts of irrigation. Smythe hoped that assembling a varied group of attendees would enable the Congress to adopt a unified stance on irrigation and move forward with proposed solutions to irrigating the West.\footnote{Davison, \textit{Leadership}, 148-9.}

On the final day of the Congress, Powell spoke before the body of delegates. His address started without much to turn any heads. The opening paragraphs of his address sounded much like the majority of the oratory delivered during the Congress. At one point, Powell subscribed to and reinforced the recurring theme practiced and preached by many of the delegates: “My prime interest is in such a system as will develop the greatest number of cottage homes for the people,” to which Powell received applause.\footnote{\textit{Irrigation Congress}, 108.} Powell’s speech quickly took a sharp turn away from the popular rhetoric that characterized the Congress, however. Prophesizing a cautionary tale to the attendees, Powell warned, “When all the rivers are used, when all the creeks in the ravines, when all the brooks, when all the springs are used, when all the reservoirs along the streams are used, when all the canyon waters are taken up…there is still not sufficient water to irrigate all this arid region.”\footnote{Ibid, 109.} The audience was so aghast at Powell’s speech that he was interrupted and peppered with questions before he could even finish his speech.

If there was any question whether Powell subscribed to Smythe’s vision or not, it was clearly and unequivocally answered at the Congress with this statement. Powell had once again become the sober cynic that attempted to impart more realistic expectations upon the Congress delegates, with little success. Backed by his own scientific research and
exploration, Powell was unable to see further development in western irrigation, firmly stating that, “not one more acre of land should be granted for individuals for irrigation purposes.” Yet, the delegates reacted incredulously to his speech, disregarding the years of experience he brought to the podium. Smythe even moved to have Powell’s comments stricken from the record, fearful of the effect that they might have by discouraging settlement in the West.80

Following the speech before the Congress, Powell could no longer lead the way on irrigation. Decades of research, exploration, and writing on the topic had come to a tumultuous end at the Irrigation Congress with his denunciation of western development. Powell had committed the greatest sin possible: he spoke out against efforts to reclaim the West. His public attack on irrigation was a heresy that could not be tolerated, and he had to be ousted from the movement as a result. Smythe and the Irrigation Congress, like Stewart, came to see Powell as a bust. Their views diverged for whatever reason after finding considerable common ground. Ironically, the official motto that greeted all of the attendees of the Congress across the main stage was “Irrigation: Science, Not Chance.”81 Nevertheless, the Congress summarily dismissed the scientific credentials of Powell because they flew in the face of everything the Congress stood upon, and his remarks conflicted with the interests of most in attendance. Smythe and the Congress organizers utilized this slogan to validate their crusade to bring development to the West, but they lacked that scientific presence once Powell broke with the status quo of the Congress. Soon, Smythe became the popular face of the irrigation effort in the West. During the course of the Irrigation Congress, Smythe was nominated for a position of national prominence, worthy of such recognition because he

79 Ibid.
80 Ibid, 116.
81 Ibid, 5.
stood “more prominent, more pre-eminently connected with irrigation ideas and the progress of irrigation than any other man in this country.” Smythe was the newly crowned leader of irrigation, putting an end to the decades under Powell’s leadership.

Thus, a new age of irrigation was officially ushered in under the tutelage of William Smythe. The decision to adopt this school of thought on irrigation would have a rippling effect for years to come on the topic. The Irrigation Congress had not only made a decision regarding its de facto leader, but also made a decision concerning the direction of irrigation, reclamation, and western development. The decision likely seemed extremely natural and logical: on the one hand was John Wesley Powell, who unequivocally stated that no more development could take place in the West, and on the other was William Smythe, who celebrated the future of the West and all of the wealth it held in store. Yet, Powell’s decades of exploration and experience with the Geological Survey and the Irrigation Survey weren’t included in this picture. Instead, the greatest number of people possible would occupy the West, despite Powell’s warnings. Some historians have since found foreshadowing of failures to come in the Irrigation Congress’ rejection of Powell. Davison wrote that by preferring Smythe over Powell and what “could have been salvaged from [his] time-ripened but outdated plan, [the Irrigation Congress] opened the way for the eventual collapse which brought federal reclamation…and the fumbling which has characterized it since.” With the advantage of hindsight, Davison points out that Smythe and his disciples created the atmosphere that led not just to federal reclamation, but to a federal reclamation that tried to do too much and satisfy too many. The multipurpose society that Smythe envisioned set the tone for years to come. The Irrigation Congress represented the obvious break between the

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82 Ibid, 155.
81 Davison, Leadership, 159.
age of Powell and the age of Smythe, an ideological break more than anything else. It served as the demarcation between the old and the new, between Smythe and Powell. Gone was the era of reason and research, replaced by a new age of sentiment ushered in by Smythe. As Davison summarized the Irrigation Congress, “The episode marked the triumph of the emotional over the intellectual elements in the irrigation movement.”

Despite the enthusiasm that the Irrigation Congress initiated, 1893 was a difficult year for irrigation. Nationally, progress continued at a sluggish pace, exacerbated by economic depression and drought. The economic downturn especially made a substantially negative impact upon irrigation by 1894. In the wake of the Powell Irrigation Survey and Stewart’s jaunt to the West with other senators in 1889, commercial water companies sprouted in the region. But just as quickly as they had sprung up, the companies faced the reality of finding water in a harsh, arid land, as well as the imminent threat of economic failure.

Nonetheless, Smythe and his ilk saw the state of affairs in 1893 as a challenge, an opportunity for the irrigation movement to boast its strength, and to flaunt its ability to thrive in difficult circumstances. Smythe was seemingly of the belief that irrigation could not fail. In his view, any irrigation venture with sufficient motivation was infallible. In *Irrigation Age*, he wrote, “No irrigation enterprise having sufficient merit to sell its securities in the market has any business to fail.” But Smythe’s pronouncement did not protect everyone. Evidencing the instability and potential for failure within the commercial irrigation industry, the Bear Valley Irrigation Company of Redlands, CA, failed and spiraled into debt. According to Smythe, the consequences of Bear Valley were considerable, writing in *Irrigation Age*, “It affected not only those immediately interested as owners of its stock or

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84 Ibid, 164.  
patrons of its water supply, but it was felt wherever irrigation enterprises were in the process of development and wherever irrigation securities were being offered for sale.\footnote{William Smythe, “A Type of Irrigation Investment,” \textit{Irrigation Age}, VI, no.6, 239.} In light of Bear Creek and the speculation that led to its collapse, Davison calls into question the profitability and security of selling water in such a hostile environment. If anything, Bear Creek represents the volatility of capitalizing upon a fleeting resource that could disappear from season to season and year to year. Aside from the availability of water and feasibility of commercializing it in the West, dam construction served as another obstacle to success for water companies. Exemplifying the failure of private initiative and investment in irrigation, dam failures throughout the West were inevitable when companies took the most limited steps to survey reservoir sites, and often built unsafe dams.\footnote{Davison, \textit{Leadership}, 188-9.}

While Smythe certainly supported these private initiatives, he was more than amiable to a federal program designed to spur development. The Irrigation Congress exhibits his eagerness to adopt this strategy if it meant the West would be developed. Yet, Smythe was not open to any and all efforts by the federal government. Smythe was more than displeased with the passage of the Carey Act, penning a response in \textit{Irrigation Age} titled, “Carey Bill Obnoxious.”\footnote{William Smythe, \textit{Irrigation Age}, October 1894, 163.} The act promoted irrigation by granting public lands with the expectation that they would be irrigated. The question of appropriating public lands was very much at the heart of the irrigation debate, and Smythe took issue with the approach that the Carey Act represented. However, politicians were ultimately experimenting with irrigation when they passed the Carey Act, a fact that Smythe was blind to. As Davison points out, the bill was merely intended to make progress in irrigation legislation, not enact sweeping change throughout the West. As a consequence of the Powell Irrigation Survey of the preceding...
decade, many westerners expected government development after having seen government surveyors throughout the region. Accordingly, representatives supported the Carey Act to bolster the idea that the government was making progress on irrigation.  

In the end, the Carey Act failed to stimulate the type of irrigation development that was desired. Only Wyoming, the home state of the bill’s author, took part in the program that the bill enacted, with only six other states committing minimal involvement. However, the Carey Act was important because it was a step in the direction of federal reclamation. As Davison points out, “The Carey Act is sometimes described as the intermediate step in which irrigation was sponsored by the states, in contrast to an era of private construction before this time, and one of federal reclamation since 1902.” As the West moved away from the monopolistic capitalism of Stewart, the communal planning of Powell, and the industrial vision of Smythe, the Carey Act became the bridge to the Newlands Reclamation Act of 1902 and the era of progressive reclamation. Despite the fact that the bill was ultimately unsuccessful in promoting irrigation, it did foreshadow what was to come just several years down the road.

The Irrigation Congress of 1893 initiated a decade of halting progress on irrigation and reclamation. Not for lack of effort, Smythe’s campaign failed to usher in the new American imperial age that was heralded and celebrated at the Congress, and later awaited for throughout the decade. Irrigation proponents would have to wait until the 1902 Newlands Reclamation Act to see substantial progress of any sort. Furthermore, the late 1890s was a sober moment for irrigation, as both Smythe and the Carey Act both fell short of irrigating the West. In the aftermath, only the most diehard of irrigation evangelists did not pause to

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90 Davison, Leadership, 197-8.
reevaluate the purpose and direction of the cause. Despite the somber reassessment at the end of the decade, the tone set at the Irrigation Congress shaped the future of irrigation and reclamation. By rejecting the advisement of Powell to restrict settlement in the desert, Smythe and others had fundamentally reinforced the idea that the West should be opened to limitless expansion and development, while failing to take into account Powell’s decades of exploration and observation, as well as his experience with the U.S. Geological Survey.

Smythe’s irrigation movement attempted to attract a broad audience of westerners, hoping to branch out from the agricultural sector that had dominated for so long as the heralded cause of the West. The Irrigation Congress evidences this break with agriculture; during the 1893 Congress in Los Angeles, the majority of the delegates were “lawyers, journalists, state officials, and businessmen…officers of irrigation companies, land companies, and railroads.”92 Essentially, the Congress consisted of all those that Powell aimed to exclude from western development. Divorcing irrigation from agriculture was the ultimate break from Powell. At the root of Powell’s multi-use vision was the planned and organized farm, permitted by meticulous management of the water. Smythe did not place as much faith in the ability of agriculture to appropriate the available water, so he sought the expertise of other western interests.

The decade closed without real or lasting success in irrigation. Despite Smythe’s vigor and enthusiasm, irrigation stagnated during these in-between years of the 1890s. Sandwiched between the Powell Irrigation Survey and the Newlands Reclamation Bill, the 1890s is important as a transition period between differing schools of irrigation. In the past lay two competing ideologies: Powell’s agrarian populism and Stewart’s laissez faire capitalism. In the future stood a new era of progressivism ushered in by Francis Newlands

92 Davison, Leadership, 221.
and Theodore Roosevelt. For one decade though, Smythe ruled with unbridled optimism and enthusiasm in the promise that irrigation held. Furthermore, Smythe tapped into a previously muted eagerness among westerners to achieve a comprehensive system of irrigation, motivated by a growing anxiety that water would never come. Nonetheless, unrestrained optimism did not save the fortunes of the many unlucky investors lured by the promise of irrigation; as one representative from Colorado to the Seventh Irrigation Congress in 1898 grimly stated, the story of private investment in irrigation had offered only, “the crushed and mangled skeletons of defunct corporations… [all] suddenly disappeared at the end of brief careers leaving only a few defaulted obligations to indicate the route by which they departed.”

Chapter 4: Newlands and the Progressive Era of Reclamation

Francis G. Newlands rose to prominence on the reclamation scene in a similar fashion as Smythe. As the 1890s drew to a close and no solution to the irrigation problem was in sight, Newlands entered the forefront with what eventually became the Newlands Reclamation Act of 1902. For Newlands however, the journey to this point was hardly so simple. Newlands’ political journey began in earnest in 1889, when he discovered a state teetering on the brink of collapse after making the brief trip across the border from his home in California into Nevada. Nevada was mired in economic depression exacerbated by the decline of the very industry that had propelled the accumulation of wealth in the state, mining. At one point, Nevada’s statehood was called into question, stemming from the mass exodus of population and wealth that left with the mining industry.

William Stewart however, saw Newlands as the prodigal son. Newlands had returned home to help pull Nevada up out of its decline. Newlands, who married into the wealthy Sharon estate of Nevada mining lore, represented Nevada’s political promise to Stewart. Acting upon his interests in silver, Stewart immediately recognized the impact that Newlands could have within the silver movement in Nevada. Already familiar with Newlands through Stewart’s work as a lawyer prior to being reelected to the Senate, Stewart envisioned Newlands’ immense potential in Nevada politics, given both his wealth and his involvement in the Sharon mining estate. By pulling the legacy of one silver era magnate back to Nevada, Stewart could add a small victory to the fight to make Nevada important again, as well as shape his own political successor.

Be that as it may, silver was not Newlands’ primary interest; despite Stewart’s continued interest and investment in Newlands, Newlands wanted to leave mining in the past
and move forward with irrigation-based development in Nevada. As he told the press shortly after he arrived in Nevada, the future was irrigation and its’ “unlimited possibilities.”\textsuperscript{94} Quickly, irrigation shot to the top of Newlands’ priorities after moving to Nevada. The heyday of mining had passed. The state needed a new and promising industry to promote economic recovery following the mining bust. Already wealthy in the natural resources of sun and soil, Nevada just had to supply water to its crops and it would be on its way to economic stability. But as decades of trial and error had proven, getting that water to the crops was a daunting challenge. Newlands was optimistic that the water to irrigate was there, however. A successful scheme of supplying and transporting it was the only thing needed. From Newlands’ standpoint, it was solely a matter of policy—a case of finding the right development strategy to make irrigation work.

Newlands’ initial approach on irrigation was a familiar one to Nevada politicians: public lands held by the federal government in the West could be ceded to the states, and then sold to gain revenue for the state, which could then be used to fund development. Despite the state control in this design though, Newlands argued that this type of action must come from the federal level. While the development had to come from the state level, state boundaries should not become obstacles to water resource manipulation. Only the federal government could effectively resolve and oversee the interstate cooperation that Newlands advocated. As he told the Reno \textit{Evening Gazette} in 1889, “An imaginary line should not stand in the way of private negotiations and enterprise,” referring to the obstacle of state sovereignty that stood in the way of expanding irrigation.\textsuperscript{95} This comment reveals an essential theme of Newlands’ ideology at this time: private initiative had to take on the task

\textsuperscript{94} William D. Rowley, \textit{Reclaiming the Arid West: The Career of Francis G. Newlands} (Bloomington, IN: Indiana University, 1996), 40-5.
\textsuperscript{95} Ibid, 46.
due to the inaction from any other level. Newlands was not opposed to federal action and legislation; but if it was years or decades away, the residents of Nevada and the West should not wait for action, and private enterprise was the best available solution, supported by some level of state funding. It was certainly logical to have the states tackle irrigation within their borders. Conceivably, officials at the state level would have much more intimate knowledge of their natural resources than federal officials, and would then be able to develop them appropriately. Regarding the source of state subsidies for irrigation despite an economic recession in Nevada, Newlands recommended expanding the state’s ability to take on debt in order to fund private irrigation initiatives. In just a short time in Nevada, Newlands had already developed a complex and sophisticated strategy to address the growing problem of securing irrigation. Envisioning a cooperative environment based around irrigation, Newlands’ aspirations were not unlike the visions of William Smythe and his industrial vision for the West. Newlands placed irrigation on a lofty pedestal, heralding its potential to uplift Nevada from the economic doldrums.

Intent on building a political career in his new home immediately, Newlands wasted no time acting on irrigation. Early experience with Nevada politics shaped Newlands action, convincing him of the importance of government involvement. Historians William Lilley and Lewis Gould summarized Newlands first impressions of Nevada politics, stating: “Initial experience with Nevada reclamation had convinced Newlands that irrigation development could proceed only in the presence of strengthened political institutions.” In 1889, just months after settling down in Nevada, he successfully urged the Nevada legislature to enact state-level irrigation reform, in keeping with his vision of the ideal program. Despite Nevada’s traditionally laissez faire approach to irrigation and water management, Newlands’

96 Lilley and Gould, “Irrigation Movement,” 60.
program was able to make a significant challenge to this ideological legacy. He ensured that
the financial scheme of funding irrigation projects was attached to the program, giving
counties the ability to fund projects through bonds, as well as other new powers.
Furthermore, $100,000 was appropriated to initiate reservoir construction throughout the
state. Shortly after the passage of the financial support system, the legislature set in place an
administrative structure that would oversee irrigation works, including a state board of
reclamation commissioners and a state engineer. Newlands was making significant strides
towards a new era of government action on irrigation by influencing the legislature to enact
these measures, moving away from the preceding history of laissez faire Nevada politics in
irrigation. Despite the fact that Nevada politicians dismantled much of the program before it
could take effect, the early political efforts by Newlands offer a glimpse of the progressive
change he would ultimately bring on reclamation at the federal level.  

Newlands national political ambitions surfaced in 1892 when he announced his
intention to run for Nevada’s open congressional seat. Enlisting the help of Stewart and the
Republican Party, Newlands won overwhelmingly. Be that as it may, it was not an easy
journey for the California migrant. Questions of Newlands’ loyalty to Nevada arose, and
some wondered whether he would continue a tradition of California’s paternalistic
relationship with Nevada. Attempting to overcome these lingering suspicions, Newlands
spent an enormous sum of money to secure the congressional seat, all the while trying to
appeal to Nevada’s immensely powerful silver lobby. The powerful Nevada silver lobby was
instrumental in the choice of candidates in the state, and effectively determined elections.

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Newlands still drew some criticism for his interest in irrigation as the economic future for Nevada, but overall, he was able to ease most fears about his ability to represent Nevada.\footnote{Rowley, Reclaiming, 67-71.}

His early years in Congress revealed a great deal about Newlands’ political ideology. Most of his early actions indicate an idealistic faith in progressivism and the ability of government to accomplish substantial tasks, as well as a bit of political legacy building. Newlands biographer William Rowley called Newlands a predecessor of Wilsonianism, stating, “He usually attached larger significance to irrigation as a plan for western American development…He strove to develop a style that came of age in the Progressive Era. He became comfortable in this new era where every political move and governmental program glowed with the light of idealism.”\footnote{Ibid, 76.} These initial years are a precursor to Newlands’ 1902 Reclamation Bill and embody an unending faith in the ability of government to accomplish the task, or at least serve as an option when other routes had failed. Beneath the surface, or perhaps just level with it, was a factor of political expediency that motivated Newlands’ early actions. By clinging to the popular causes—irrigation, silver—Newlands may have been just fanning his own political career, feigning or half-heartedly subscribing to issues like silver.

The political fortunes of Francis Newlands took a major turn when he openly broke with and challenged William Stewart for his Senate seat. Despite losing to Stewart in the 1898 election, Newlands had officially broken with the man that had pulled him into Nevada politics and led him into his first political seat. After a decade in Nevada, Newlands had grown to despise Stewart’s politics, openly criticizing him to others, despite being his protégé at the start of his political career. Stewart represented political corruption and the overwhelming influence of special interests to Newlands. Stewart was the political tool of the
Southern Pacific Company according to Newlands, more concerned with his wealthy constituents than the interests of the people. But Newlands was unable to defeat Stewart due to his immense standing within the silver community that shaped Nevada politics.\textsuperscript{100}

Nonetheless, Newlands was a member of the House of Representatives, still placing him in a position of influence and power. Eventually moving on from the loss at the hands of Stewart, Newlands introduced the idea of a federal reclamation program in January 1901. Newlands proposed several routes to the task, framing the debate as to “whether the Government will put its own lands into condition for settlement and cultivation by maintaining an equal and sustained flow of the stream,” and introducing three methods of reclamation by government enterprise.\textsuperscript{101} The first option that Newlands offered was modeled closely after the river and harbor bill that maintained eastern waterways. There were two aspects of funding under this arrangement. One portion of the appropriation consisted of direct funding for the construction of reservoirs and other irrigation systems by the Army Corps of Engineers similar to the river and harbor bills. The other portion allowed for federally financed “investigation of the feasibility and practical worth of the project,” an aim that had already been explored for the West through the Powell Irrigation Survey of the late 1880s.\textsuperscript{102} During his speech before the House, Newlands was sure to clarify that such a structure of reclamation involved direct funding from the federal government with the goal of improving the arid lands, placing them in a condition that would allow settlement and development. Newlands went on to say that this was the overwhelming desire and recommendation of the West.

\textsuperscript{100} Ibid, 89.
\textsuperscript{101} Congressional Record, 56\textsuperscript{th} Cong., 2\textsuperscript{nd} Sess., 1701.
\textsuperscript{102} Ibid.
Newlands outlined a second path that had been developed by Representative John Shafroth of Colorado. Shafroth’s plan appropriated $1,000,000 to each of the arid states to construct four reservoir systems with the help of the Geological Survey. The funds given to the states by the federal government would later be remunerated through taxes on reclaimed land by the states that received the money. The additional charges placed upon the land would be proportional to the expense to reclaim it. While the responsibility for building the reservoirs fell upon the USGS, Shafroth’s bill dimmed much of the spotlight on the federal government with the bill’s focus on funding repayment through state revenues proportional to the appropriation made.

Newlands’ third course of action, his own bill that he introduced, was constructed to take the burden off of the Treasury. Under Newlands’ bill, the financing for the reclamation projects in the arid region would come from the “arid-land reclamation fund,” which would hold the revenue from the sale of public lands in the region. Featuring aspects reminiscent of the appropriation for the Powell Irrigation Survey of 1888, Newlands outlined the key facets. The bill placed the reclamation process under the supervision of the Secretary of the Interior, with the assistance of the Geological Survey. The USGS would investigate the irrigable lands, removing from settlement both the reservoir sites and the lands reclaimed by them. Once an area had been chosen for reclamation, construction would not begin until the necessary funds had accrued in the arid-land reclamation fund. Similar to Shafroth’s plan, Newlands’ bill placed a charge upon reclaimed lands proportional to the expense incurred to irrigate it, which could be settled through Homestead Act claims of less than 80 acres.

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103 Ibid.
104 Ibid.
Newlands envisioned lofty goals with his bill, claiming that it was designed to “prevent monopoly of every form, to open up the public domain to actual settlers who desire homes, and to disintegrate the monopolistic holdings of land that prevail on the Pacific coast and in the intermountain region.” Furthermore, Newlands revealed his unending faith in the ability of the federal government to accomplish the task. Discounting the ability of the states to do the task of reclamation, Newlands insisted before the House that the states were, first of all, too poor to take on this job, and second, vulnerable to the influence of monopolistic land holders eager to stake a claim on reclaimed lands overseen by disorganized and inept state governments. Newlands believed that this bill would prevent this scenario from occurring. Other representatives, such as William Moody of Massachusetts, questioned Newlands about his dismissal of the state governments and their ability to handle reclamation. Moody was suspicions that Newlands was acting merely upon his own experiences with Nevada politics, and not upon the condition of the other state governments in the arid region. Newlands adamantly denied this statement, reiterating the lack of funding at the state level and the fact that the states lacked the level of scientific research available at the federal level, ultimately making the federal government much more equipped to handle the massive undertaking of western reclamation. Moody actually gave Newlands a chance to bolster his argument that the states could not accomplish reclamation simply based on issues of state sovereignty. In his response to Moody, Newlands made mention of the difficulties that states encountered when dealing with waterways that ran into or from an adjacent state, such as rivers in Nevada that have their headwaters in the Sierra Nevada mountain range in

105 Ibid.
California. Newlands was able to succinctly highlight this difficulty that faced the states in his reply to Moody.  

In the end, Newlands’ closing argument for federal reclamation was on scientific grounds. Continuing in his response to Representative Moody, Newlands went on at length speaking about the capabilities of the Geological Survey. As he stated before the House, the Geological Survey was “a corps unsurpassed in the world so far as regards education, scientific knowledge, and practical experience,” calling any reclamation done by a substitute organization “a blunder amounting to a crime.” Newlands wanted to reinforce his argument with science, a popular theme in the various irrigation movements of the late nineteenth century. Rowley observed that Newlands’ statements before the House advocating national reclamation were rooted in a “decade of reflection and not a little romanticizing of the advice of hydrographical engineers,” indicating the significant search for accurate and comprehensive scientific research that occurred during the 1890s in the absence of the Powell Irrigation Survey. For irrigation through national reclamation to become a reality, Newlands would have to convince the skeptics on scientific grounds.

But science wasn’t the only thing that Newlands needed. To really move his program forward, he needed political action. Serendipitously, Newlands was able to stumble upon the political allies that he needed to pass national reclamation. Two deaths in 1901 significantly aided Newlands’ political path and the future of his national reclamation bill. First, the death of C.C. “Black” Wallace, a political ally of William Stewart and the major railroad lobbyist of Nevada, opened the door for another Senate bid for Newlands in 1902 with potential support from a new railroad lobbyist. Second, the assassination of President William

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106 Ibid.
107 Ibid, 1702.
108 Rowley, Reclaiming, 99.
McKinley allowed Vice President Theodore Roosevelt to assume the presidency, bringing with him a progressivism that looked kindly upon bills such as Newlands.’ Unfortunately for Newlands though, his bill was held in the Committee on Irrigation of Arid Lands for the remainder of the year.\textsuperscript{109}

Nevertheless, the bill did not stay there forever. Speaking before Congress in December 1901, Roosevelt called for government construction of reservoirs. Roosevelt declared that the government should construct reservoirs, as it does other public works projects, pointing to the conclusive evidence that the task is too large for both private industry and the states. Citing the government’s intention to satisfy the “broadest public interest,” Roosevelt outlined a vision of progressivism and utilitarianism encountering the West.\textsuperscript{110} Due in large part to President Roosevelt and his support for federal reclamation, Newlands reintroduced the bill the next year.\textsuperscript{111}

Passed on June 17, 1902, the bill has become known as the Newlands Reclamation Act, but it is difficult to imagine the passage of this bill without the advocacy of President Roosevelt. Pulling together leaders from both parties in support of the bill, Roosevelt was the essential “catalyst” in the bill’s passage.\textsuperscript{112} Without Roosevelt, the progressive shape of the bill may not have resonated, and opponents to national reclamation may have pushed the idea of government enterprise in irrigation back for another year or more. Roosevelt was indispensable in passing the Reclamation Act, and while the bill has subsequently become indelibly linked to the representative from Nevada, Roosevelt received the majority of the

\textsuperscript{109} Ibid.
\textsuperscript{110} \textit{Congressional Record}, 57\textsuperscript{th} Cong., 1\textsuperscript{st} Sess., 86.
\textsuperscript{111} Davison, \textit{Leadership}, 255.
\textsuperscript{112} Rowley, \textit{Reclaiming}, 103-4.
credit and attention following the bill’s passage.\textsuperscript{113} Roosevelt embodied the progressive mindset that led to the Reclamation Act. He was pivotal in the success of the bill, and in the wake of such a monumental legislative accomplishment, Roosevelt became the face of the progressive ideology that achieved national reclamation, not Newlands.

The passage of the Newlands Reclamation Act of 1902 represented the culmination of several decades of work by the figures closely involved with the irrigation of the West; Powell, Stewart, Smythe, and others all had a hand in the creation of the bill. Each influenced and shaped the debate on irrigation and reclamation that resulted in the passage of Newlands Act. By enacting national reclamation, Newlands was able to finally quell the unending yearning for a definitive answer to the West’s water woes. Without considering the results the bill it is suffice to say that Newlands did what those before him could not: usher in a comprehensive plan of reclaiming the western lands and then disposing of them from the government’s hands. Once again however, western development became animated by an overwhelming desire to expend the resources of the region as if there was a limitless supply. Newlands’ bill represents the inability of the West to consider limits and responsible irrigation practices that enable sustainable water management practices. By enacting this legislation to reclaim the West, the U.S. Government formally dismissed Powell’s recommendations of moderation and meticulous planning.

Furthermore, the Newlands Reclamation Act represents the transformation of the western water debate from one of irrigation to one of reclamation. The differences between these two concepts may appear subtle, but they are not. The irrigation promoted by Powell and even Stewart to some extent was a narrowly tailored program of transporting water for a single purpose, typically agriculture. Reclamation is an institution however, an ideology in

\textsuperscript{113} Ibid, 103.
itself. It attaches a multiuse, multipurpose goal onto dams and other irrigation projects. It is something wholly different than irrigation. Donald Pisani saw it as a system of “social engineering,” the government’s attempt to shape western society through water management. The Newlands Act and the installation of reclamation in the West embodied the progressive ideology, preceding and anticipating Franklin Roosevelt’s New Deal programs in their scope and intentions. The Newlands Act was a monumental step forward in western development and heralded the reign of the new progressive ideology.

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Conclusion

From 1870s to 1902, several distinct irrigation ideologies emerged out of the American West. These ideologies both complimented and competed with each other, advocating unique approaches to irrigation and competing with other ideologies for followers, while at the same time borrowing elements from other schools of irrigation thought. John Wesley Powell modeled much of his approach off of Mormon settlements in the West in the mid-nineteenth century, while developing his own uniquely rational and scientific approach. Francis Newlands began as William Stewart’s protégé, and invested his political fortune in irrigation, similar to Stewart. Yet, the approaches of Stewart and Newlands in the end could not have diverged more. In the last twenty-two years of the nineteenth century and just into the twentieth, irrigation experienced a paradigm change, initiated by John Wesley Powell, molded and changed by William Stewart and William Smythe, and cast into stone by Francis Newlands.

Powell, from the beginning, was the rational voice steeped in years of scientific research. His Report on the Lands of the Arid Region outlined a plan for responsible western development. In the Report and in other writings and speeches, Powell insisted that the current land policies in the country were inadequate for and improperly applied to the West; the region was unique due to its limited potential for agriculture and other industry, and it could not be treated like the lands of the East. Therefore, new methods of land survey and appropriation were necessary, which Powell summarized in the Report and then advocated before Congress. Far from optimistic about the current course of western development, Powell continually made sobering assessments about the West’s potential. Above all else, Powell’s approach was steeped in the rightness of science, and the ability of common people
to settle the land with the proper system of water management in place. Ideologically, Powell was a populist at the core. Speaking before the Constitutional Convention of North Dakota during the Irrigation Survey in 1889, Powell advocated that “no corporation—no body of men—no capital can get possession and right to your waters. Hold the waters in the hands of the people.” Powell was able to marry his scientific background with his populist leanings to create a unique irrigation ideology, which displayed little faith in the government’s ability to irrigate, but also placed little trust in private enterprise due to its proclivity to establish monopolies. This left the task of irrigation upon the family settlers of the West. According to Powell biographer Donald Worster, Powell envisioned “a West where scientists carefully plotted development, where agrarian values and independent communities thrived, and where irrigation made the dry soil blossom and flourish.”

Unlike Powell, William Stewart was far from a populist. Stewart’s primary support in politics came from the powerful silver lobby in Nevada, and his legislative interests consisted of protecting and enabling private industry. Stewart employed Powell’s scientific expertise to map out the irrigable lands of the West, in spite of Powell’s ideology. The Irrigation Survey was destined for failure however, as the arrangement deteriorated into a vitriolic feud between Stewart and Powell. The failure of the Irrigation Survey represented the clash of two irrigation ideologies: the populist Powell, and Stewart, the advocate of corporate interests and western industry. Resisting all of Stewart’s pressures to accommodate western expansion, Powell continued his work toward a pragmatic plan for development. Nevertheless, the Powell Irrigation Survey opened the door to national legislation on irrigation. While Stewart certainly would not have supported legislation for such a task, the appropriation that he

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115 “Major Powell’s Address,” *Constitutional Convention of North Dakota*, 412.
secured for the Irrigation Survey was the first step in justifying a program of government reclamation. The appropriation only funded surveys and not construction of irrigation structures—a point that was belabored during Congressional proceedings—but government funding in the pursuit of irrigation pulled the government into the equation, and set a precedent that the government would be involved in the process.

Once the Irrigation Survey was dissolved, William Smythe capitalized upon the decade that followed its failure, rising to prominence as the de facto leader of the irrigation movement. In the power vacuum that resulted from both Powell and Stewart’s absence, Smythe developed an ideology almost entirely defined by its ambition and not by any overwhelming desire for a scheme of development. Smythe and his followers had their own preferred approaches, but irrigation and development by any means became the dominating undercurrent of this movement. The people of the West had waited long enough, and the arid region had to be conquered. But unfortunately for Smythe, his own ambitions prevented the movement from developing any truly unifying platform. As the decade wore on, Smythe celebrated almost any attempt made to irrigate the West in *Irrigation Age*, regardless of its success, and regardless of what approach it took. Smythe’s leadership became disorganized and unfocused as a result, preventing him and his followers from affecting any significant progress. Smythe’s ideology is comparable to a similar school of thought called “irrigationism” that has emerged in Africa during the postcolonial period of the 20th century. This ideology has since been studied and documented by scholars such as William Adams, who studied the implementation of large-scale irrigation in Nigeria during the 1970s. Adams’ summary of this movement echoes much of Smythe’s writing and advocacy:

*Irrigationism* took on views of the nature of development as transformation and modernization...It drew on and dominated thinking about irrigation within disciplines
Smythe’s ideology is remarkably analogous to this assessment. In many ways, he promoted a frontier movement to develop the West, with irrigation as the “dramatic, modern, transforming, and sophisticated” solution. But like the Nigerian irrigation movement, the sentimentalism and passion of Smythe’s movement was not tailored to the realities it faced, and his ideology failed.

Without considering the successes and failures of the Newlands Reclamation Act with the benefit of hindsight, Newlands accomplished what Powell, Stewart, and Smythe could not: enshrining his own irrigation ideology by enacting a program of national reclamation with comprehensive legislation. While success would have been defined differently by each of those figures, it is sufficient to say that they did not reach it. Each lacked the definitive success that Newlands was able to enjoy by implementing his own irrigation ideology. Powell was unable to persuade Washington to adopt his comprehensive plan for the West. Stewart did not receive the comprehensive survey of the West that he sought nor did he open up the West to private development. Smythe did not conquer the West, despite his energetic ambitions. But Newlands was able to realize the momentous accomplishment of national reclamation. The Reclamation Act of 1902 significantly altered the makeup of western development, transforming it from an unorganized movement in disarray into a national venture with the support of government funding.

Despite the differences that distinguish each of the irrigation ideologies outlined here, all of them contain two similarities: an appeal to science, and an appeal to the small-scale farmer. With the exception of Powell, the use of this rhetoric is disingenuous, as neither

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Stewart, Smythe, nor Newlands truly advocated on behalf of either. Powell on the other hand was very much invested in both science and agrarianism. As the Director of the United States Geological Survey, Powell was in charge of one of the great government agencies of natural science. Powell’s life was spent in academic pursuit, and his work was supported by scientific research. In contrast, Stewart merely used science to advance his own interests. His efforts to create the Powell Irrigation Survey were motivated out of his own interests in Nevada. Stewart initially used scientific discovery as a selling point of the Irrigation Survey appropriation. In the end however, Stewart often attacked what he saw as Powell’s overwhelming misuse of science, and his obsession with topographic maps, once he realized that Powell’s ideology did not accord with his own, and that Powell was unwilling to compromise.

Smythe and his movement made appeals to science, but differently than Stewart. The Irrigation Congress of 1893 claimed science as its motto by prominently displaying a banner that read, “Irrigation: Science, Not Chance.” However, the delegates scornfully dismissed Powell and his scientific research simply because it disagreed with their aims. Smythe and his followers may have used scientific language and rhetoric, but they did not care for science if it disagreed with their mission. Likewise, Newlands made extensive appeals to science when he promoted his bill. He resorted to science when he attempted to convert skeptics, calling attention to the Geological Survey and its decades of preparation for the task outlined by his bill. Like Stewart and Smythe however, Newlands’ use of science was disingenuous. As Davison points out, any and all scientific arguments were made that supported the Reclamation Act, including questionable theories such as the ability of

118 Irrigation Congress, 5.
irrigation in the West to significantly alter wind patterns in the Midwest.\textsuperscript{119} For Newlands and his allies, science was merely a tool to bolster the necessity of the Reclamation Act.

Like science, agrarianism became a popular image for Stewart, Smythe, and Newlands to cling to. Unlike science though, agrarianism was in direct contrast with elements of their individual irrigation ideologies. Stewart repeatedly referenced the plight of the settler when discussing the Irrigation Survey in the Senate. Yet, Stewart, a servant to the silver lobby of Nevada, can hardly relate to the plight of the homesteader in the American West. Nonetheless, Stewart used the imagery of the settler cultivating the land of the West to falsely assign a degree of agrarianism to his ideology. Smythe attempted to diversify the irrigation movement, introducing industry as a potential gain from irrigation. However, despite Smythe’s efforts to industrialize irrigation, he still appealed to the idyllic, pastoral, small-scale farm that embodied Powell’s agrarianism. According to Smythe, “The small farm blesses its proprietor with industrial independence and crowns him with social equality.”\textsuperscript{120} Smythe contrasts the small farm against the large farm, and he highlights the immense benefits of small-scale agrarianism. But Smythe’s use of agrarianism flies in the face of his promotion of the industrial potential unlocked by irrigation. Newlands makes use of this imagery as well, promising that his bill will promote the settlement of small farmers throughout the West.\textsuperscript{121} All three borrowed this element of their ideology from Powell.

Of the four viewpoints presented here, John Wesley Powell composed the most responsible, rational, and scientific approach to western development. Powell was the only one to suggest limits of any kind regarding development and available resources, foreseeing the struggle for resources once the region became populated. Powell’s foresight proved to be

\textsuperscript{119} Davison, \textit{Leadership}, 256-7.
\textsuperscript{120} Smythe, \textit{Conquest}, 43.
\textsuperscript{121} \textit{Congressional Record}, 56\textsuperscript{th} Cong., 2\textsuperscript{nd} Sess., 1701.
shockingly accurate. He nearly estimated the area that would be irrigated in the West with the available water.\textsuperscript{122} Furthermore, he truly had the backing of science in his arguments. The years of exploration and experience provided Powell with credibility. Ironically, Stewart, Smythe, and Newlands all adopted elements of Powell’s irrigation ideology, especially his populist agrarian appeal and his scientific authority. They did not support Powell’s vision for the West however, opting instead for unrestrained development. The Newlands Act could have been written with Powell’s recommendation in mind. But it was not, and the West did not have limits placed upon its development, opening the way to overpopulation and mismanagement of resources. Dependence on the federal government at the state level has been another effect of the Newlands Act. Because the bill secured federal funding and oversight for reclamation projects, many states and governors have understandably assumed that the federal government would continue to provide a solution to their water woes.

This case is no better illustrated than in present-day California. In the midst of a three-year drought, the state is desperately seeking a solution that will enable it to continue its massive agricultural production. Farmers, aside from being challenged by drought, must now deal with a cut in irrigation from the San Luis Dam, a Bureau of Reclamation project. The flow from the reservoir was decreased due to environmental concerns, and now farmers are demanding a solution from Governor Arnold Schwarzenegger. Schwarzenegger recognizes that much of the state’s reclamation projects are in need of repair, especially the Sacramento-San Joaquin Delta, which contains deteriorating levies on the brink of collapse. Schwarzenegger has been able to secure some funding to repair the delta from the state legislature. But California is already carrying a $21 billion deficit, and Schwarzenegger estimates that the project will cost over $40 billion. Schwarzenegger has chosen to take on

\textsuperscript{122} Worster, \textit{River}, 530.
this problem at the state level. But due to the enormity of the projects carried out throughout
the West, it will be difficult for a state budget to match the scale of irrigation systems such as
the San Luis Dam, let alone satisfy the infrastructure and economies that have sprung up with
these projects. It seems inevitable that Schwarzenegger’s plan will have one of two results:
either send the state deeper into debt as it attempts to continue using the available resources
beyond their limits; or open the door for a plea for federal support as the project evolves
beyond the state’s scope of control.\textsuperscript{123} The cries from some for federal intervention are a
result of the sweeping reform fostered by the Newlands Act. While decades of progressivism
and the immense growth of the federal government during the twentieth century certainly
exacerbated the phenomenon of states relying upon the federal government, the passage of
the Newlands Act was an early stimulant for this effect, specifically regarding irrigation. At
the turn of the century, the western states already knew that the federal government would
provide water where needed, and for better or for worse, the federal government remains as
the provider over one hundred years later. As with much of history, the past is often echoed
in the present. The comments of Jeffrey Mount, founder of the Center for Watershed
Sciences at the University of California, Davis, are reminiscent of the warnings that Powell
issued over a century prior: “The future for California is going to be dealing with scarcity.
We have to adapt to basically chronic scarcity.”\textsuperscript{124} Mount fails to mention however, that this
was always California’s future. Powell warned of the imminent scarcity that settlers would
encounter, and Mount is simply observing Powell’s premonition today. Unfortunately,
Powell’s advisories were ignored and disregarded, permitting the continuation of an
inadequate water rights scheme and the passage of the Newlands Act. In many ways, Powell

\textsuperscript{123} “California: Running Dry,” interview by Lesley Stahl, \textit{60 Minutes}, CBS, December 27, 2009,
\textsuperscript{124} Ibid.
was the lone voice crying out against the mismanagement of the West’s scant water, with no one but the empty desert to hear his warnings.
Bibliography


“Address by Major Powell to the North Dakota Constitutional Convention in Bismarck, August 5, 1889.”

Annual Reports of the Director of the United States Geological Survey, 10\textsuperscript{th}-12\textsuperscript{th} (1888-91).

“California: Running Dry.” Interview by Lesley Stahl. 60 Minutes. CBS. December 27, 2009.


Congressional Globe.

Congressional Record.


Irrigation Age.


U.S. Census Bureau data.

*U.S. Statutes at Large.*
