

Society be Dammed!:

A Terror Management Analysis of Water  
Infrastructure as a Conduit to Immortality

by

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## **Author's Declaration**

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## Abstract

In the nineteenth and twentieth centuries, the conventional response to water scarcity was to develop large-scale water infrastructure, which has created wide-ranging social, economic, and ecological implications. I used Terror Management Theory (TMT) to assess whether constructing substantial water infrastructure functions to mitigate mortality salience (MS). In accordance with TMT, participation in culture provides people with a sense of meaning and significance to repress their existential concerns. Since water infrastructure reflects cultural values, I argued that participation in its development provides a way by which individuals can feel like valuable contributors to their worldview, and achieve heroism according to their cultural framework. William Mulholland, the engineer credited with constructing the Los Angeles Aqueduct, served as a case study personality. I analyzed primary historical documents related to his involvement in the project for evidence of terror management indicators, using a combination of Content Analysis (CA) and Critical Discourse Analysis (CDA). Consistent with TMT, evidence indicated that 1) water crisis threats function as a death prime, 2) Mulholland's water infrastructure involvement enabled him to repress death-related anxieties, and 3) Mulholland was able to symbolically transcend death by supplying water to Los Angeles. This research has both historical and contemporary implications. Viewing water crisis threats as a death prime is significant considering that water crises are a pervasive and increasing threat to society. This research also shows that TMT can provide insight into the motivational underpinnings of historical water-related decisions, and suggests that it can help predict different responses to water-related challenges. In this light, it may also help inform more rational solutions to water management instead of the conventional approaches, which have resulted in largely adverse consequences.

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# Chapter 1: Introduction

The purpose of this study was to use Terror Management Theory (TMT) to explore personalities' involvement in water infrastructure development. From a TMT perspective, the distinctly human awareness of death's inevitability has the potential to generate fear and feelings of anxiety (Rosenblatt et al. 1989). This awareness influences humans' behaviours, values, decisions, and attitudes in an inherent effort to repress awareness, fears, and concerns of their own eventual demise (Harmon-Jones et al. 1997; Pyszczynski et al. 1999; Hayes et al. 2010).

One approach to mitigate death-related anxieties is through 'hero projects'. Participation in such projects creates a sense of symbolic immortality by allowing those involved to produce a legacy that will extend beyond their physical life (Fox et al. 2010). For this study, the Los Angeles Aqueduct was considered as a hero project. William Mulholland, the engineer credited with its development, served as a case study personality. Historical documents related to him and his work were analyzed for evidence of terror management indicators to assess whether death-related thoughts motivated his efforts.

Considering humans' desire for immortality and the importance of water infrastructure development for societies to persevere, what evidence is there that terror management mechanisms influenced peoples' involvement in water-related 'hero projects'?

## 1.1 Background: Terror Management Theory

Proponents of TMT adhere to a Darwinian paradigm that all species are motivated toward self-preservation (Solomon et al. 1991; Pyszczynski et al. 1997; Goldenberg et al. 2000). Humans, however, are uniquely aware of the certainty of their own inevitable demise (Rosenblatt et al. 1989; Goldenberg et al. 2000; Arndt et al. 2004). This awareness influences their behaviours and personal

convictions, which operate to protect them from their fundamental anxieties related to death's inevitability (Harmon-Jones et al. 1997; Pyszczynski et al. 1999).

Humans have developed mechanisms to cope with the potential for overwhelming anxiety that arises when their mortality is made salient (Greenberg et al. 2000; Taubman Ben-Ari et al. 2000; Arndt et al. 2004). These mechanisms involve the pursuit of self-esteem, which assuages death-related anxieties by enhancing individuals' sense of worth, enabling them to symbolically transcend death (Pyszczynski et al. 2004). Self-esteem is acquired through participation in culture; a cultural worldview offers a sense of meaning and structure to life (Rosenblatt et al. 1989; Pyszczynski et al. 2004; Urie 2007; Vess et al. 2009).

TMT is based on the work of Ernest Becker (1924-1974), a cultural anthropologist who examined self-esteem's psychological function to better understand human motivation (Rosenblatt et al. 1989; Greenberg et al. 1992). He asserted that humans' unique awareness of their own mortality has the potential to generate feelings of terror. According to Becker, motivation to participate in culture emerged as an approach to manage that terror by buffering people from their existential anxieties (Rosenblatt et al. 1989).

Building on the links he identified between cultural worldviews, self-esteem, and human motivation, Becker suggested that 'cultural hero systems' provide the opportunity for individuals to demonstrate their instrumental role in the world: contribution to culture helps to maintain or enhance self-esteem during an individual's pursuit of symbolic immortality (Becker 1973; Scimecca 1979; Munley & Johnson 2003). Becker's work is the foundation of TMT, which was proposed by Jeff Greenberg, Tom Pyszczynski, and Sheldon Solomon in 1986. Terror Management Theory is grounded in the idea that death reminders create feelings of terror, which are managed through a

cultural worldview that offers a sense of meaning and structure to life (Rosenblatt et al. 1989; Pyszczynski et al. 2004; Vess et al. 2009).

Creating a legacy allows humans to pursue symbolic immortality and thwart feelings of anxiety related to mortality. Legacies enable people to add value to the world in a way that also extends their identity beyond their physical life (Fox et al. 2010). Becker (1973) referred to this as the ‘cultural hero system’. Striving for heroism is believed to protect individuals from death-related anxieties as a way to contribute meaningfully to the world (Dickinson 2009; Kesebir 2011). The extent to which one’s contribution is considered meaningful and significant depends on the cultural values to which one subscribes.

## **1.2 Rationale: A Water Context**

Water is necessary for life, health, and wellbeing, and is therefore essential to individual and societal existence (Tvedt & Jakobsson 2006; Grey & Sadoff 2007; Hirt et al. 2008). It shapes where and how people live. Water’s availability influences people’s lives and livelihoods, both positively and negatively. Positively, water enables humans to grow crops and travel and trade across great distances, and provides a source of renewable energy and a way to engage in recreational activities. Negatively, water can pose a threat through flooding and drought events. Water is both essential and threatening; this dichotomous quality makes it highly venerable and emphasizes its significant role in shaping societies (Molle et al. 2008; Tvedt & Oestigaard 2010).

Along a similar vein, water supply and treatment infrastructure is essential for the growth and development of cities and societies (Gleick 2000). It is imperative that human settlements maintain adequate access to water supplies to sustain their populations. Indeed, societies that have persisted the longest are those that have been able to best harness their water resources (Postel 1999; Molle et al. 2009; Mays 2010).

Attempts to control water span the entirety of human history (Allan 2005; Tvedt & Jakobsson 2006). The earliest indication of water regulations and attempts to develop irrigation infrastructure date back to Babylonian society 4,000 years ago (Gleick 2009). Societies recognized as “cradles of civilization” (Gleick 2009: 18), such as Mesopotamia and the Indus Valley, earned the title by successfully harnessing water resources to establish permanent settlements.

Water’s unique physical characteristics create challenges for providing a sufficient supply and quality to any given place. Some examples include how it is a limited, ephemeral, bulky, and non-substitutable resource (Savenije 2002). While no society has ever achieved absolute domination over water resources, efforts have substantially influenced the trajectory of civilization and permanently altered the environment (Tvedt & Jakobsson 2006).

In addition to its exceptional physical qualities, water is a multipurpose good that serves a variety of economic, cultural, and ecological interests (Savenije 2002). Water is vital for food production, transportation, and health and sanitation (Jeffrey & Gearey 2006; Molle et al. 2008; Tvedt & Jakobsson 2006). Historically, enhanced irrigation technology and awareness of water’s importance to public health has coincided with longer human life expectancy and increased development of, and interaction between, societies (Gleick 2009). Irrigation is an example of societies’ attempts to control nature and has also indicated their supremacy over other societies (Linton 2010). Water has also been used for cleansing rituals since time immemorial, although it was not until the mid-nineteenth century that its importance to disease control was understood (Hamlin 2000; Gleick 2009; Tvedt & Oestigaard 2010).

Beyond its utility, water also has cultural and social importance (Gleick 1998). Humans are universally dependent upon water (Savenije 2002; Tvedt & Jakobsson 2006); therefore, it is a mechanism through which we all connect to one another (Strang 2004). Historically, water fountains were used as a place for people to congregate (Delli Priscolli 1998) and public baths were a place to

socialize (Linton 2010). In contemporary society, water-based recreation activities and office water coolers encourage social interaction (Gleick 1998; Linton 2010; Kaplan 2011). Water is also represented in nearly all religious worldviews and used in countless religious practices (Tvedt & Oestigaard 2010). Water has tremendously influenced human settlement and interactions, and continues to do so. Studying history through a water lens can uniquely explain the progression of civilization.

### **1.3 Historical Background: The Hydraulic Mission**

Humans learned to manipulate water for their own benefit to establish themselves in regions that would otherwise be uninhabitable, at least to the extent that they have been developed. The latter part of the nineteenth century and most of the twentieth century was characterized by the ‘Hydraulic Mission’, in which there was a pervasive determination to dam, divert, and drain water through major water infrastructure projects (Molle et al. 2009; Linton & Budds 2014). Modern society’s perception of water was that it was a resource to subject to “scientific, technological and bureaucratic control” (Schmidt 2014: 222). A perception of water as something to be controlled, combined with technological advancements, allowed humans to exert their authority over nature (Molle et al. 2009; Linton 2010).

This is not to say that these projects involved malicious intent, as they were often pursued in the name of economic progress and other objectives such as food security, hydropower, and flood control (Molle et al. 2009). However, the Hydraulic Mission illustrates the era’s cultural values, which viewed nature as something to be dominated (Molle et al. 2008; Linton 2010). There was also less of an understanding or appreciation of the interconnectedness of ecosystems and hydrologic systems (Savenije 2002; Linton 2010). This outlook, combined with human intervention and

technology, has led to the large-scale transformation of natural systems through the development of significant water infrastructure projects (Molle et al. 2009).

#### **1.4 The Water Context from a Terror Management Perspective**

Human societies unanimously rely on water. This universal dependence has ideological, socio-cultural, political, and environmental implications, all of which are interwoven throughout human history. Unlike any other substance, water has both social and natural characteristics. Water's dual social and natural qualities, combined with humans' perpetual efforts to exert control over nature, make water a fascinating vehicle by which to study terror management insights. Humans' universal reliance on water collectively bonds people, but divergent cultural worldviews affect how water is accessed and who can access it. Cultural values reflect perceptions of water, and perceptions of water influence approaches to its management.

Water infrastructure is a compelling angle from which to study hero projects, considering society's collective requirement for adequate infrastructure to exist and persist, and infrastructure's latent cultural implications. Given humans' desire for permanence, and the opportunity to obtain a sense of immortality through enduring accomplishments that will outlast one's mortal life, I explored for evidence of terror management indicators in historical documentation related to William Mulholland, a significant water infrastructure personality.

Integrating a TMT perspective and water context provided a unique approach to studying history. Large-scale water infrastructure represents humans' dominance over nature and each other; indeed, the Los Angeles Aqueduct was environmentally and socially transformative, demonstrated human aptitude and significance, and perpetuated social and political discourse. On one hand, it enabled societal growth and development and created a thriving metropolis. On the other hand, the ability to dominate over nature and fellow human beings was ecologically and socially destructive.

The Hydraulic Mission reflects the era's dominant social and political discourse, and the Los Angeles Aqueduct embodies the prevailing cultural worldview that stimulated large-scale water infrastructure development and permanently altered the trajectory of civilization in Southern California. Using the theoretical lens of TMT to study water management and water and environmental history may help explain what motivated William Mulholland's substantial undertaking, which was conversely beneficial and detrimental to society's existence in Southern California.

## Chapter 2: Literature Review

Societies that have exerted the greatest control over their water resources have thrived the most, and expanded their power more extensively in both time and space (Postel 1999; Molle et al. 2009).

Ancient societies considered to be “cradles of civilization,” such as Mesopotamia and the Indus Valley, are credited with the title because of their ability to harness water resources and establish more permanent settlements (Gleick 2009: 18). Settled communities that controlled water had both population growth and infrastructure development, and eventually evolved as cities and states (Juuti et al. 2007).

Water’s combination of physical, social, cultural, political, spiritual, and economic qualities make it an intriguing substance but, since a single water source may serve several divergent functions, this variety of qualities creates challenges for its management (Savenije 2002). Water profoundly influences society, and how it is harnessed reflects humans’ values and attitudes. Understanding its historical use and management can help explain the trajectory of human civilization.

Given the role of water in modern society’s concept of ‘progress’ – the idea that humans control their own future – water infrastructure development may provide a mechanism by which to feel like a meaningful contributor to the modern Western cultural worldview. The next section describes how Terror Management Theory (TMT), which is rooted in human motivation and the pursuit of meaning, may help explain what influenced individuals’ involvement in water infrastructure development.

### 2.1 Terror Management Theory

Humans are uniquely aware of death’s inevitability and, in accordance with TMT, have developed mechanisms to repress their existential anxieties (Rosenblatt et al. 1989; Goldenberg et al. 2000;

Arndt et al. 2004). From a TMT perspective, self-esteem – the extent to which an individual feels he or she has upheld the cultural worldview – offers protection from death-related anxieties (Greenberg et al. 1992; Harmon-Jones et al. 1997). People acquire self-esteem by satisfying their cultural values; these values constitute a cultural worldview, which provides a sense of meaning and structure to life. The sense of worth that results from fulfilling the cultural worldview assuages individuals' death-related anxieties and enables them to symbolically transcend death (Rosenblatt et al. 1989; Pyszczynski et al. 2004; Urien 2007; Vess et al. 2009). TMT studies have shown that mortality salience (MS) inductions – i.e., reminding people of their mortality – activate the cultural anxiety buffer; individuals respond to MS by striving for self-esteem and defending their cultural worldview. These protective measures mitigate feelings of existential terror (Simon et al. 1997), and repress death concerns in unconscious thought instead of conscious thought (Hayes et al. 2010).

The cultural anxiety buffer's efficacy is compromised by the existence of divergent worldviews, which undermine a worldview's validity. If culture offers a sense of meaning and order then, correspondingly, divergent worldviews destabilize the very structure that buffers people from their mortality (Greenberg et al. 1990). Cultural worldview defense functions to assert a worldview's validity, and worldview threats intensify the need to affirm one's worldview using the cultural anxiety buffer. In response to MS, people reinforce the robustness of their worldview, i.e., by validating culturally similar others, and disparaging people with different worldviews (Greenberg et al. 1990; Simon et al. 1997). This has been substantiated in a variety of religious, social, political, and economic contexts (see Section 3.4). In this light, TMT provides insight into a broad suite of cultural attitudes and behaviours.

Pyszczynski et al. (1999) distinguished between two defensive systems that help humans cope with mortality salience: proximal defenses and distal defenses. Proximal defenses are activated

when thoughts of death become conscious, and allow humans to dismiss those threat-focused thoughts through active suppression, distraction, rationalization, or trivialization (Pyszczynski et al. 1999; Niemeyer et al. 2004; Hayes et al. 2010). Distal defenses provide symbolic protection from unconscious death thoughts, and are stimulated by humans' desire to uphold their self-esteem and cultural worldview (Pyszczynski et al. 1999; Niemeyer et al. 2004; Hayes et al. 2010). Distinguishing between proximal and distal defense mechanisms has been pivotal to advancing TMT because it refined researchers' understanding of how worldview defense and self-esteem striving function to protect humans' awareness of death's inevitability (Pyszczynski et al. 1999; Greenberg et al. 2000; Hayes et al. 2010). This distinction has significantly enriched TMT research by enabling researchers to analyze social behaviours that result from unconscious awareness of death without inducing mortality salience (Hayes et al. 2010).

One way self-esteem is attained is through the pursuit of immortality. Through a quest for immortality humans can literally or symbolically transcend death (Rosenblatt et al. 1989; Greenberg et al. 1992; Hayes et al. 2010). Both literal and symbolic immortality are achieved when the respective cultural worldviews are upheld (Rosenblatt et al. 1989; Pyszczynski et al. 2004). Literal immortality pertains to the cultural worldview of religion and uses the concept of an afterlife to provide a sense of immortality (Pyszczynski et al. 2004; Vail et al. 2010; Heflick & Goldenberg 2012). Stronger beliefs in religion and afterlife have been shown to correspond with decreased death anxiety and to mitigate the effects of mortality salience (Dechesne et al. 2003; Cohen et al. 2005).

Symbolic immortality refers to individuals' efforts to attach themselves to entities that are more substantial than their own life (Pyszczynski et al. 2004). Symbolic immortality is fulfilled through participation in one's culture, perpetuation through one's children, and other accomplishments that persist beyond one's lifespan such as monuments, architecture, art, and science

(Greenberg et al. 1992; Solomon et al. 2004; Landau et al. 2010). For example, Solomon et al. have gone so far as to declare the Egyptian pyramids to be “the ultimate symbol of death-denial” (2004: 136).

Culture provides a symbolic reality that enables people to contribute to something substantial, meaningful, and enduring, and feel superior to their mere creaturely counterparts (Goldenberg et al. 2001; Solomon et al. 2004). Hero projects offer a sense of symbolic immortality by allowing participants to add value to the world in a manner that persists beyond their mortal life (Fox et al. 2010; Cave 2012). Striving for heroism protects individuals from death-related anxieties by creating a means by which to contribute meaningfully to the world (Dickinson 2009; Kesebir 2011).

TMT helps explain complex social and cultural dynamics. As described in the next section, a water context also provides unique insight into human relationships and social, political, and economic processes. Integrating TMT and water history may be a valuable and effective framework to study history because it can simultaneously explain these dynamics and discern the underlying motivation for socially- and ecologically-transformative water-related decisions.

## **2.2 Water’s Social History**

Universal dependence on water unites all living entities. For humans, this collective bond has permeated social life and renders water a compelling medium through which to study human relationships (Tvedt & Oestigaard 2010; Strang 2014). For example, water supplies foster social assembly<sup>1</sup>. In Ancient Rome (312 B.C. – ca. 500 A.D.), water collection sites supplied by the Roman Aqueducts served as a public gathering places, and public baths were culturally significant as places

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<sup>1</sup> Although there is plenty of water literature related to divergent cultural worldviews – e.g., Indian, Indigenous Australian, and African – I focused on examples that influenced late nineteenth century Western thought since they relate to my research objectives.

to convene in both Ancient Rome and across the Ottoman Empire (ca. 1669-1898) (Salzman 2006; Linton 2010; Mays et al. 2013). In a contemporary context, water coolers are a stereotypical informal meeting place in office environments, and public beaches and swimming pools are water-based communal recreation areas (Kaplan 2011; Linton 2011). Through a TMT lens, water's socio-cultural importance stimulates routine interactions with other people. These social exchanges produce and reproduce cultural customs, values, beliefs, and behaviours and create a common social identity, i.e., a cultural in-group (Whitehouse & Lanman 2014).

While water supplies foster social assembly, they also divide people, because how people interact with water reflects social identity. For example, during the eighteenth century, European aristocrats used mineral water bathing to heal and prevent various ailments and as a way to display prosperity and social status (Back et al. 1995; Verouden & Meijman 2010). Since access to mineral waters' curative benefits was predominantly restricted to wealthy people, historical interactions with water signify wealth gaps in society. Consistent with TMT, mineral water may have symbolized immortality by serving as a 'fountain of youth' to consumers. Associating it with youth, vitality, and beauty bestowed it with cultural value. Using it may have enabled people to satisfy cultural standards through enhancing their appearance, and affirm their death transcendence by achieving the illusion of eternal youth. If mineral water use bolstered self-worth and represented inclusion in a (desirable, wealthier) social group, theoretically it would have served to alleviate participants' existential concerns (Routledge et al. 2004).

Other examples illustrate how water has been used to denote hierarchies between different groups of people: for example, until the latter half of the twentieth century in the Southern United States, it was illegal for black people to drink from the same water fountain as white people (Kaplan 2011). This segregating law, a Jim Crow-era relic, functioned to perpetuate African-Americans'

inferiority in the United States (Liberato et al. 2008). Similarly, disregard for water's spiritual and ecological value to American indigenous peoples by dominant social and political actors reinforces their subordinate social status (Bauer 2007). These examples show how access to water has historically indicated social standing and "reveals much about membership in society" (Salzman 2006: 3). From a terror management perspective, a water context can illustrate how asserting social dominance functions to uphold dominant cultural values and validate a group's conception of cultural meaning and order by undermining other worldviews (Arndt et al. 2002).

In a religious context, divergent perceptions of water also divide people. Reverence for water is unanimous across all religions and cultures, although it is expressed in diverse ways (Hamlin 2000; Verouden & Meijman 2010). For example, across religions, holy water is used to cleanse sins, but sources of sacred water and ceremonial procedures vary (Tvedt & Oestigaard 2010). In one compelling water-related Old Testament story, two disputing Jewish groups – Yahweh-believers and Baal-worshippers – each prayed for rain to determine whose God was real. Yahweh-believers' prayers were answered and Baal-worshippers' were not, which eventually led to Baal's demise (Woods 2003). This story indicates that gods' power was expressed through their provision and denial of water, bestowing it with substantial symbolic power (Woods 2003; Tvedt & Oestigaard 2010). It also suggests that, since biblical times, water's association with power has extended beyond divinity, and also explained social and political power. These examples show how a water context reinforces TMT research; the existence of divergent water-related beliefs and rituals can challenge one's own perception of holy water's symbolic value and purpose, and thereby undermine one's worldview (Greenberg et al. 1992).

Given the considerable social and ecological implications of water-related decisions, water also has political connotations (Hamlin 2000; Feitelson et al. 2007). In Ancient Rome, the provision

of free and abundant water from an ornate and technologically advanced aqueduct system was a constant reminder of the Emperor's power and benevolence; in this sense, the aqueducts served as "political statements" (Salzman 2006: 15). British imperialism in the nineteenth and early twentieth centuries also exemplified water infrastructure as 'political statements.' Large-scale water projects executed by the British in colonial states, particularly Egypt and India, discounted traditional water values in favour of British hydraulic engineering experts. British clout is illustrated by the social, economic, and political dominance they established over colonial states (Linton 2010). Because of water's political attributes, those in charge of managing water resources are very powerful (Hamlin 2000; Feitelson et al. 2007).

United States Bureau of Reclamation projects in the twentieth century exemplify water resources' political dimension, which Mollinga (2008) argued is rooted in an objective to control water resources. Through federal reclamation, the United States government invested capital in water infrastructure development to promote economic growth through irrigation projects in the largely arid and rural American West (Pisani 2003). According to Mollinga (2008: 10), water control "has three dimensions: a technical/physical, an organisational/managerial, and a socio-economic and regulatory." Through its engineering, administrative, and socioeconomic involvement, the Bureau of Reclamation's role in developing the American West reflects these three dimensions. Mollinga (2008) also mentions that water resources are often politically contested. Indeed, as William Mulholland sought Owens River water for his Los Angeles Aqueduct idea, the Bureau of Reclamation was surveying land to develop irrigation works in the Owens Valley. Los Angeles' pursuit of water rights in the Owens Valley undermined the Bureau of Reclamation's endeavours and instigated the California Water Wars, a series of water-related conflicts that would persist between Los Angeles and the Owens Valley throughout the twentieth century (Reisner 1993).

In addition to its political qualities, water's universal importance to lives and livelihoods also renders it an economic good (Swyngedouw 2004; Gleick 2006). In Western society, water is viewed as a physical resource, described by its material characteristics and valued by its use for humans (Hamlin 2000; Groenfeldt 2003; Schmidt 2014). Water commodification is primarily a product of Western society and coincides with the Industrial Revolution, which began in the mid-eighteenth century (Hamlin 2000; Groenfeldt 2003). As water became viewed through a more scientific and technocentric lens, it was increasingly assessed by its economic potential. Large-scale water infrastructure development in the nineteenth and twentieth centuries was undertaken to stimulate capitalism. This shift in the conceptualization of water converges compellingly with TMT; evidence suggests that attempts to control nature reflect humans' efforts to deny their mortality (Koole & Van den Berg 2005; Vess & Arndt 2008). Wealth accumulation also signifies humans' pursuit of immortality (Solomon et al. 2004).

Commodification also removed water's social meaning from the discourse, which has had both human and environmental implications (Linton 2010). Correspondingly, Espeland (1998: 28) wrote that "commodification distorts our relations with each other by turning people into means and things into ends." In this light, removing water's social and cultural importance through the dominant Western perspective has diminished human and human-nature relationships; large-scale, technocentric water projects alienated people from nature and each other. For example, substantial infrastructure such as the Hoover Dam enables people to live comfortably in a harsh, arid climate, alienating people from nature and creating an illusory sense that humans have conquered it (Rogers & Schutten 2004). Also, the bureaucracy associated with significant water projects removed ordinary people from water-related decision-making (Molle et al. 2009). Modern water infrastructure development affects the social construct through which people relate and interact with nature and

other people (i.e., find a sense of meaning). Infrastructure functions to “both enable and constrain” people, thereby establishing social order and structure (Edwards 2002: 6). If awareness of death’s inevitability underpins humans’ ambition, and infrastructure is a physical manifestation of the contrived conception of reality through which humans relate to their environment and one another, then TMT may offer novel insight into what motivates the pursuit of such substantial undertakings.

Objectifying something with social and cultural value, such as water, “inserts distance between us and what is valued, fostering intellectualization and detachment” (Espeland 1998: 28). TMT research has shown that existential concerns enhance female objectification and self-objectification; likening their value to that of mere animals functions to distance people from their own corporeality (Goldenberg et al. 2002). Consistent with this TMT finding, perhaps devaluing water – that is, emphasizing its utility over its special and multifarious qualities – buffers people from their mortality because controlling a life-giving substance provides a sense of control over their own lives. If so, then perhaps TMT can provide unique perspective on the widespread human and ecological implications resulting from society’s penchant for economic growth, and technological approaches to achieve economic goals and address water scarcity.

### **2.3 Modernity and Progress**

Modernity, as a time scale, is a period of human history generally considered to extend from the sixteenth century to the twentieth century (Berman 1982). Modernity, as a concept, refers to a collective endeavour toward progress and social change – rooted in humans’ desire to distinguish themselves from nature – a process enabled by capitalism and industrialization (Kaika 2005). It is characterized by ubiquitous and profound social, cultural, political, economic, scientific, technological and ideological transformations of social configuration. These transformations gave rise to new, ‘modern’ social structures and cultural worldviews (Berman 1982; Giddens 1990; Beck

1992). The modernity process has increasingly deemphasized collective social identities and aristocratic power, and emphasized individual freedom and autonomy (Wagner 1994; Martin 1997).

Many modern ideologies emerged from the Enlightenment era, which originated in eighteenth-century Europe (Giddens 1990; Wagner 1994). The Enlightenment was a cultural shift that emphasized the pursuit of truth and reason and led to a way of thinking that was scientific and rational (Becker 1975). This cultural shift corresponded with a widespread interest in the notion of progress, the belief that people have the capacity to continually improve their state of being – that “the world of tomorrow will be better than the one we live in today” (Vourinen et al. 2007; Rutjens et al. 2009: 536). The Enlightenment provided individuals with a sense of control over their own destiny, and increasingly the scientific frameworks and technological tools to take that control; this facilitated the modern idea that people can stand apart from nature (Becker 1975; Allan 2005).

The modern era as it arose from the Industrial Revolution during the nineteenth century coincided with a broad recognition of the importance of large-scale water and wastewater infrastructure to sustain societies which, in the Western world, were undergoing rapid and unprecedented urbanization (Berman 1982; Kaika 2005; Bakker 2012). Beck (1992) labeled the post-Industrial Revolution period as the ‘industrial society’, during which technological advancements and capitalism facilitated mass production and consumption. The consolidation of industrial and economic activities in cities resulted in the mass migration of people from rural to urban areas for employment opportunities (Wagner 1994). Urban rivers’ environmental quality subsequently deteriorated, which initiated a collective determination to control water through large-scale infrastructure development (Kaika 2005; Castonguay & Evenden 2012).

The Late Modern era spans the twentieth century and is distinguished from the industrial society by the notion that we live in a ‘risk society’ (Beck 1992). A risk society is characterized by

increased concern for the future, coupled with an understanding that threats to society have global implications (Giddens 1990). ‘Risks’ have multiple forms, including:

- Environmental (e.g., the threat of nuclear annihilation to humanity),
- Economic (e.g., we are all embedded in an unstable world market), and
- Health-related (e.g., pandemics) (Giddens 1990; Beck 1992; Vuorinen et al. 2007; Kaplan 2011).

In addition, many modern risks that society is exposed to are rooted in society’s reflexivity and focus on an uncertain future; in other words, they are enabled by the very process of modernization (Beck 1994).

Increased awareness of risks has led to widespread changes in social relations and created a society laden with uncertainty and insecurity (Giddens 1990). In a water context, modernity is characterized by the ‘Hydraulic Mission’, an era that corresponds with the industrial society and late modernity (Scott 1999; Allan 2005; Kaika 2005).

## **2.4 The Hydraulic Mission**

The Hydraulic Mission includes an emphasis on advancements in engineering to control and manipulate water resources (Swyngedouw 1999; Molle et al. 2008). It emerged from the idea that “not a single drop of water should reach the sea without being put to work for the benefit of Man” (Molle et al. 2009: 332). This mindset corresponds with the modern Western belief that civilized societies are distinct from ecological processes (Scott 1999; Kaika 2005; Verouden & Meijman 2010; Strang 2013).

Damming, diverting, and draining water resources were intended to provide flood protection, generate electricity, and practice large-scale irrigation (Kaika 2005; Molle et al. 2009). These objectives were viewed as beneficial to society’s advancement and progress (Kaika 2005; Verouden & Meijman 2010). The ability to subdue nature corresponded with the notion of ‘progress’ because it

enabled intensified urbanization and industrialization (Kaika 2005). Taming nature to create a dependable supply of water, food and energy enhanced society's ability to further develop (Scott 1999; Kaika 2005; Schmidt 2014), which fed into modern society's fixation on relentless production and consumption and enabled a system of seemingly limitless expansion and exploitation. While no society has ever achieved absolute domination over water resources, efforts have substantially influenced the trajectory of civilization and permanently altered the environment (Tvedt & Jakobsson 2006).

The Hydraulic Mission and its effects epitomize many outcomes of modernity. The perception of water became more technical and scientific as the concept of modernity evolved, which diminished the importance of water's social function (Tvedt & Ouestigaard 2010; Schmidt 2014). Water delivery to individual homes exemplifies the individualization and alienation from both water resources and each other (Kaika 2005; Kaplan 2011). People have become dependent on the state for social order (Wagner 1994), part of which includes relying on the state to supply water. In a modern context, water management became more bureaucratic as water became increasingly understood as a resource to be controlled by the state (Schmidt 2014). Large-scale water infrastructure development is linked to the concept of a risk society in that such development also brings with it more risk, such as the threat of disaster or scarcity (Swyngedouw 2004). Indeed, people are increasingly uneasy about their reliance on the state for sufficient water, as exemplified by rising distrust of the source of a public water supply, skepticism of the chlorination and fluoridation process to treat water before its distribution, and apprehension about potential contaminants such as lead in older pipes (Kaplan 2011).

Ongoing urbanization and industrialization largely require sufficient water supplies (Bakker 2012; Castonguay & Evenden 2012). Coupled with scientific and technological advancements that

enabled humans to develop safe and reliable water supplies, during the Hydraulic Mission states pursued projects that would allow them to subdue nature (Kaika 2005; Molle et al. 2009). Efforts to dam and divert water resources were embraced “in the pursuit of iconic and symbolic projects” (Molle et al. 2009: 328). During the twentieth century, large-scale water infrastructure development represented modern achievement, triumph over nature, and nation development (Bakker 2012).

## **2.5 Terror Management Theory, Modernity, and Hero Projects**

A fundamental overlap between modernity and TMT pertains to “the insecurity of human existence and the need to perceive the world as reliable and consistent” (van Marle & Maruna 2010: 15). These insecurities stem from a lack of opportunity for people to feel valuable in the construct of modern society (Rutjens et al. 2009). As described in the preceding section, one’s need to feel significant is a key element of terror management.

Modernity represents a collective endeavour to enhance society through human activity, using scientific and technological advancements to control natural processes for human – generally economic – progress. This perspective – that the essence of ‘progress’ is to conquer nature – corresponds with TMT in that striving for such control creates a sense that humans will eventually suppress nature’s authority and consequently achieve immortality (Martin 1997; Rutjens et al. 2009). In a water context, the modern concept of progress aligns with the Hydraulic Mission’s efforts to control nature through large-scale damming and diversion projects. The dramatic shift in the concept of ‘progress’ is crucial to understand considering the connections between progress and the cultural hero system.

Modernity is a suitable backdrop to TMT and hero projects because it can help explain the characteristics of society, how they have evolved, and their consequences. A hero project embodies

the values of a particular cultural worldview; if it is to contribute to society's 'progress' it is imperative to delineate what that means in a given context. Understanding the outcomes of modernity can provide insight into the state of society, and subsequently what would be regarded as a valuable contribution to a given culture. Such an understanding can help explain what motivated Mulholland to aspire toward the cultural hero system of the modern era in which the Los Angeles Aqueduct was constructed (Feldman & Snyder 2005).

## **Chapter 3: Methodology**

I explored the ideas that the development of major water infrastructure satisfies cultural values, and provides a means by which people involved in infrastructure construction can create a lasting legacy to society. The Terror Management Theory (TMT) framework used in this study includes proximal and distal defense mechanisms, which function to mitigate or repress death anxiety. Through this theoretical lens I investigated what motivated William Mulholland, the engineer behind the Los Angeles Aqueduct, to become involved in water infrastructure development. I used a combination of Content Analysis (CA) and Critical Discourse Analysis (CDA) to analyze relevant historical documents and gain insight on Mulholland's individual involvement, as well as the broader cultural context. Assessing evidence of terror management mechanisms in water infrastructure history enabled me to draw connections between the development of water-related 'hero projects' and the pursuit of symbolic immortality.

### **3.1 Research Objectives**

My first objective was to discern the broader late nineteenth century American cultural worldview. The prevailing beliefs, values, perspectives, and attitudes underlie what may have motivated widespread support for significant water infrastructure undertakings. The dominant cultural framework also potentially shaped the Mulholland's individual worldview. Understanding conventional cultural values provided context for the entire investigation.

My second objective was to outline Mulholland's cultural worldview, which also contextualized this study. Although related to the first objective, it is distinctive because it provides more refined insight into his decisions, attitudes, and values. Cultural worldview elements used to

reveal both the broader and individual worldviews were informed by TMT literature. This portion of the investigation was conducted simultaneously with the investigation into the broader worldview.

My final objective was to search for evidence of terror management mechanisms in the context of Mulholland's Los Angeles Aqueduct undertaking, through an exploration of relevant historical documentation. The purpose was to illustrate how water infrastructure development functioned to satisfy cultural values and enhance Mulholland's self-esteem through involvement in this 'hero project.'

### **3.2 Single-case Study Rationale**

I used a single case study, qualitative approach to achieve my research objectives. The strength of a single, as opposed to multiple, case study approach was that it enabled me to delve more deeply into the cultural context as it related to Mulholland, Los Angeles, and water infrastructure development. This was particularly relevant given the complexity of Mulholland's worldview, which was shaped by both his Irish upbringing and the American culture worldview in which he became immersed when he immigrated to the United States. Yin (2013) noted a single case study's potential to contribute meaningfully to both reinforcing and challenging a particular theoretical concept. Through a meta-analysis, Burke et al. (2010) showed that TMT is a viable framework to provide insight about how death motivates and shapes human life. Given the extensive and multifarious suite of TMT research, a single case study approach allowed me to consider TMT's intricacies more comprehensively. Using multiple case studies would have limited the study's depth and intricacy in the contexts of both Mulholland and TMT (Stake 1995; Flyvbjerg 2006).

Since this study was contextualized by a particular culture and time, the results are not generalizable. Using multiple case studies enables researchers to "explore differences within and

between cases” (Baxter & Jack 2008: 548). I compensated for the lack of generalizability through an explicit, replicable approach that may be applied to other cases. Stake (1995) justified the single case study when he discounted generalizability’s importance, noting that most research is meant to ‘refine’ understanding, rather than lead to new understanding. In a broader sense, however, this study may be generalizable since it contributes to a collection of TMT research contextualized by water.

### 3.3 Research Design: Conceptual Framework

Terror management research has substantiated the effects of mortality salience on peoples’ actions, attitudes, and behaviours (Burke et al. 2010; Heflick & Goldenberg 2012). I coded my dataset to draw connections between the Los Angeles Aqueduct’s development and Mulholland’s pursuit of symbolic immortality. My approach was based on the TMT hypothesis about the effects of mortality salience on peoples’ behaviour. For example, Dickinson’s (2009) backdrop was the global climate change threat; the threat of a looming water crisis contextualized my study. Table 1 describes TMT predictions, modified to my water crisis context:

**Table 1:** TMT hypotheses about the influence of mortality salience on water crisis responses.

<b>Hypothesis:</b>	<b>Predictions:</b>	<b>Literature Citations:</b>
Water crisis primes increase death thought accessibility.	Death thought accessibility will increase when people are asked to think about a water crisis. High-severity forecasts will increase death thought accessibility more than low-severity forecasts.	Greenberg et al. 1994; Arndt et al. 1997; Solomon et al. 2004; Goldenberg et al. 2008
<b>People will exhibit proximal defenses in response to information about a water crisis by:</b>		Greenberg et al. 2000; Arndt et al. 2003; Routledge et al. 2004; Goldenberg & Arndt 2008
Denying that the threat exists;	A water crisis prime increases both the frequency and intensity of water crisis denial.	
Accepting a water crisis, but denying that humans are the cause;	A water crisis prime increases the intensity of denial that humans cause climate change.	
Accepting a water crisis, but pushing the timing far into the future.	A water crisis prime increases estimates of the amount of time until the occurrence of severe water crisis effects or the tipping point.	

<b>People will exhibit distal defenses in response to information about a water crisis by:</b>		
Striving for self-esteem;	A water crisis prime increases striving for self-esteem within the context of the individual's worldview.	Greenberg et al. 1992; Harmon-Jones et al. 1997; Mikulincer & Florian 2002; Arndt et al. 2009; Vess & Arndt 2008
Defending their worldviews;	A water crisis prime increases the intensity and frequency of the worldview defense.	Rosenblatt et al. 1989; Greenberg et al. 1992; Greenberg et al. 1994; Arndt et al. 1997; Harmon-Jones et al. 1997
Showing antagonism toward outgroups;	A water crisis prime increases the devaluation and marginalization of the aggression and violence against individuals and groups with opposing worldviews.	Rosenblatt et al. 1989; Greenberg et al. 1995; Arndt et al. 1997; McGregor et al. 1998
Transference idealization.	A water crisis prime increases the valuation of leaders with a shared worldview and the propensity to grant power to worldview leaders.	Landau et al. 2004; Cox et al. 2008; Dickinson 2009

Each element of the TMT hypothesis as it relates to my study is described below.

### **3.3.1 Water crisis primes increase death-thought accessibility**

If cultural worldview and self-esteem function to repress mortality salience (MS), undermining those constructs would intensify reminders of death (Schimel et al. 2007). Indeed, this is the basis of the death-thought accessibility (DTA) hypothesis, a branch of TMT that has demonstrated that terror management mechanisms are activated according to the extent to which death-thoughts remain cognitively accessible (Arndt et al. 1997; Hayes et al. 2010). The closer death thoughts linger near the surface of consciousness, the higher the DTA. High DTA has been associated with increased worldview defense and self-esteem striving (Arndt et al. 1997).

Reminders of war, violence, terrorism, disease, risky behaviour, and destruction have been shown to increase DTA and activate worldview defense mechanisms, as have more benign settings such as cemeteries, hospitals, and funeral homes (Landau et al. 2004; Hayes et al. 2010; Vail et al.

2012). Koole and Van den Berg (2005) even found that prompting people to think about the wilderness elicited more death-related thoughts compared to thinking about cultivated or urban landscapes. Indeed, DTA can be enhanced even when death thoughts remain unconscious (Dickinson 2009). For this study, reminders of a water crisis threat could indicate the underlying awareness of potential devastation that would arise from water scarcity. When a society is continually threatened by water scarcity, the potential threat to its entire existence would presumably increase peoples' DTA.

Understanding whether a water crisis prime increased DTA can provide insight into the extent to which the threat of a water crisis was associated with death (Hayes et al. 2010). Evidence that water crisis primes increase DTA may be reflected in how society and Mulholland discussed water scarcity. In California, the late nineteenth and early twentieth centuries were characterized by concerns for a sufficient water supply due to population growth combined with periods of drought. In a water context, thinking about damaged infrastructure, the threat of drought, or barren desert landscapes may have incited MS. Such thoughts may be reflected in the firsthand historical documentation related to my case studies. In a TMT context, such concerns may have elicited terror management defenses in the form of worldview defense and self-esteem striving.

### **3.3.2 People will exhibit proximal defenses in response to water crisis primes**

Death-thought accessibility research gave rise to an awareness of two distinct defense mechanisms humans use to repress MS: proximal defenses and distal defenses (Pyszczynski et al. 1999). Proximal defenses are triggered by direct reminders of death and involve active repression through denial, distraction, rationalization, or trivialization of death-related thoughts to cope with MS (Greenberg et al. 2000; Hayes et al. 2010). Distal defenses, on the other hand, buffer people from unconscious death awareness and involve protection of the symbolic self as expressed through participation in a cultural

worldview (Greenberg et al. 2000). Greenberg et al. (1994) first distinguished between conscious and unconscious processes to mitigate MS. They found that worldview defense intensified after a delay and distraction from the initial direct reminder of death, after the initial process of active repression (Hayes et al. 2010).

Pyszczynski et al. (1999) argued that humans use both proximal and distal approaches to assuage their mortality fears and referred to the combination as the dual-process mode to managing MS. As outlined in Table 1, proximal defenses in a water crisis context are likely to be expressed through outright denial, denial of humans' responsibility, and downplaying of the severity. In the context of this study, natural or manmade disasters – directly or indirectly related to the Los Angeles Aqueduct – may have functioned as MS primes for Mulholland and the public. Subsequently, thinking about destruction and devastation related to earthquakes, droughts, floods, and dam failures may have activated proximal defenses. Primary documents that discuss the potential for disasters may contain proximal defense indicators, which would include evidence that Mulholland diminished threats' potential or significance, or rationalized their potential threat to society or to the Aqueduct's efficacy.

Distinguishing between proximal and distal defense mechanisms has been pivotal to advancing TMT because it refined researchers' understanding of how worldview defense and self-esteem striving function to protect humans' awareness of death's inevitability (Pyszczynski et al. 1999; Greenberg et al. 2000; Hayes et al. 2010). The DTA hypothesis has significantly enriched TMT research by enabling researchers to analyze social behaviours that result from unconscious awareness of death without inducing MS (Hayes et al. 2010). These advancements paved the way for research like this. For example, a water scarcity threat can engender mortality salience; without water, individuals and civilization cease to exist. From a TMT perspective, these underlying concerns

stimulate cultural participation. Understanding the distinction between proximal and distal defenses enabled me to explore Mulholland's pursuit of symbolic immortality through his involvement in the Los Angeles Aqueduct's development using historical documentation, i.e., without having to induce MS.

### **3.3.3 People will exhibit distal defenses in response to water crisis primes**

Terror management experiments have shown that death thoughts are activated indirectly through reminders of topics associated with death, such as cancer, wilderness, and creatureliness (see Hayes et al. 2010). Indirect thoughts of death have been found to incite distal defenses, which occur when the threat of death is outside an individual's focal attention (Pyszczynski et al. 1999; Hayes et al. 2010). Distal defenses involve the pursuit of symbolic immortality to manage death thoughts, expressed through an individual's efforts to bolster his or her cultural worldview and feelings of self-worth (Pyszczynski et al. 2004). In their meta-analysis, Burke et al. (2010) found that studies with longer delay tasks – which push mortality concerns into unconsciousness – between MS induction and the dependent variable yielded significantly stronger distal defenses. They also found that inadvertent death reminders, i.e., induced by merely walking past a funeral home, stimulated distal defenses just as strongly as contrived MS inductions. This suggests that latent water crisis concerns may provoke distal defenses people threatened by the potential for water scarcity.

The following sub-sections describe the role of each distal defense mechanism in answering my thesis question and how that information may be manifested.

#### **3.3.3.1 Self-esteem striving**

Early TMT research was rooted in a desire to understand humans' underlying motivation to obtain self-esteem, and led to the development of the cultural anxiety buffer hypothesis (Greenberg et al.

1992; Florian & Mikulincer 1998; Pyszczynski et al. 2004). The cultural anxiety buffer explains how people alleviate their mortality fears, and consists of two pillars: cultural worldview and self-esteem (Rosenblatt et al. 1989; Arndt et al. 1997). Cultural worldviews provide a sense of meaning, order, and permanence to the world (Pyszczynski 2004; Hayes et al. 2010). Accordingly, people can feel like valuable contributors to a meaningful world through investing in their cultural worldview, which in turn helps to mitigate their death-related anxieties (Rosenblatt et al. 1989; Greenberg et al. 1997; Pyszczynski 2004; Hayes et al. 2010). Living up to the principles prescribed by the cultural worldview corresponds with enhanced self-esteem (Rosenblatt et al. 1989; Florian & Mikulincer 1998; Arndt et al. 1997).

Self-esteem refers to one's evaluation or perception of oneself (Pyszczynski et al. 2004). TMT experiments have consistently shown that self-esteem mitigates MS and reduces DTA by providing individuals with feelings of significance that allow them to symbolically transcend death (Harmon-Jones et al. 1997; Pyszczynski et al. 2004). High self-esteem is associated with lower death-related anxieties, and low self-esteem with increased mortality fears (Harmon-Jones et al. 1997; Pyszczynski et al. 1999). Relatedly, higher self-esteem also makes people more willing to take risks (Ben-Ari et al. 1999; Pyszczynski et al. 2004). Threats to self-esteem have been experimentally correlated with increased DTA, and enhanced self-esteem with lower DTA (Greenberg et al. 1992; Harmon-Jones et al. 1997; Hayes et al. 2008). In the context of this study, understanding Mulholland's pursuit of self-esteem will help explain how he upheld – or failed to uphold – his cultural worldview. His self-depictions may reflect the extent to which he believed he succeeded or failed in contributing to society. Indications of his self-identity may be exemplified by how he described, for example, his intelligence, ability, fortitude, and accomplishments (or lack thereof).

Mulholland's self-esteem pursuits may also provide insight into his worldview. For instance, the extent to which one derives self-worth from religion, political involvement, or patriotic fervour points to one's religious, political, or patriotic ideology (Greenberg et al. 1995, Arndt et al. 1997; McGregor et al. 1998). Likewise, self-evaluation of one's success based on wealth or possessions indicates one likely subscribes to a materialistic cultural worldview (Arndt et al. 2004; Solomon et al. 2004). The following sections elaborate upon the role of cultural worldviews in a TMT context.

### **3.3.3.2 Worldview Defense**

Even though humans eventually understand that they will each die, aligning their identity with, and investing in, a cultural in-group facilitates death transcendence (Greenberg et al. 1994). This is because "the groups that people belong to typically continue" beyond an individual's physical life (Routledge et al. 2013: 483). Cultures instruct how people should behave and act and, if people are able to fulfill these requirements, these social structures promise either literal or symbolic immortality (Harmon-Jones et al. 1997; Pyszczynski et al. 2004; Salzman 2008). From a TMT perspective, cultures function to refute death's finality (Pyszczynski et al. 2004).

Cultural worldview defense refers to the ongoing need to bolster one's commitment to one's worldview (Neimeyer et al. 2004). Since cultural worldviews are socially constructed devices, they must be continuously re-affirmed to effectively alleviate death-related anxieties (Rosenblatt et al. 1989; Greenberg et al. 1990; Harmon-Jones et al. 1997). Cultural worldviews are bolstered through mutual consent of their validity, which occurs through interactions with culturally similar others (Greenberg et al. 1990; Simon et al. 1997). Worldview defense buffers people from existential terror by suppressing the accessibility of death thoughts from consciousness (Neimeyer et al. 2004; Friedman & Rholes 2007).

For this study, indicators of worldview defense may provide insight into whether underlying death thoughts motivated Mulholland's participation in culture. In an Aqueduct context, worldview defense indicators could include:

- Espousal of water infrastructure development as important or necessary to population and economic development;
- Descriptions of how his career provided him with a sense of meaning or significance; and
- Support for others with the same worldview, which would serve to authenticate that worldview.

Understanding the extent to which he felt the need to substantiate his work informs the significance of upholding that worldview to maintain or bolster his self-esteem.

### **3.3.3.3 Antagonism toward Others**

If an important purpose of culture is to offer a sense of significance and stability then, correspondingly, dissimilar cultural worldviews inherently threaten the validity of one's worldview (Greenberg et al. 1990). Since different cultures offer divergent responses to existential terror, people use aggression, violence, and belittling to devalue cultural outgroups and substantiate their own worldview (Greenberg et al. 1990; Greenberg et al. 1992; McGregor et al. 1998). Indeed, this was the focus of some of the earliest terror management investigations, which demonstrated that MS intensifies peoples' perceptions of others (i.e., Rosenblatt et al. 1989; Greenberg et al. 1990).

MS has been demonstrated to trigger intolerance of dissimilar others in the contexts of political, religious, and patriotic ideologies (i.e., Greenberg et al. 1990; Greenberg et al. 1994; Greenberg et al. 1995; Arndt et al. 1997; Pyszczynski 2004). In addition to these contexts, TMT experiments have suggested that MS leads to discrimination against other disparate social groups, and stereotyping, as a way to uphold cultural worldviews (i.e., Rosenblatt et al. 1989; McGregor et al. 1998; Schimel et al. 1999).

For my study, examples of outgroup antagonism may be revealed by each personality's attitude toward those who oppose their respective water infrastructure projects. Unfavourable or denigrating remarks by each personality could represent attempts to undermine disparaging worldviews. In addition to supporting previous TMT research that has consistently demonstrated outgroup antagonism as a distal defense mechanism, such evidence may also provide insight into each personality's DTA. Understanding whether they instigate derogatory remarks, or if their remarks are a response to opposing worldviews, could signify the extent to which they felt impelled to corroborate their own worldview. Such evidence would support the idea that when cultural values are undermined, death thought accessibility increases (Friedman & Rholes 2007).

#### **3.3.3.4 Transference Idealization**

In addition to self-esteem striving and worldview defense to assuage death-related anxieties, transference idealization provides another form of distal defense. Transference idealization refers to projecting power and importance onto an entity that will persist beyond an individual's physical life to transcend death (Cox et al. 2008; Dickinson 2009). Individuals mitigate mortality fears by finding a sense of meaning, security, and strength through people, deities, objects, and ideas that are laden with significance (Leichy 2008).

The transference idealization concept may help explain the role of water and related infrastructure in mitigating Mulholland's death anxieties. Water's ethereal and powerful characteristics give it an idyllic quality (Linton 2010; Bakker 2012). In a transference idealization context, humans' awareness of their dependence on water imbues it with power; without it, individuals and societies cannot exist (Strang 2004; Linton 2010). Likewise, the beauty and mystery associated with water, and its uniqueness, evoke awe and reverence (Savenije 2002; Tvedt & Oestigaard 2010). In the semi-arid American southwest, understanding water's importance was

unavoidable. The arid setting was an ever-present reminder of the harsh reality individuals and societies would face without sufficient water (Reisner 1993). Water symbolizes purity, health, vitality and wellbeing (Tvedt & Jakobsson 2006; Bakker 2012; Strang 2014), and can therefore be regarded as a transference object.

The extent to which water acted as a transference object will be determined by analyzing how Mulholland wrote or spoke about it. In a transference idealization context, discerning what water represented to him will illustrate if and how it was something he projected power and importance onto. Hypothetically, access to sufficient water provides a sense of security that helps to assuage death thoughts, and endowing it with power and importance could help construct a sense of security. Understanding the meaning and significance associated with water could help explain the underlying motivation to create a secure and reliable source for Los Angeles.

If water exhibits transference object qualities then, from a TMT perspective, Mulholland's involvement in providing water to society was an opportunity for him to strive for heroism, and thereby symbolically transcend death (Dickinson 2009). Water infrastructure development may have served a terror management function, as an opportunity to demonstrate his instrumental role in society and to attach his identity to an entity more substantial than his individual life (Munley & Johnson 2003; Pyszczynski et al. 2004; Dickinson 2009). Providing water for future generations may have allowed him to immortalize himself; he was able to simultaneously satisfy cultural values by supplying something integral to society's existence, and bolster his symbolic self by establishing a legacy that would endure beyond his physical life (Dickinson 2009; Wade-Benzoni & Tost 2009; Fox et al. 2010).

Understanding whether water infrastructure development provided the opportunity for Mulholland to create a legacy could be expressed in various ways. Evidence to substantiate the

hypothesis that these projects functioned as ‘hero projects’ for my personality case studies may include references to how water infrastructure development:

- Satisfied religious, political, or patriotic values;
- Would enable society to exist in perpetuity, and likewise connect it to the past;
- Would stand apart from, and above, nature;
- Reflected modern technology, engineering knowledge and laws and policies to enrich the quality of life; and
- Signified wealth, beauty, and fame.

I explored the idea that water is a transference object, and water infrastructure development is both a literal and metaphorical conduit for symbolic immortality. By exploring water and water infrastructure projects as transference objects and immortality projects, respectively, I hoped to determine what they represented to each case study. Such an understanding was derived from their perception of water and related infrastructure as both an idea and a concrete entity.

If water infrastructure development acted as an immortality project, then the people credited with their development – i.e., Mulholland – would likely have been a transference object himself from society’s perspective. Feeling revered by society would have enabled him to see himself as heroic; his successes would have increased his self-esteem and his involvement would have provided a way to contribute to culture. In that sense, by projecting his identity onto these iconic structures, he would immortalize himself.

### **3.4 Research Context: Cultural Worldview Themes**

In accordance with TMT, people symbolically transcend death by immersing themselves in a cultural worldview (Florian & Mikulincer 1998; Pyszczynski et al. 2004). One key function of culture is to provide a sense of meaning, order, and permanence to the world (Hayes et al. 2010). Accordingly, individuals can feel like valuable contributors to a meaningful world through investing in their

cultural worldview, which in turn helps to mitigate their death-related anxieties (Greenberg et al. 1997; Hayes et al. 2010).

Several cultural contexts have been used to study terror management's role in shaping peoples' attitudes, perceptions, behaviours, and decisions (see Burke et al. 2010). If terror management influenced Mulholland's involvement in water infrastructure development, then a range of cultural contexts might be reflected in water infrastructure undertakings, which are arguably political, patriotic, religious, social, and personal in nature. TMT literature can inform the various pathways to death transcendence potentially offered by involvement in water infrastructure development. Contextualizing terror management indicators by the various worldview themes provided more insight into Mulholland's worldview – supporting my second research objective – and illustrated how he may have coped with existential anxieties. Each section below outlines a cultural worldview theme contextualized by TMT, and potential water- or Aqueduct-related indicators that pertain to the overarching category.

### **3.4.1 Religious Affiliation as a Cultural Worldview**

Different cultures offer divergent responses to existential terror and, through a TMT lens, the existence of contradictory cultures is used to justify violence and aggression towards others through 'cultural worldview defense' (Salzman 2008). Cultural worldview defense refers to the ongoing need to bolster one's commitment to one's ideological belief systems such as religious and political views (Neimeyer et al. 2004). TMT experiments have shown that when mortality salient people feel their cultural worldview is questioned or threatened, they tend to reinforce their beliefs and values by "[increasing] the intensity of their reactions to people and ideas who impinge on their worldview" (Greenberg et al. 1992: 213). In their TMT meta-analysis, Burke et al. (2010) found that, compared to other dependent variables (i.e., attitudes toward an essay or sports team, or behaviour such as

aggression, charitable donation, or driving speed), attitude toward other people corresponded with the strongest worldview and self-esteem defenses.

One's religious affiliation functions to manage death-related concerns; indeed, Ernest Becker suggested religion's key function is to help humans contend with the problem of death (Neimeyer et al. 2004; Greenberg et al. 2006; Jonas & Fischer 2006; Vail et al. 2010). Greenberg et al. (1990) found that inducing MS led those of a Christian background to more positively evaluate a fellow Christian and more negatively evaluate a Jewish (outgroup) member. Friedman and Rholes (2007) identified higher death-thought accessibility amongst fundamentalist Christians compared to their non-fundamentalist Christian counterparts when core Christian values were questioned. Greenberg et al. (1995) observed that an MS induction caused participants to struggle to use their religious symbols for unintended purposes. Additional studies have demonstrated that intrinsic – more innate – religious beliefs are associated with a functioning terror management system, whereas extrinsic beliefs are associated with heightened religious struggle and mortality concerns (Jonas & Fischer 2006; Edmondson et al. 2008).

For this investigation, religiosity was explored at both a societal and individual level. At the broader level, religiosity may indicate generally accepted principles and codes of behaviour that were touted or disparaged by late nineteenth century and early twentieth century American society. At an individual level, understanding Mulholland's religious values may enlighten as to what motivated certain behaviours or produced particular attitudes. A religious worldview may indicate how he derived a personal sense of value, and the criteria he used to attain a sense of significance and meaning. Evidence of religiosity may be manifested in his use of religious or deific references, symbols, or metaphors.

### **3.4.2 Political Ideology**

Studies have also demonstrated that one's political ideology functions to manage mortality terror. For example, in an American context, both liberals and conservatives were found to increase their support for the more conservative political candidate when their mortality was made salient (Landau et al. 2004). Other studies have found that death reminders increased aggression against those who threaten one's political ideologies (McGregor et al. 1998; Pyszczynski et al. 2006). This indicates that not only does MS lead people to bolster their own worldview; worldview defense also engenders aggression toward, and derogation of, dissimilar others (McGregor et al. 1998).

Political ideology was examined both broadly and individually. The political context was particularly important to understand because of governments' significant role in funding large-scale water infrastructure projects and their campaigns to develop and settle the American West (Reisner 1993; Hundley 2004). It was important to draw connections between political context and the 'Hydraulic Mission' that characterized the era, since broader political attitudes would have influenced Aqueduct approval. It was also important to understand Mulholland's political ideology and how it compared to the broader political context. Mulholland's political ideology, interests, and involvement may be discerned from how his values compare to political values of the late nineteenth century Republican and Democratic parties, party affiliations and involvement, and personal political connections.

### **3.4.3 Patriotism**

Another widely investigated cultural worldview that activates worldview defense mechanisms is one's patriotic bias. When mortality is made salient, one responds more positively to those with complementary patriotic values, and more adversely to those with contradictory values (Greenberg et al. 1990; Greenberg et al. 1994). Several studies have found that American subjects responded to

death reminders by reacting more positively to a foreign student who spoke highly of the United States and more negatively to a foreign student with negative opinions of the United States (Greenberg et al. 1992; Greenberg et al. 1994; Arndt et al. 1997; Harmon-Jones et al. 1997; Simon et al. 1997). Cozzarelli and Karafa (1998) found that people who feel estranged from the conventional American cultural worldview report higher levels of depression, loneliness, and anxiety, but only amongst those who derived their self-esteem from the mainstream worldview. Self-reported non-conformists, on the other hand, subscribe to alternative cultural worldviews from which they obtain self-esteem. Arndt et al. (2002) also observed that MS activated patriotic worldview defense, but only for men. This was attributed to the likelihood that men derive more self-esteem from patriotic values compared to women.

Pride in the United States may be reflected in values that were considered patriotic, such as autonomy and democracy. At the individual level, Mulholland's patriotic values will indicate the extent to which he subscribed to a patriotic cultural worldview. Indicators that will speak to the importance of patriotism at the societal and individual levels include evidence that the Los Angeles Aqueduct represented patriotic values and the use of patriotic symbols, such as flags and anthems, to celebrate Aqueduct-related milestones.

#### **3.4.4 Discrimination and Stereotyping**

Mortality salience triggers intolerance of dissimilar others in the contexts of political and religious ideologies and patriotism. In addition to these contexts, TMT investigations suggested that MS leads to discrimination and stereotyping against other disparate social groups, as a way to uphold cultural worldviews.

In-group bias appears to extend to racial groups; experiments indicated that MS increased affinity toward one's own ethnicity (Greenberg et al. 2001; Halloran & Kashmina 2004). Other studies linked MS to the objectification and self-objectification of women; dehumanizing them assuaged existential terror by dissociating women from their creatureliness (Roberts et al. 2002; Goldenberg et al. 2009). Schimel et al. (1999) found that MS led to stereotyping of gender roles; not as a way to discriminate, but as a way to justify one's "cultural conception of reality" (p. 912). Finally, several TMT studies indicated that people react more negatively to those deemed to be moral or social transgressors, and more positively to those perceived as heroic (Rosenblatt et al. 1989; Florian & Mikulincer 1997).

Understanding Mulholland's perception of, and behaviour toward, other groups of people will point to his personal values and attitudes. Such evidence may be exemplified in his expressed opinions of others. At a broader level, perceptions of, and attitudes toward, marginalized groups may indicate dominant social groups in terms of race, gender, socio-economic status, etc. It is important to acknowledge that Mulholland was a wealthy, well-connected, powerful white man whose influence was likely facilitated by his social standing. For example, he and his colleagues may have been instrumental in sculpting various laws and policies of the era, which would have shaped what constituted moral or social transgression. His clout likely played a considerable role in the trajectory of his engineering career.

### **3.4.5 Close Relationships**

Close relationships serve a terror management function. Relationships – intimate, friendly, and familial – involve a high degree of commitment and connectedness, which "provide a sense of continuity and lastingness" and "a source of meaning and value" (Mikulincer et al. 2003: 25). As opposed to short-term or casual relationships and "mere physical proximity to others," Mikulincer et

al. (2003: 25) argue that only close relationships assuage existential anxieties. Inclusion in, and connectedness to, society enables symbolic death transcendence by enhancing one's self-esteem and feelings of significance.

Romantic relationships may provide procreation opportunities and, therefore, to live on through one's children (Mikulincer et al. 2003). Also, associating sex with love fills it with symbolic meaning, which provides a way to diminish humans' animalistic tendencies (Goldenberg et al. 2002). A study by Florian et al. (2002) indicated that MS increased individuals' commitment to their romantic relationship, and that enhanced commitment to the relationship served to alleviate existential concerns. They also found that reflection on their relationship problems increased their death-thought accessibility.

One's attachment style, i.e., how one pursues intimacy and emotional connection with others, complements the two components of the cultural anxiety buffer – self-esteem and cultural worldview – to provide feelings of security from humans' vulnerability to death (Mikulincer & Florian 2000; Hart et al. 2005). Hart et al. (2005) demonstrated that threatening one's attachment system prompts cultural worldview and self-esteem defense similarly to a MS induction. Mikulincer and Florian (2000) found similar results, and also observed higher death-thought accessibility among participants who felt less security in their personal attachment system.

For this study, Mulholland's various close relationships were explored to clarify his individual worldview. His marriage and relationship with his children or parents may inform their personal ideals in terms of intimacy and affection. Understanding the context of his friendships may point to the qualities he admired in others. Other values, such as whether he lived up to the expectations of important figures in his life, may provide insight into how he acquired a sense of self-worth.

### 3.4.6 Pro-social Behaviour

Pro-social behaviour refers to that which benefits the welfare of others (Hirschberger et al. 2008).

Those who act compassionately and benevolently toward others are usually highly respected by their society for such behaviour (Hirschberger et al. 2008). From one terror management perspective, pro-social behaviour would alleviate mortality concerns by providing a way for an individual to satisfy values revered by the cultural worldview (Hirschberger et al. 2008). However, MS also engenders worldview defense, which leads to behaviours and attitudes that juxtapose those associated with social values. A mortality salient individual can also become more insensitive toward dissimilar others to protect his or her self-esteem and cultural worldview (Hirschberger et al. 2008).

The conflict between humans' inclination to help and support others versus their self-protective tendencies produces a 'terror management dilemma' (Hirschberger et al. 2008). Indeed, it has been demonstrated that death reminders enhance pro-social behaviour (Jonas et al. 2002; Schimel et al. 2006; Hirschberger et al. 2008; Morgan et al. 2011), unless the pro-social behaviour itself generated MS, e.g., prompting participants to think about posthumous organ donation (Hirschberger et al. 2008). Hirschberger et al. (2008) observed that mortality salient subjects became less inclined to sign an organ donation card, get involved with an organ donation organization, or assist someone in a wheelchair: pro-social behaviours that reminded subjects of their vulnerability to death. However, a similar study yielded contradictory results, finding that MS enhanced subjects' willingness to interact with a person sitting in a wheelchair compared to a person sitting in an ordinary chair (Taubman-Ben-Ari et al. 2011).

At a general level, understanding what was considered generous and favourable behaviour will speak to the broader social values of the time. Such an indicator may be of particular relevance to this investigation due to the polarizing nature of Mulholland's work: his efforts to supply water to Los

Angeles were viewed as constructive and practical to residents, but were disadvantageous to Owens Valley residents, whose welfare consequently suffered when their water was diverted to Los Angeles.

### **3.4.7 Leadership**

A terror management analysis of the effects of MS on leadership style found that death reminders heightened support for a charismatic politician and decreased support for a relationship-oriented politician (Cohen et al. 2004; Landau et al. 2004; Merolla et al. 2007; Kosloff et al. 2010). A charismatic leader is considered to be more prescient, whereas a relationship-oriented leader promotes collective action and shared accountability (Cohen et al. 2004). As such, and as Becker (1973) noted, support for charismatic leaders tends to increase when mainstream culture fails to satisfy people's need for worldview and self-esteem protection (Cohen et al. 2004; Kosloff et al. 2010). Whereas charismatic leaders offer vision, hope, and the opportunity to feel valuable by means of attachment to the novel worldview, relationship-oriented leaders tend to be more pragmatic (Cohen et al. 2004; Kosloff et al. 2010).

While much of this information is closely connected to the in-group biases and political ideologies outlined in Section 3.4.2, the distinction here is the indication that one's personality may play a role in the extent to which they are espoused or unpopular as a leader. This is important for this terror management investigation since it suggests that existential concerns shape political preferences (Cohen & Solomon 2011). For this study, the broader cultural worldview may provide insight into the desirable qualities of various types of leaders (i.e., political, social, religious, etc.). Leaders' charisma – as well as insight into their attitude toward Mulholland and the Aqueduct – could inform subsequent effects on the public's perception of the projects.

### **3.4.8 Mindfulness**

TMT experiments have shown that more mindful people are less inclined to bolster their worldview or self-esteem under mortality salient conditions, compared to people with a less mindful disposition (Niemic et al. 2006; Niemic et al. 2010). Mindful individuals are aware and receptive of their surroundings and other people, and are more tolerant and rational by nature (Niemic et al. 2010; Brown et al. 2008). Niemic et al. (2006) and Kashdan et al. (2011) asserted that more mindful subjects in the MS condition spent more time reflecting upon and rationalizing their own demise, and therefore displayed “greater openness to processing this threatening potentiality” (Brown et al. 2008: 82). For this study, mindfulness may be denoted through Mulholland’s consideration toward others, how he rationalized death, and evidence of a tolerant attitude.

### **3.4.9 Nostalgia**

Nostalgia alleviates death concerns by adding value to an individual’s life, validating the cultural worldview, and enhancing personal relationships (Sedikides et al. 2004; Routledge et al. 2008). People who are less nostalgic have been found to be more likely to defend their worldview under mortality salient conditions (Juhl et al. 2010). Additionally, TMT studies have shown that nostalgia decreased death-thought accessibility and that inducing MS increased individuals’ proclivity to nostalgia (Routledge et al. 2011; Juhl et al. 2010).

In a TMT context, a connection to the past provides a sense of culture’s and humanity’s continuity. Evidence that nostalgia functioned to alleviate Mulholland’s mortality concerns include references to the past and a desire to return to past circumstances. This could be particularly relevant given this study’s water context; Mulholland proposed the Aqueduct idea during a prolonged drought, and may have hoped that the Aqueduct would return Los Angeles to more prosperous pre-drought conditions. Likewise, the population boom that resulted from the development fervour strained the

city's water resources. Remarks about how the Aqueduct would return the city to its former thriving state could be considered a nostalgic reference. Establishing a link to the past may have also functioned to validate his efforts by justifying the city's very existence.

### **3.4.10 Extrinsic Values**

Extrinsic values pertain to the pursuit of materialistic and superficial goals. Intrinsic values, on the other hand, hold relationships, community, and self-awareness in high regard (Cozzolino et al. 2004). Based on TMT experiments, materialistic and superficial goals become enhanced under mortality salient conditions for extrinsically value-oriented people (Kasser & Sheldon 2000; Cozzolino et al. 2004).

If culture serves to buffer against one's mortality concerns, then a money-oriented culture would venerate the pursuit of wealth, acquisition of possessions, and consumption of goods (Kasser & Sheldon 2000; Salzman 2001; Arndt et al. 2004). When self-esteem is derived from extrinsic endeavours, cultural worldview defense would be expressed through the pursuit of fortune, possessions, fame, and beauty (Arndt et al. 2004). This has been found to be particularly true when death thoughts are unconscious instead of in focal attention (Cozzolino et al. 2009; Kosloff & Greenberg 2009). In a culture that lauds materialism, one can attain self-esteem and a sense of belonging through the accumulation of wealth and goods (Salzman 2001). Amassing wealth is a more tangible symbol of immortality than emptier promises of literal death transcendence, i.e., the idea of heaven (Solomon et al. 2004).

Through the TMT lens, I explored extrinsic goals at both the broader and individual levels. Solomon et al. (2004) discussed humans' materialistic tendencies as a pervasive approach throughout human history to exhibit their affluence and superiority over others. For this TMT analysis, attitudes

toward fame, wealth, and beauty may indicate how Mulholland derived a sense of personal importance. Since water is directly associated with wealth – for example, by stimulating economic activity and allowing people to flaunt their wealth through large, lush yards – references to its role in enabling the pursuit of superficial goals may indicate personal and societal extrinsic aspirations.

The era was characterized by a rampant push to settle the American West, which was fervently promoted as an opportunity for ordinary settlers to prosper through the acquisition of property, fortune, or social standing (Reisner 1993). Preferences for materialistic goals may be illustrated by the extent to which the pursuit of extrinsic objectives was venerated, and how powerful figures appealed to the public's extrinsic desires. In a water context, this may refer to messages that convey the opportunities that would transpire from the Aqueduct's development. Mulholland's personal materialistic goals may be reflected in the degree to which he found a sense of distinction from others through his possessions, or whether he based his evaluation of others on their social standing or wealth.

### **3.4.11 Perception of Nature**

Ernest Becker suggested that humans in the Western world strive to think of themselves as independent of, and dominant over, nature (Dickinson 2009). Indeed, TMT investigations have suggested that humans detach themselves from nature to refute their mortality (Koole & Van den Berg 2005; Vess & Arndt 2008; Fritsche & Hafner 2012). Koole and Van den Berg (2005) found that exposure to wilderness gave rise to MS compared to cultivated or urban landscapes, since nature is “intrinsically associated with death” (p. 1014). They also observed that MS led to a preference for cultivated landscapes and vanquished subjects' admiration for nature's beauty. A study by Kasser and Sheldon (2000) indicated that, in response to MS, participants became more consumptive of natural resources. Other studies have shown that MS decreased subjects' concern for the environment among

those who did not obtain feelings of self-worth from pro-environmental behaviour (Vess & Arndt 2008; Fritsche et al. 2010; Fritsche & Hafner 2012).

The Hydraulic Mission era was characterized by the idea that nature was something to triumph over (Molle et al. 2009; Linton 2010). From a TMT perspective, this would have perpetuated the notion that humans are superior to the natural world. Given the Hydraulic Mission context, Mulholland's involvement in large-scale water infrastructure would have enabled him to satisfy cultural values and attain respect and significance. The Los Angeles Aqueduct represented humanity's authority over nature by establishing a society in a place that would otherwise be uninhabitable to the extent that it has been settled.

Evidence of Mulholland's perception of nature may be reflected in how he described the Aqueduct; for example, words like 'controlling' or 'prevailing over' a river, or 'transforming' a desert into an oasis may indicate feelings of authority over nature. Emotions related to wilderness, such as awe and reverence, or fear and aversion, may also indicate his attitude toward nature.

### **3.4.12 Progress as a Concept**

To believe in progress is to believe that future circumstances will improve compared to current conditions (Rutjens et al. 2009; Wisman & Heflick 2015). Whereas religion offers meaning through the concept of an afterlife, progressive hope emphasizes the earthly realm (Rutjens et al. 2009; 2010). Parallel to the concept of heaven, progressive hope is associated with the secular belief that societal advancements will give rise to a utopian civilization (Rutjens et al. 2009; 2010). In a series of experiments by Rutjens et al. (2009), participants read an essay that undermined the concept of progress by arguing that it is illusory and mythical. In accordance with TMT, MS enhanced negative reactions to the essay, and participants' death-thought accessibility increased after reading it. Also,

bolstering belief in progress alleviated mortality concerns. These experiments indicate that positive hope for the future functions as a meaningful cultural construct; focusing on the future enables people to “transcend the present” and believe that our actions today will benefit the future (Rutjens et al. 2009: 541).

If progressive hope provides a sense of meaning, then Mulholland’s water infrastructure undertakings may have symbolized progress by offering a way to improve the future state of society by resolving Los Angeles’ water scarcity. From a TMT perspective, a project that contributed positively to the city’s future growth and success may have functioned to buffer existential concerns, both for Mulholland and broader society. Evidence that the Los Angeles Aqueduct served a terror management function may be reflected in how the future was discussed in an Aqueduct context. Concern for the future in a water context would indicate that water scarcity enhanced death-thought accessibility. Statements about how the Aqueduct would alleviate water scarcity and contribute to the city’s prosperity would suggest a belief that its construction would improve future conditions.

### **3.5 Research Design: Analytical Frameworks**

I used components of Content Analysis (CA) and Critical Discourse Analysis (CDA) to analyze the data. Although they both involve the analysis of texts, they differ epistemologically and ontologically, i.e., in how they delineate reality and meaning. Content Analysis is systematic, objective, and replicable, whereas Discourse Analysis emphasizes text and context to interpret the social phenomena that create and perpetuate ideologies (Hardy et al. 2004). For this research, CA was primarily used to identify terror management mechanisms identified in primary documents and characterize the societal and individual cultural worldview, and CDA was particularly valuable in contextualizing the study. Combining CA and CDA can be complementary: CA can be used to identify themes and patterns, and CDA provides more insight into power dynamics and group relations (van Dijk 2011). Understanding

power dynamics was relevant to understand Mulholland's influence in relation to the discourse. This section provides an overview of CA and CDA, and each analytical approach and how they were used in this study are outlined in Section 3.7.2. Abiding by an explicit procedure enabled a comprehensive and systematic analysis and reduced the risk of narrowing my interpretation to the outcomes I anticipated.

### **3.5.1 Content Analysis**

Content Analysis is a methodological tool to systematically interpret qualitative data (Hardy et al. 2004; Krippendorf 2012). Content may refer to information contained within a text, the properties of the source of a text, or what is revealed through the analysis of a text (Krippendorf 2012).

Krippendorf (2012) developed a framework that facilitates a methodical approach to infer and validate evidence from data. This section outlines what I considered and how I recorded data, according to a CA approach.

#### **3.5.1.1 Texts and Sampling Units**

'Texts' can refer to a wide variety of materials and media, all of which can be considered 'data'. These include written, oral, and visual resources such as books, speeches, conversations, correspondence, films, news articles, advertisements, body language, and images (Kress & van Leeuwen 2002; Johnstone 2008; O'Halloran et al. 2011). For this study, I used archival and historical resources as data sources. In collecting archival materials (see Section 3.6.1), I focused on documents that provided primary insight into the personality case study, such as personal correspondence, articles in which he was quoted, and speeches he made. I focused on primary documents because that perspective would likely yield the most explicit evidence of terror management indicators.

Other historical materials, such as biographies and historical nonfiction, provided secondary information to help contextualize the study. For example, a combination of archival and historical materials was used to determine the broader cultural worldview. I used these to understand the common values and beliefs of the time, in accordance with cultural worldview components derived from my interpretation of terror management literature.

According to Krippendorff (2012), anything that occurs or is generated that evokes some sort of meaning to an audience is considered to be ‘text’. Units of meaning vary according to the analyst and analytical approach. For example, a political scientist and a linguist could extract different types of information from the same political speech and consequently analyze the same text very differently (Krippendorff 2012). CA functions to organize information from texts into meaningful units, discern various textual and social structures, and understand how and why things are conveyed in a particular way (Krippendorff 2012). For this study, units of meaning were drawn from historical documents in the form of terror management indicators.

### **3.5.1.2 Coding Units**

Coding is a way to organize data according to its structures and themes (Bernard & Ryan 2010). I used thematic coding to categorize data according to cultural worldview themes derived from terror management literature. This coding approach allowed me to simultaneously identify Mulholland’s expressed cultural worldview, and the terror management indicators used in a water context.

Thematic coding is a widely used approach to qualitative analysis, and involves identifying themes by which to sort and analyze data (Boyatzis 1998; Braun & Clarke 2006). Braun and Clarke (2006) developed a procedure to clarify the approach and enhance the validity and replicability of such qualitative investigations. Their approach consists of six stages:

- 1) Familiarizing yourself with your data: transcribing, reading and re-reading the data, and noting initial ideas;
- 2) Generating initial codes: systematically coding interesting features of the data and organizing it according to the codes;
- 3) Searching for themes: organizing the data according to potential themes
- 4) Reviewing themes: verifying whether the themes work, both on their own and in accordance with the context units (see Section 4.1.3);
- 5) Defining and naming themes: refining the specifics and definitions of each theme, and the overall story the data reveals, and;
- 6) Producing the report: final analysis to relate findings to the research question and literature.

For this study, I identified terror management mechanisms from archival resources and coded them according to cultural worldview themes drawn from terror management literature. I used this coding process to establish Mulholland's worldview and identify terror management indicators in documents related to water and the Los Angeles Aqueduct.

### **3.5.1.3 Context Units**

The study context connects texts to the research question and objectives. The same texts can be analyzed in a variety of ways depending on the researcher's conceptual perspective and research objectives (Krippendorf 2012). Analysis of this study is contextualized by TMT. Terror management indicators identified from historical archives were coded according to proximal defenses, the four types of distal defenses – i.e., self-esteem striving, worldview defense, outgroup antagonism, and transference idealization – and the effects of water crisis primes on death-thought accessibility. While coding data according to cultural worldview themes helped illustrate Mulholland's worldview, context units added a meaningful dimension to this study by delineating how he coped with his death-related anxieties.

### **3.5.2 Critical Discourse Analysis**

Discourse analyst scholars van Dijk, Fairclough, Kress, van Leeuwen, and Wodak are credited with the development of CDA in the late 1980s (Blommaert & Bulcaen 2000; Wodak & Meyer 2009).

Discourse analysis is the study of written and spoken communication, and how the use of language shapes, and is shaped by, a given context (Fairclough 1993; Johnstone 2008; van Dijk 2009). The study of *language* focuses on the prescribed rules and structures of written and spoken communication. Although related, *discourse* refers to how conventional – i.e., not necessarily formal – language is used to describe or influence an issue, scenario, person, etc. (Fairclough 1989; Johnstone 2008).

What sets CDA apart from other forms of discourse analysis is its emphasis on the social context over the actual linguistic structure of the data (Fairclough 1993; Waterton et al. 2006; van Dijk 2009; Wodak & Meyer 2009). With a belief that ideas form, and are formed, based on how the discourse is constructed, critical discourse analysts assert that the ongoing cycle of communication and thinking is the basis for ideological evolution (Waterton et al. 2006; Johnstone 2008).

One noteworthy element of CDA relates to the function of social power in the context of discourse. Discourse is integral to the formation of social identity and social relationships (Fairclough 1992). In any given society the most powerful people, groups and institutions are best able to propagate their ideas and opinions, and the voices of relatively disadvantaged people are overlooked or discounted (van Dijk 1993). This uneven dynamic (re)produces social and cultural inequality (Fairclough 1993; Wodak & Meyer 2009). Since people in control are able to use media persuasively, social dominance is difficult to impede. CDA uses language to identify power dynamics and their cogent role in a given social context (van Dijk 1993; Blommaert & Bulcaen 2000; Wodak & Meyer 2009). To account for social power, I followed Fairclough's (2001) analytical framework for CDA. Its steps include:

- 1) Focusing upon a social problem which has a semiotic aspect;
- 2) Identifying obstacles to being tackled, through analysis of:
  - a. The network of practices it is located within;

- b. The relationship of semiosis to other elements within the particular practice(s) concerned;
  - c. The discourse (the semiosis itself)
    - i. Structural analysis: the order of discourse
    - ii. Interactional analysis
    - iii. Interdiscursive analysis
    - iv. Linguistic and semiotic analysis
- 3) Considering whether the social order (network of practices) in a sense ‘needs’ the problem;
  - 4) Identifying possible ways past the obstacles; and
  - 5) Reflecting critically on the analysis (steps 1-4).

The next subsections describe these steps and how they were used in my research.

### **3.5.2.1 Step 1: Focusing on a problem that has a social semiotic aspect**

CDA’s purpose is to enhance researchers’ understanding of social problems (Wodak 1999; van Dijk 2001; Fairclough 2013). ‘Social problems’ encompass a wide range of concepts such as poverty, inequality, terrorism, globalization, and immigration, to name just a few (Fairclough 2013). For this study, the social problem was the water scarcity threat that Mulholland tried to resolve through his participation in the Los Angeles Aqueduct’s construction. Explicit focus on a social problem directs the research question such that it can be studied in a transdisciplinary way (Fairclough 2013). In this case, studying dialectical relations through a TMT lens allowed me to understand what motivated his involvement in water infrastructure development, and also acknowledge the social processes that enabled or impeded his success.

### **3.5.2.2 Step 2: Identifying obstacles to be tackled**

The second CDA step is to recognize the social circumstances that hinder the social problem’s resolution (Fairclough 2001). These challenges are established by identifying networks of social practices through semiotic and discursive elements. For example, dominant entities – people, corporations, systemic arrangements – influence discourse by determining social interactions.

Dominant actors' clout allows them to influence what is communicated, and how (Fairclough 2001). Institutions are established by powerful entities and determine actions and outcomes. Answering "how social life is structured and organized" (p. 125) helps explain the root of the social problem at hand. For this investigation, understanding society's institutional organization and each personality's role in society will help inform what enabled or challenged their ability to develop significant water infrastructure projects (Fairclough 2001).

For textual data used in this study, a combination of linguistic and intertextual analysis was applied to documents. Intertextual analysis refers to studying connections between multiple texts. When applied systematically, exploring the linguistic and intertextual composition can be used to:

- i) identify how texts are produced and interpreted,
- ii) reveal context, and
- iii) evaluate the structure and use of language and grammar within a document (Fairclough 1992).

This three-dimensional approach to discourse analysis is a powerful tool for social scientists because social context and linguistics are closely intertwined; indeed, texts both form and are formed by social change (Fairclough 1992; Simpson & Mayr 2013). Fairclough's (1989, 1992) three-dimensional methodology is rooted in Halliday's (1978, 1985) systemic-functional linguistics, an approach that is significant to CDA because it allows the researcher to draw connections between discourse and social meaning (Blommaert & Bulcaen 2000; Wodak 2011).

A systemic-functional CDA approach was useful for this study, given the role of power and politics in shaping discourse and Mulholland's social prominence (i.e., he was a wealthy, well-connected, white man). Texts propel changes in social control because dominant actors are able to influence what and how ideas are represented and (re)produced. CDA can be used to analyze documents and simultaneously acknowledge the dominant actors, and thereby also draw attention to

underlying associations and interactions between powerful groups and individuals (Fairclough 1992; Fairclough 1993; Blommaert & Bulcaen 2000). A systemic-functional approach provided insight into social context, which is important to understand because it informs interactions between discourse and society (Waterton et al. 2006; van Dijk 2009).

Fairclough's (1989, 2001) three-stage approach to CDA has been widely undertaken and accepted by humanities and social science scholars (O'Halloran 2003; van Leeuwen 2009). It is valuable because it allows users to evaluate not only the properties of discourse, but also how discourse is produced and interpreted (Simpson & Mayr 2013). The three overarching stages include description, interpretation, and explanation of texts. Broadly, the description stage entails analysis of the vocabulary, grammatical, and textual structure (Fairclough 1989; Simpson & Mayr 2013). How the text creator articulates his or her ideas – as represented through vocabulary, grammar and textual structure – can be ideologically revealing (Fairclough 1989). Evaluating these three components can reveal, for example, the creator's perspective, or potential attempts to persuade or charm an audience (Fairclough 1989).

The second stage of Fairclough's (1989) approach to CDA, interpretation, involves analyzing the background assumptions that led to the creation of a particular discourse. It is meant to identify underlying ideas that might not be identified without critical analysis (O'Halloran 2003). Over time, various social interactions are conventionalized. As various social interactions are normalized, texts related to them become embedded in the discourse. Interpretation occurs for both the text(s) and the context(s) of a given situation, and involves analysis of both social context and discourse types (Simpson & Mayr 2013). Textual and contextual interpretation is significant because it “makes explicit what for participants is generally implicit” (Fairclough 1989: 162).

Above and beyond interpretation, Fairclough's (1989) third stage, explanation, illustrates the role of power dynamics and dominant ideologies within discourses. The primary objective of this stage is to illustrate how the discourse is a component of a social process, and the role of discourses in perpetuating or changing social processes (Simpson & Mayr 2013). This stage connects a text to the wider social and cultural context (O'Halloran 2003). Understanding how a discourse maintains or changes existing social practices involves analyzing social determinants – situational, institutional, and societal power relations – and ideologies (Fairclough 1989; Simpson & Mayr 2013).

### **3.5.2.3 Step 3: Considering whether the social order (network of practices) in a sense 'needs' the problem**

The third step to CDA is to reflect upon whether social and institutional processes legitimize the social problem. For this study, this involves considering how the 'network of practices' worked to perpetuate or resolve an impending water crisis. For example, a newspaper or political party that tried to hinder Aqueduct development may have affected how the projects or personalities were perceived by the public. Likewise, considering how Mulholland framed the water crisis threat to others is important; since he actively advocated for water infrastructure development, he had a personal stake in it. Such consideration was largely conducted during CDA's second step, but this third step explicitly revisits the social problem to acknowledge how power relations influenced Mulholland's progress and involvement in its resolution (Fairclough 2001).

### **3.5.2.4 Step 4: Identifying possible ways past the obstacles**

The fourth step to CDA involves evaluating how, or if, the social order was challenged, disputed, or resisted (Fairclough 2001). Typically, this is used to identify and acknowledge underrepresented or weaker actors. For this study, though, Mulholland and many individuals both supportive of, and

opposed to, his work were all powerful actors. By analyzing their publicly expressed and documented interactions (how they portrayed each other, relationship dynamics, who started disputes, etc.), I was able to acknowledge underlying forces that may have influenced each personality's depiction of water infrastructure development and a water crisis threat. Their exchanges would have had ramifications for the wider public's perception of both Mulholland and the Aqueduct. This CDA step is significant because it provides a more comprehensive interpretation of how forces working for and against the personalities affected how they spoke publicly about their projects, allies, opponents, and themselves. In a TMT context, understanding the sociopolitical undercurrent may provide insight into certain distal defenses drawn from my data (i.e., self-esteem and antagonism toward others).

#### **3.5.2.5 Step 5: Reflecting critically on the analysis**

The objective of the final CDA stage is to reflect on the first four stages to determine its efficacy and potential biases. Here it is important to acknowledge criticism of CDA; understanding its weaknesses and how CDA scholars have addressed them made for a more comprehensive study by helping me recognize potential analytical limitations. Recognizing CDA's disadvantages helped me address them when I reflected on my own analysis.

CDA is a very broad field, with “many and quite different directions of research, featuring linguistic, cognitive, social, cultural and political theories and methods” (van Dijk 2011: 612). There is no unitary approach to CDA, and its lack of a singular procedure has been criticized (Meyer 2001; O'Halloran 2003). However, this drawback also has merit: CDA scholars argue that all discourses are embedded in and produced according to social structure, and that it is impossible to ignore social structure in a field that perceives language and discourses as social practice (Fairclough 1993; van Dijk 2003).

Critical discourse analysts make implicit ideas explicit, and CDA has been criticized for making assumptions about what readers discern (or not) from a text. CDA also relies on symbolic assumptions, and the potential for subjectivity and making weak inferences has been criticized (O'Halloran 2003). However, van Dijk (2011) notes that language is largely implicit; the speaker/writer often presupposes what the audience understands and is thus selectively explicit.

Using coding sheets to document grammatical and vocabulary devices, the text creator, and the intended audience during the description stage informed the interpretation and explanation analytical stages as systematically and comprehensively as possible. Recording this information also enabled me to iteratively reflect upon my analysis, which was particularly useful given the broad societal context of this study.

### **3.6 Spatial and Temporal Scope**

The temporal scope encompassed Mulholland's waterworks career in Los Angeles, which began in 1877. However, it was important to consider the time that preceded his involvement in water infrastructure development account for factors that may have influenced his interest in substantial water projects. Since the objective of the investigation was to analyze factors that may have motivated his involvement in water projects, logically temporal boundary did not extend beyond his lifespan.

The spatial setting included Los Angeles, the United States, and Ireland. Since the Aqueduct's purpose was to supply water to Los Angeles, the city was the study's focal point. Considering the American cultural framework that delineated the study, certain cultural worldview themes were analyzed at a broader societal level. Likewise, as an Irish immigrant it was important to consider the effects of Mulholland's Irish upbringing to his worldview.

## **3.7 Data Collection and Analysis**

### **3.7.1 Data Collection**

An explicit sampling approach adds meaning and depth to research (Gobo 2004). Gobo (2004) outlined four major qualitative sampling procedures: 1) snowball, which requires pre-determined characteristics from which to explore other case studies; 2) quota, which uses surveys to answer a research question for a pre-determined portion(s) of a population; 3) emblematic, which draws comparisons between case studies that share seemingly similar characteristics; and 4) purposive, which entails the deliberate selection of particular cases according to specific characteristics.

Purposive sampling most closely applied to this investigation because the case study and data were selected based on their relevance to the investigation (Petty et al. 2012). First, the infrastructure projects had to be based in English-speaking countries; the data had to be predominantly in English in order for me to conduct CA and CDA. Second, the infrastructure project(s) had to be associated with a specific personality, since a significant component of the study is to analyze terror management mechanisms at the individual level.

I used the World Wide Web to find archival resources related to William Mulholland. My online search led me to the 'Catherine Mulholland Collection' in the Oviatt Library's Special Collections and Archives at California State University, Northridge (CSUN). This archival collection consisted of William Mulholland's personal and office files donated directly to the library by his granddaughter, Catherine Mulholland. I reasoned that this direct connection to Mulholland would yield relevant primary documents.

In June 2015 I spent three days collecting data from the archive. Using my purposive sampling approach, I collected relevant primary documents, i.e., documents that provided firsthand

insight into Mulholland's involvement in water infrastructure development. Prior to traveling to CSUN I used the library's online index to help direct my search for relevant materials. I also corresponded with curators and staff to inform them about my research and learn about guidelines and restrictions to accessing materials as a visiting researcher. Informing them about my research helped me maximize my time and guided me to documents I otherwise may not have found. I obtained 38 primary documents from the collection: eight speeches, 26 letters, two editorials, one public statement, and one letter report. A dataset inventory is included in Appendix A.

### **3.7.2 Data Analysis**

#### **3.7.2.1 Analytical Techniques**

Based on the TMT framework described in Section 3.3, I tabulated terror management indicators according to proximal and distal defenses, and whether water-related threats may have activated death thought accessibility. I also tabulated expressions that pointed to Mulholland's worldview, according to cultural worldview themes drawn from TMT literature. These two tabulating approaches allowed me to infer between the use of terror management mechanisms and Mulholland's motivation to participate in the development of water infrastructure 'hero' projects.

CDA helped contextualize the study. To complete the description stage of CDA I recorded, whenever possible or potentially relevant, the intended audience, grammatical and textual features, structure, and discourse type to enable the interpretation and explanation stages and fulfill Fairclough's (2001) CDA framework.

#### **3.7.2.2 Coding Techniques**

There are benefits and constraints to both manual and electronic methods for the coding and analysis of qualitative data (Basit 2003). Computer-Assisted Qualitative Data Analysis Software (CAQDAS)

such as NVivo – the software package most readily available to University of Waterloo researchers – is valuable for coders to both create and negate codes throughout the analytical process, which enables researchers to undertake a more flexible analysis (Basit 2003; Hoover & Koerber 2011). However, given this study’s small scale – i.e., single case study, single researcher – and deductive methodology, a manual approach was appropriate. Also, since a considerable portion of my data was obtained from books, which cannot be imported into NVivo (Hoover & Koerber 2011), CAQDAS would not have been conducive to comprehensive coding. Combined with its coding constraints, the steep learning curve associated with CAQDAS negated the potential for enhanced efficiency and rendered it of little value to this study (Basit 2003; Saldana 2016).

I used a manual coding approach for my data analysis. I first used Microsoft (MS) Word to record the reference number, document type, intended audience, and date created, and compile excerpts that were relevant to my TMT framework. Recording document information was useful for CDA, to understand how Mulholland expressed himself to different audiences, at different stages of the Aqueduct’s development, and in different modes of communication (i.e., speeches to a broad audience vs. letters to a specific individual). Using MS Word allowed me to interact closely with the data to understand how terror management indicators and evidence of cultural worldview themes were exhibited within the documents.

In a second round of coding, I used MS Excel to compile terror management indicators. A second formal round of coding further enriched my familiarity with the data, and using a different program enabled more thorough and nuanced data interaction. For example, I was able to sort terror management indicators according to different themes – e.g., self-esteem striving, worldview defense, outgroup antagonism, and transference idealization – to identify patterns and more easily visualize when, where, and how often they emerged.

Researchers may initially code data manually and resort to CAQDAS if manual coding proves ineffective or overwhelming (Welsh 2002). I had access to NVivo for Windows (versions 10 and 11) throughout the coding and analysis process, but manual coding was sufficient and effective to reach my research objectives.

## Chapter 4: Cultural Context

It was essential to understand William Mulholland's worldview and the broader cultural context in which he was embedded. Mulholland's attitudes, values, and beliefs may help explain what motivated his involvement in water infrastructure development, and assessing his worldview provided insight into the terror management indicators that emerged from the primary dataset.

I began with Section 4.1, a short review of the American cultural worldview that arose during the nineteenth century. This American history summary<sup>i</sup> was contextualized by cultural worldview themes relevant to this study and their corresponding modern ideologies. In Section 4.2, I outlined Mulholland's Irish-Catholic upbringing to delineate the cultural framework he experienced, which may have influenced his values, attitudes, and beliefs. His American- and Irish-influenced worldview enriched Section 4.3, a cultural worldview analysis contextualized by Terror Management Theory (TMT) and the Hydraulic Mission that shaped late modern American society through projects such as the Los Angeles Aqueduct.

Cultural worldview themes derived from my interpretation of terror management literature informed the cultural worldview analysis at both the individual and broader levels. Cultural worldview themes identified from TMT literature included perception of nature, the concept of progress, extrinsic values, religious affiliation, patriotism, political ideology, close relationships, discrimination and stereotyping toward others, pro-social behaviour, mindfulness, nostalgia, and leadership. This presentation of the broader and individual cultural worldview was also supported by primary and secondary data. Since this information directly reinforced the primary data and the TMT hypothesis, it was separate from my Literature Review.

## **4.1 Emergence of an American Cultural Worldview**

During the nineteenth century the United States cultivated a more unified American identity, no small feat for a country that had only gained independence from British colonial rule during the late eighteenth century (Ross 2011). The nation's rapid population growth and simultaneous attempts to expand further West (Kuznets 1977) coincided with a rise in modern attributes such as industrialism, nationalism, and capitalism (Emmons 1994; Ross 2011).

Development in the American West escalated in the second half of the nineteenth century, prompted by several historical, political, economic, and social factors. The events, discussed below, provide historical context for the American cultural worldview that emerged during the eighteenth and nineteenth centuries. These events explain what underpinned the Anglo-American settlement of the American West, and the resultant cultural worldview in which Mulholland was embedded when he arrived to America in 1874, and to Los Angeles in 1877.

### **4.1.1 The American Revolution**

The late eighteenth century was marked by the American Revolution, which resulted from colonists' resistance to British authority and aristocracy. Patriots – proponents of American independence – fostered a republican ideology inspired by the Lockean concepts of liberty, equality, and basic rights of the (white, male) individual, which they believed were threatened by British corruption and greed (Ross 2011). The original Thirteen Colonies declared independence from the British Empire in 1776 and formed a Republic in 1783 (Dobson 2013). Although the American West had not yet been settled by European Americans during the eighteenth century (Walsh 1994), American patriotism is rooted in the Revolution, when the United States began to develop its own national objectives, institutions, and identity (Worster 1993).

The American cultural worldview was also significantly influenced by a widespread Christian belief that settlers were selected by God to create an idyllic society that embraced the principles of liberty and democracy (Dobson 2013). The notion that distinguished America – and Americans – from other places and people is referred to as ‘American Exceptionalism’ (Chaplin 2003). Feeling a sense of duty simultaneously toward America as well as to God further compelled Americans to denounce their perceived exploitation by the British and embrace a republican democracy. Ideologies that fostered and emerged from the American Revolution would come to play a formative role in Western development in the ensuing century.

#### **4.1.2 The Jeffersonian Era**

European American efforts to explore and settle the American West are rooted in the early nineteenth century, which began with Thomas Jefferson’s election to presidency in 1800 (Sheehan 2004). A Republican, he was influenced by John Locke’s ideas of individualism and natural rights (Katz 2003). Jefferson, and Republicans in general, envisioned a small-scale agrarian civilization as the ideal democratic and independent society (Appleby 1982; Reisner 1993; Theriault 2006; Dobson 2013; Lewis 2013). Jefferson believed that property ownership would provide Americans with a sense of purpose, self-worth, and self-reliance (Katz 2003; Lewis 2013).

Jeffersonian interest in westward expansion was largely due to concerns that the British would come to dominate the North American fur trade (Allen 2006). The 1803 Louisiana Purchase was an opportunity for the United States to both engage in the republican pastoral dream and impede Britain’s ever-westward commercial and imperial development (Balleck 1992; Allen 2006). The Louisiana Purchase effectively doubled the country’s size, and enabled America’s westward expansionism (Balleck 1992). Although using his political power to make the transaction conflicted with the Republican principle of limited government (Balleck 1992; Theriault 2006), Jefferson

justified it as a means to achieving the republican agrarian utopia and individualism through property ownership (Balleck 1992). He first undertook scientific explorations of the American West in 1804 through the Lewis and Clark Expedition, and hoped to discover an easier route to the Pacific Ocean (Allen 2006). Jefferson's efforts to explore the West initiated an upsurge in American expansionism and eventually Manifest Destiny, which characterized the United States by the mid-nineteenth century (Miller 2006).

### **4.1.3 Manifest Destiny**

Manifest Destiny was a nineteenth century movement that expressed peoples' desire to extend United States' territory to the Pacific, while absorbing inhabitants and acquiring additional natural resources (Wilkinson 1987; Pisani 2002). The term was coined by journalist John O'Sullivan in 1845 to convey the American notion that it was their God-given purpose to extend control across the continent (Chiodo 2000; Menard 2011). This was achieved in 1848, when Mexico ceded the territories that now comprise the southwestern United States to America, including California (Wilkinson 1987; Dobson 2013). Manifest Destiny embodied the era's characteristic patriotic and expansionist spirit (Chiodo 2000; Allen 2006).

Manifest Destiny also shaped people's perception of nature. The discovery of America was equated to the re-discovery of Eden, and the land likened to a utopia that fortunate European settlers could recapture and restore (Worster 1993). In the American West context, Reisner referred to making the desert bloom as a "Christian ideal" (1993: 5). During the second half of the nineteenth century, the objective of Manifest Destiny shifted in accordance with the burgeoning industrial economy (Chiodo 2000). The widespread mentality that Southern California was an "earthly Eden" and "paradisiacal garden" bolstered settlers' sense of duty and the correctness of employing nature for

their own benefit (Deverell & Hise 2005: 2). This mindset, in turn, encouraged technological innovation and corresponded with the rise of capitalism and industrialism (Deverell & Hise 2005).

#### **4.1.4 Emergence of a Market Economy**

The shift from the Jefferson ideal to the antagonistic market economy transpired due to industrialism and the federal government's increased role in Western development (Reisner 1993). Railroad development integrated the West with the rest of the United States, and transportation infrastructure required significant federal economic investment to traverse the vast and remote country (Piasecki 2000). Outcomes of industrialization are exemplified in American Western development. The availability of ample and cheap land, combined with widespread ambition to develop the West, fostered favourable conditions for a capitalist society to flourish (Walsh 1994).

The conclusion of the Civil War (1861-1865) initiated a new nation-building era. The War had solidified the national government's supremacy over individual states' autonomy. Not only did this function to create a more singular 'American' identity, but the economic and political ramifications helped to intensify westward expansion during Reconstruction. Reconstruction opened up the American West to development through the federal government's railroad subsidies and the creation of a Homestead Act (1862) to accommodate the influx of settlers (Hansen 2010). A major impetus for settling the American West was the region's natural wealth; not only was nature's beauty highly esteemed, but its abundance created economic opportunities through natural resources and agricultural development (Robbins 1999). A unified national identity helped stimulate capitalism in the United States (Emmons 1994). Republicans, who first came to power in 1860<sup>2</sup>, believed that making land available to settlers would be benefit both social and economic conditions: expansionism

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<sup>2</sup> While this is not a historical study, it draws from history to set the context.

would create social and cultural interconnections across the country, which in turn would reinforce opportunities for market growth (Emmons 1994).

Los Angeles' transformation from outpost to urban center was possible because of railway developments that drew more people and industrial activity westward (Hise 2009). The 1848 Gold Rush had expanded the agricultural market, allowing Southern Californian ranches to supply miners' voracious beef demand (Davis 2006; Hise 2009). In the 1860s, drought collapsed the livestock-based economy, compelling ranchers to sell their land to squatters and wealthy urban San Franciscan investors (Davis 2006; Hise 2009). These wealthy investors persuaded the Southern Pacific railroad developers to end the railway in Los Angeles, marking the city's transition to the Gilded Age (Davis 2006). Investors were interested in creating a horticultural economy that would use the railway to supply citrus fruits to the East. Irrigation infrastructure was necessary to sustain this new agricultural economy, and railroad developers became significant stakeholders in Los Angeles' overall development including, if not especially, related to its water resources (Reisner 1993; Davis 2006). Although the city's initial urban shift preceded Mulholland's arrival to Los Angeles, it reveals the stakeholders and economic objectives that would engender his Aqueduct undertaking.

## **4.2 Foundations of William Mulholland's Worldview**

### **4.2.1 Irish Upbringing**

William Mulholland (1855–1935) was the second of six children born to a lower middle class family in Belfast, Ireland. His father was a mail guard for the Royal British Mail, a position he likely attained by working his way through the ranks of mandatory militia service. Such employment would have enabled him to escape a life of rural poverty on the meagre land tract in Ulster his family is believed to have farmed (Mulholland 2002).

Mulholland's family moved to Dublin when William was five years old (Mulholland 2002). He was enrolled at the O'Connell School, a primary school operated by the Christian Brothers, which rigorously upheld Catholic and Irish nationalist values (Ledden 1999; Mulholland 2002; McCormack 2012). The "aggressively" Catholic and nationalist curriculum stemmed from British penal laws, which had prohibited Irish Catholics' education until the late eighteenth century (Ledden 1999: 330; Raftery et al. 2007). The Christian Brothers Schools were established in the early nineteenth century to promote literacy and numeracy amongst the largely (approximately two thirds) uneducated Irish Catholic population (Ledden 1999).

Students enrolled in Christian Brothers Schools were typically from families of modest social and economic status (O'Donoghue & Harford 2011). Mulholland's parents, having come of age during the Great Famine, were part of an emerging Irish middle class that migrated to urban areas for better socioeconomic opportunities post-Famine (Mulholland 2002; Raftery et al. 2007). Between their relatively recent education opportunities and Famine-related rural depopulation, Irish Catholic survivors highly valued education (Raftery et al. 2007). While Mulholland's father's mail guard position would have bestowed the family with middle class status, his own poverty-stricken upbringing produced a persistent determination to maintain that status and provide for his family. This drive is believed to have shaped his father's stern and serious character, which caused friction between William and his father when William was unable to live up to his father's traditional academic expectations (Mulholland 2002).

William Mulholland's subpar academic achievements were not attributed to a lack of intelligence; rather, they likely reflect adolescent impatience to explore the world beyond his demanding family, church, and school life. School records indicate he performed well in reading, grammar, and geography, and particularly excelled at arithmetic (Mulholland 2002). Indeed, whereas

children typically began school at age seven, Mulholland enrolled at age five and was immediately placed at the same grade level as his brother, who was two years older (Mulholland 2002).

Despite the O'Connell School's sound reputation and affordability, and the Mulholland family's devout Catholic values, for unknown reasons the three oldest Mulholland children each transferred to a National School at age eleven (Mulholland 2002). National Schools were public schools established in 1831 for the Irish poor, to integrate Protestants and Catholics and cultivate tolerance between the two groups through a shared secular curriculum, and split religious program (O'Donoghue & Harford 2011; McCormack 2012). However, since it was funded and developed by the British, the curriculum had a pro-British slant and "effectively erased the Irish language, history and culture" (Raftery et al. 2007: 451). Catherine Mulholland (n.d.) wrote that her grandfather's National School education may have influenced his affinity for the British Empire, which, she noted, may have also been reinforced by "his father's employment in the Royal British Mail and his own subsequent joining of the British Merchant Marine" (Chapter 2).

While a staunch Catholic upbringing in British-controlled Victorian-era industrializing Dublin must have shaped Mulholland's cultural worldview, significant personal events during his childhood are also noteworthy. By age seven, and within a two-year span, he lost his mother and two younger sisters to consumption. His father was widowed with four boys under ten years old, and since his job required significant travel, the three older boys were largely independent from a young age. Catherine Mulholland (2002) also remarked that losing all his female immediate family members by age seven may have fostered his inclination toward male camaraderie, which may have affected the kinship he felt with his male colleagues during his career (see Section 3.9).

Family lore suggests Mulholland was the most spirited and rebellious child. Whereas his older brother, Tom, "followed their father into the Postal Service," Mulholland shared a "twinlike"

relationship with his brother Hugh, eleven months younger (Mulholland n.d., Chapter 2). Indeed, Mulholland inspired Hugh to pursue a life at sea, a life they eventually abandoned together to begin a new chapter in America.

Mulholland's father remarried three years after his mother's death. By all accounts he shared a fond relationship with his stepmother; however, between raising the youngest (and developmentally challenged) brother and bearing three more children herself, she was likely too preoccupied to rein in the older boys. Mulholland became intrigued by life at sea from his stepmother's sea captain relatives. Catherine Mulholland (2002) believed Mulholland's father's exceptionally high academic expectations stemmed from a determination to propel him to success, standards which ultimately led William to rebel and run away to sea when he was fourteen. At age fourteen, partly to escape a tense and complicated relationship with his father, Mulholland dropped out of school and joined the British Merchant Marine (Mulholland 2002).

#### **4.2.2 Journey to America**

Mulholland's four seafaring years further intensified his proclivity for solitude, resolutely independent character, and driven work ethic. He was promoted to navigating officer during his nineteen Atlantic crossings to several West Indies and North American ports, and remained proud of the respect he earned during his sailing career. His sailing career became "his training ground for manhood," (Chapter 3), providing him with pride and honing his individualistic streak (Mulholland n.d.).

Despite the skills and satisfaction sailing granted Mulholland, he foresaw that such a lifestyle "would get him nowhere in a material way" (Spriggs 1931: 65). He went ashore in New York in 1874, reconnected with his brother, Hugh, and together they located a maternal uncle they were aware

lived in Pittsburgh. They were warmly received and employed at their uncle Richard Deakers' thriving dry goods store. The Deakers exposed the Mulhollands to a relatively affluent middle class American lifestyle, as well as American politics. It was ten years after the Civil War ended; not only were Democrats gaining popularity across the United States, but Mulholland identified more strongly with Democratic values (discussed in Section 4.3.4). His life in Pittsburgh, "a dynamic industrial center" that espoused its working class and had a high population of largely Democratic Irish-Americans, was formative to Mulholland's lifelong Democratic political worldview. Mulholland and his brother followed the Deakers to Los Angeles. Upon arriving to Los Angeles in 1877, he began working as a ditch digger for the privately-owned Los Angeles City Water Company. He permanently settled in Los Angeles and was embedded in American culture, which gave rise to an American worldview that was profoundly shaped by his Irish roots.

Although they preceded his birth, Mulholland's childhood was influenced by the 1829 Catholic Emancipation Act and, shortly thereafter, the Great Famine. These events produced the social, economic, and religious circumstances in which Mulholland was brought up: an emergent urban middle class and revived Irish Catholicism under British Victorian rule in an industrializing Dublin (Ledden 1999; Raftery et al. 2007). Personal events, such as a tense relationship with his father and the death of all the women in his immediate family by age seven, must have also shaped his worldview. Mulholland came of age during a time of intensifying modern processes, and the majority of his career spanned the Gilded Age and Progressive Era.

This summary of Mulholland's upbringing and the American cultural worldview that resulted from the American Revolution to American Progressivism may help explain Mulholland's perspective, attitudes, and behaviour as he became involved in Los Angeles' water infrastructure development. The following section is a presentation of my interpretation of Mulholland's cultural

worldview based on primary data and secondary accounts, and according to cultural worldview themes extracted from the TMT literature.

### **4.3 Mulholland's Worldview in a Water Context**

The span of Mulholland's career coincided with America's Hydraulic Mission, the state-driven, technocentric emphasis on water infrastructure development (Reisner 1993, Swyngedouw 1999). The Hydraulic Mission is significant to this cultural worldview analysis because it permeated the cultural framework in which Mulholland was embedded. A technocentric and individualistic Anglo-American approach to water management created social disparities within Los Angeles. Large-scale water projects, such as the Los Angeles Aqueduct, represented opportunity for progress through economic development and population growth. Harnessing the Owens River water for Los Angeles would stimulate the region's market economy, draw people to the region, and satisfy Manifest Destiny. Considering the religious undertones of Manifest Destiny, large-scale harnessing of water resources could also be considered in light of how such development helped satisfy Americans' belief that they were recreating paradise. A technocentric approach to water management also influenced the perception of nature; it was seen as a commodity and valued according to how it could benefit society. Water infrastructure development was also patriotic and political since it contributed to the nation's expansion and wellbeing. This section is a culmination of Mulholland's worldview, contextualized by the Hydraulic Mission and TMT. The cultural worldview themes correspond with those discussed in Section 3.4.

#### **4.3.1 Discrimination and Stereotyping**

The Spanish colonized the area in 1771; the Los Angeles River appealed to them for the establishment of a Roman Catholic Mission and ranching settlement (Hise 2009). When Mexico

gained independence from Spain in 1821, the pueblo continued as ranching community and functioned as a principal urban centre within Alta California, the newly-created Mexican province (Davis 2006). Ranching supported the East's leather industry, and the commercial connection to the East facilitated Yankee settlement (Davis 2006). During this time, the town's population was approximately 2,000 (Monkkonen 2005). Los Angeles was incorporated in 1850, two years after California was ceded to the United States. Settlers continued to arrive from the East and parceled Spanish common land into lots for commercial, industrial, and housing developments (Hise 2009). American conquest created tumultuous social and political conditions, and initially weak legal institutions and law enforcement enabled violence (Monkkonen 2005).

A water context illustrates Los Angeles' transition from a colonial ranching settlement to an American city, and the divergent ideologies between Mexican Californians and European Americans. By 1870, the city's population had increased to just over 5,000 (Monkkonen 2005; Torres-Rouff 2006). Given the region's arid climate, and water's role in the city's development, water was always Los Angeles' top priority. Upon settling the region in the eighteenth century, Spanish settlers constructed open ditches – or *zanjas* – for irrigation, potable water, and waste removal. Anglo-Americans perceived the *zanjas* as “primitive, dirty, and inferior,” and in 1873 the city began its first public water infrastructure overhaul by establishing three public sewers to replace them (Torres-Rouff 2006: 121).

The city government's increasing strength is exemplified by the abrupt transition to Anglo-American-preferred water infrastructure. During the 1880s the city gradually upgraded from *zanjas* to separate pipe networks for irrigation, waste, and domestic water (Torres-Rouff 2006). This transition not only altered Anglo-Americans' relationship with their environment, but also represented a new power dynamic and changing relationship with the previously dominant Mexican Californian

population (Torres-Rouff 2006). To Mexican Californians, water was a collective good to be conserved and allocated equitably, and the shift to separate pipe networks undermined communal rights. Anglo-Americans, on the other hand, valued water for its utility and prioritized efficient and individual access. Exclusive and selective access to water symbolized the power gap between a select few instead of the community (Torres-Rouff 2006).

The shift to modern sanitation signified the city's support for capital development that coincided with increasing industrialization, capitalism, and technical development. Water infrastructure was a physical manifestation of the city's transformation from a Western outpost to a modern American city. The social implications that resulted from converting water from a communal to a more individual and elite commodity exemplified the shift from Mexican Californian to Anglo-American authority and "ideas of cultural superiority" (Torres-Rouff 2006: 139). In a TMT context, asserting dominance over cultural or ethnic groups perceived as inferior may have functioned to validate Anglo-Americans' conception of reality.

In accordance with TMT, mortality salience (MS) provokes discrimination and stereotyping against disparate social groups as a way to uphold one's own cultural worldview. For example, experimental results have shown that MS increases one's inclination toward one's own racial group (Greenberg et al. 2001; Halloran & Kashmina 2004). In nineteenth century Los Angeles, Mexican and Chinese settlers were discriminated against by Anglo-American settlers through (a lack of) water infrastructure distribution to their segregated neighbourhoods. Denying water and sewer upgrades and maintenance based on their socioeconomic status enhanced inequality between Anglo-American residents and people of Mexican or Chinese descent. Such (lack of) action and water access perpetuated and reinforced the stereotype that these groups were diseased and unclean (Torres-Rouff 2006).

### 4.3.2 Religion as a Cultural Worldview

Although no direct acknowledgement of Mulholland's religious beliefs and habits as an adult were identified in the primary and secondary dataset, religious references in the primary data indicate a degree of religiosity. At the very least, his staunch Irish Catholic upbringing appears to have influenced his perception of the world. In a 1910 letter to the engineer Croton Aqueduct engineer in New York City, which Mulholland visited to find investors for his own Aqueduct, he wrote:

“I noticed in looking up from the steps of one of the banks with which we had business, that the halls of Mammon were fully ten stories higher than the cross of Christ on the steeple of the little church across the way – a fact which would indicate a degree of degradation that might easily exercise malign and potent influence of the habitues of that region.”

This suggests he associated religion with morals and virtue, and believed that society's focus on economics over religion was potentially destructive.

In a Hydraulic Mission context, several passages from the primary dataset suggest Mulholland's belief that his Aqueduct work would satisfy God. In a 1905 speech to promote public, instead of private, water resources control, Mulholland said:

“Hezekiah, King of Judah, who reigned from 717 to 688 B.C., was a pioneer in constructing a system of water works, bringing water into the City of Jerusalem. Quoting from Scripture: “He made the pool and the conduit and brought the water into the City;” and again, “He stopped the upper water course of the Gihon and brought it straight down to the west side of the City of David, and Hezekiah prospered in all his works.” After diligent search I failed to find any mention made of the dividends paid by this early enterprise so we may infer that the works were public, for public officials are guiltless of paying dividends except in the indirect way of good service if it so happens that they are good servants.”

In a 1908 editorial, he wrote:

“There can be no greater encouragement to an earnest worker than the knowledge that his employer is keenly interested and watchful of his work, for it is only from such an employer that he can expect to obtain the most prized portion of the reward of his toil; namely, appreciation. I am quite sure that the very marked improvement noticeable in the conduct of the City's affairs in the last six or eight years is not wholly due to any

purely corrective measures or suggestions from this or any other of the civic bodies but springs largely from their practice of applauding good work and their frequent implied use of the scriptural expression approbation, “Well done, Thou Good and Faithful Servant.””

In a TMT context, comparing his efforts to a biblical personality may have validated his work and enhanced his own sense of value: if Hezekiah was revered for his ability to control water, perhaps Mulholland’s comparable project would also render him biblically worthy. Drawing a connection between “good work” and God’s approval conveys a belief that Mulholland’s undertaking fulfilled criteria determined by his religious worldview. Satisfying God may have bolstered his sense of significance and qualified him for heaven (literal immortality).

In the United States, a perceived God-given purpose to control and utilize nature motivated westward expansion. Likening America to the Garden of Eden helps explain the widespread belief that that nature is enduring and abundant, which helped justify settlers’ consumption and enjoyment of it (Worster 1993). In the West, the arid landscape was perceived as something to be rectified. The desert was associated with death, or lack of life, and as part of the quest to create utopian paradise the idea of ‘greening the desert’ or ‘making the desert bloom’ became a major goal. Supporting this idea was the fact that the soils were great for agricultural production and the only missing ingredient was water (Reisner 1993). In an American worldview, with its Puritan roots, making the desert bloom and enabling agricultural production would satisfy God by recreating paradise (Garden of Eden, version 2.0). In a TMT context, such a perception may help explain what motivated Mulholland’s involvement in water infrastructure development: the Aqueduct may have functioned to create an Eden-like utopia. Nash (1982) noted that the concept of paradise is universally defined as an *island* of perfection; the Aqueduct turned Los Angeles into a thriving island delineated by a harsh, lifeless desert. Through a TMT lens, the ability to convert an arid, “bleak, sear” land into “lush, green, beautified” place may have alleviated death-related thoughts and provide an example of how water

functioned as a transference object, since it enabled the city and society “paradise” to persist into the future.

### **4.3.3 Patriotism**

Nineteenth century patriotic fervour motivated westward expansion in the United States. In a Hydraulic Mission context, water infrastructure development functioned as a nation-building exercise. Large-scale infrastructure depended on federal government investment, and its purpose was to stimulate the economy and draw settlers to the region. In this light, there is a lot of overlap between progress (Section 3.2) and patriotism as cultural worldview themes.

Water infrastructure development satisfied the American patriotic values of “life, liberty, and the pursuit of happiness,” the unalienable, Lockean-inspired rights outlined in the Declaration of Independence. Although these rights were meant to inspire limited government, and water infrastructure is very political, its development gave rise to the city’s self-sufficiency (Menga 2015). In that sense, the Aqueduct represented society’s independence. The Aqueduct corresponded with basic patriotic values because access to a sufficient and reliable water supply enabled individuals’ self-fulfillment (Lawler 2013). Indeed, settlers moved to the region for opportunity to pursue individual prosperity, represented by personal wealth, social standing, and property ownership. The Aqueduct spawned a vibrant economy by enabling land use for agriculture, industrial activity, and housing developments. These pursuits embody the idealistic American spirit which, in that sense, renders the Aqueduct a patriotic symbol.

Mulholland’s Irish background may have also enhanced the Aqueduct’s patriotic meaning. His arrival to America coincided with the peak of mass Irish emigration, particularly to the United States. In post-Famine, British-controlled Ireland, America was considered a ‘promised land’ for

economic opportunity and personal freedom (Miller 1988). Not only did the Aqueduct satisfy broader patriotic values, but for Mulholland it also may have represented opportunity for personal success, enabling him to fulfill an Irish-American patriotic ideal. An Irish Catholic middle class emerged during the nineteenth century. In their quest for progress, Irish Catholics grappled between contradictory allegiances to a capitalist British market and to their traditional and religiously- and socially- intertwined fellow Irish population (Miller 2008). Miller (2008: 252) wrote that this Irish connection could have motivated “acquisitive, individualistic ambitions for upward mobility” through American society. These are qualities that have certainly been used to describe Mulholland. In this sense, the Aqueduct may have been a patriotic homage to his Irish roots as well as emblemizing his acquired American perspective. Independence and equality were highly valued in both the American and Irish worldviews (Miller 2008). In a TMT context, the ability to satisfy his American and Irish cultural values would have provided the Aqueduct with transference idealization qualities and provided an opportunity for Mulholland to enhance his sense of significance by contributing positively to society.

#### **4.3.4 Political Ideology**

Abraham Lincoln’s 1860 election to presidency marked the beginning of a predominantly Republican era that would persist until the 1930s. Late nineteenth century Republicans embraced individual and national sovereignty. Republicans lauded virtue as a trait amongst the country’s citizens and politicians, and believed modernization threatened democracy and “virtue by eroding [Americans’] independence and autonomy” (Hansen 2010: 2). They believed a lack of sovereignty and equality would give rise to corruption and aristocracy, which they disparaged (Hansen 2010).

Although Republicans lauded virtue and strove for an egalitarian society, Reconstruction efforts and the Gilded Age gave rise to corruption and corporatism during Ulysses S. Grant’s

(Republican) presidency. Upon Mulholland's arrival to Philadelphia in 1876, Democrats were gaining popularity across the country for their calls to amend the Republican Party's scandals. Nineteenth century Irish-Americans overwhelmingly identified as Democrats; the Republican Party's nativism was unfavourable to Irish-Catholics' political involvement (Anbinder 1995). Irish-Americans perceived Democrats as more accommodating to their social and economic wellbeing. They advocated for civil service reform, which would support Irish-American government involvement, and helped unveil fraud and bribery that primarily benefited wealthy, Republican interests.

Mulholland landed in Philadelphia just months before a contentious federal election that pitted the Democrat Samuel J. Tilden against Republican Rutherford B. Hayes. The Democrat campaign, which opposed protectionism and emphasized tariff reforms, appealed to Mulholland's upper middle class, business-owning, staunchly Democrat Irish-American family. Given the social and political circumstances under which he was introduced to American politics, it is not surprising that he identified as a Democrat.

However, California's water history indicates his congruence with Republican objectives. Theodore Roosevelt, a Progressive-Era Republican, was elected to presidency at the turn of the century. Progressives sought government solutions to the social problems that had arisen from the Gilded Age. In a Los Angeles water context, Progressive reform is illustrated by a shift from private to public water resources control, and appointing commissions of experts to the Water Board based on merit, rather than political clout. Mulholland was a staunch advocate for such reform (e.g., 1905-S; 1908.12.10-C). At the federal government level, bolstered faith in expertise corresponded with increased support for Reclamation projects and conservationist efforts. Roosevelt was a utilitarian conservationist which, in a water context, meant he believed it was wasteful to leave water unharnessed for society's benefit (Reisner 1993).

In 1907, the federal government became involved in the Owens River dispute between the Owens Valley and Los Angeles. Under Roosevelt, the Bureau of Reclamation was developing irrigation projects to enhance the region's agricultural productivity. However, Mulholland persuaded him to shift his support to Los Angeles, arguing that the Los Angeles Aqueduct embodied Roosevelt's intent to create "the greatest good for the greatest number," and appealing to Roosevelt's nation-building ambitions (Reisner 1993; Sabatier et al. 2005). Mulholland's Aqueduct efforts certainly benefited from Republican support.

Aqueduct construction reflected Progressive-era political values: it was publicly funded and supported, symbolized the nation's expansion, and satisfied the dominant conservationist worldview. In a TMT context, political support for the Aqueduct would have validated Mulholland's water-related objectives. Presumably the federal government represented the dominant political worldview, and support from the highest governing body may have substantiated Mulholland's work as valuable and significant. He could symbolically transcend death by fulfilling cultural and political values through Aqueduct development.

#### **4.3.5 Close Relationships**

Mulholland grew up in a very familial and patriarchal society (Miller 1988). In addition, as part of an emerging Irish-Catholic urban middle class, his parents valued hard work and education. According to Catherine Mulholland (2002), Mulholland's father's high expectations for his son to succeed created tension between them, causing Mulholland to drop out of school and join the British Merchant Marines at age fourteen. Despite father-son friction, Mulholland's engineering pursuits may have functioned to substantiate his intelligence and abilities. Given his cultural and familial upbringing, becoming a successful engineer would have satisfied cultural values of hard work and education, and demonstrated his worth to both his father and Irish-Catholic society. His father died

before the Aqueduct idea transpired, however, his industrious work ethic and thirst for knowledge may have allowed him to ultimately live up to his father's and society's expectations. From a TMT perspective, his work may have functioned to contribute positively to society and as an homage to his father and Irish-Catholic society; perpetuating and satisfying cultural values may have provided a sense of cultural continuity.

Evidence from the primary dataset indicates Mulholland derived self-worth from his engineering pursuits. This is illustrated through his correspondence with fellow engineers and water superintendents. He often expressed gratitude to his colleagues for their interest in his work, which indicates that their support bolstered his self-esteem and sense of value. Not only was their support meaningful to him; he also demonstrated a keen interest in their work (e.g., 1905.11.09-C; 1907.03.20-C; 1908.09.29-C; 1910.11.04-C). If close relationships serve a terror management function, maintaining a sense of camaraderie with his colleagues may have been an opportunity for him to participate in and influence the Hydraulic Mission cultural worldview to which he subscribed.

#### **4.3.6 Nostalgia**

Linking one's purpose to the past provides a sense of cultural permanence and stability, which alleviates existential concerns by validating one's cultural worldview and adding meaning to one's life. Nostalgic references indicate how Mulholland valued the past, and were expressed in several ways in a water context. For instance, as described in Section 4.3.5, Mulholland's engineering pursuits may be considered in a nostalgic light; living up to his father's expectations may have satisfied his Irish-Catholic familial and patriarchal values. In a 1904 speech, Mulholland also recognized the Los Angeles' River's role in the region's settlement; from a nostalgic perspective, acknowledging water's importance to early settlers during a period of drought and population growth may have represented his desire to restore the region to the conditions that made it so desirable for

settlement in the first place. In the same speech, he recognized the importance of water diversion in creating a thriving city. Drawing on his appreciation for the city's historical waterworks, arguably he may have considered the Aqueduct to be a nostalgic homage to earlier settlers' prosperity. Enhancing water conditions would enable the city's continued success.

#### **4.3.7 Extrinsic Values**

Modernity is associated with an increase in extrinsic values (Arndt et al. 2004). Industrial societies are based on producing, distributing, and consuming goods, so industrialization, capitalism, and the commodification of nature directly corresponded with society's increasing materialism. While associating wealth with power was not a new concept in the Modern era, the combination of industrialization, increasing capitalism, and individualism inspired the pursuit of personal wealth and social status. Nineteenth century American expansionism exemplifies the pervasive idea that western settlement represented opportunity and autonomy.

Materialism provides a way for people to tangibly assert their significance; this functions to enhance their self-esteem. From a TMT perspective, the ability to display wealth helps assuage death-related anxieties. In California's arid climate and an American cultural worldview in which personal wealth is admired, the ability to maintain green lawns and lush gardens may have reflected individual prosperity. In a 1911 speech, Mulholland compared Los Angeles' water consumption to other American cities in wetter climates. For example, he boasted that Los Angeles was able to maintain larger and greener lawns than Chicago, despite his city's relative lack of water. This suggests a correlation between wealth and property ownership and that water may have signified the extent of a person's wealth and status. The city's ability to "beautify" its land was perceived as positive, which may indicate the perception that water use was associated with affluence. Solomon et al. (2004) discussed humans' materialistic tendencies as a pervasive approach throughout human history to

exhibit their affluence and superiority over others. Fulfilling the Hydraulic Mission may have enabled the arid region's inhabitants to satisfy their extrinsic values, by enabling people to pursue and display their individual wealth through 'enhancing' the desert's perceived lifelessness.

In Los Angeles, nineteenth century capitalism was epitomized by a handful of men – namely, Harrison Gray Otis, Henry Huntington, Harry Chandler, Edward Harriman, and Moses Sherman – who monopolized the city's public transit, banks, utilities, and newspapers, and the Union Pacific Railroad (Starr 1985; Reisner 1993). They formed the shareholding majority of the San Fernando Mission Land Company, which purchased Valley lands to develop real estate and agriculture (Reisner 1993). Settlers arrived in Los Angeles by the (Harriman) railway, learned about San Fernando Valley settlement opportunities in the (Otis and Chandler) newspaper, bought (Sherman- and Huntington-developed) homes and travelled by (Sherman- and Huntington-owned) public transit (Reisner 1993). The group supported the Aqueduct's construction, as it would enable more land development and draw more people to Los Angeles, generating extraordinary wealth for their small but incredibly influential syndicate (Starr 1985; Reisner 1993).

The Gilded Age (1870s – ca. 1900) was characterized by rampant corruption and greed amongst the wealthy and financial institutions, and by a widening gap between the rich and poor (Drier & Flacks 2003). However, the obvious graft and monopolization did not bother ordinary Los Angeles residents and immigrants. Los Angeles was considered a "promised land" and many of the largely destitute immigrants and newcomers were enticed by the opportunity to own property (Reisner 1993). Settlement of the American West was fervently promoted as an opportunity for ordinary settlers to prosper through the acquisition of property, fortune, or social standing. They accepted the syndicate's capitalistic endeavours because they believed they too would benefit from land development and the Aqueduct. Water infrastructure development was associated with

opportunity, and those in power could bolster Aqueduct support by appealing to the public's extrinsic desires.

Indeed, Mulholland was grateful for the syndicate's support. In a 1908 letter to Harrison Gray Otis, he expressed his appreciation for Otis's enthusiasm for the project. He also described his desire to create ornate and imposing features at the Aqueduct's terminus that would impress passersby from the very visible standpoint of passing trains. Elaborate elements may have been meant to represent civilization's prosperity, and daunting characteristics might have visually symbolized man's ability to overcome nature. This suggests that the Aqueduct's superficial features functioned to embody its (and, therefore, Mulholland's) significance, which may have functioned to repress both his and the public's mortality concerns. His ability to impress incoming visitors and settlers would thus enable the Aqueduct to function as a transference object; the Aqueduct would signify affluence and opportunity and inspire hope and optimism in the public.

Although Mulholland expressed contempt for individual greed – as conveyed by his ongoing abhorrence for private water control – an extrinsic attitude is manifested in his support for land development in the pursuit of wealth for the city as a whole. He touted water's ability to improve land's profitability, particularly for agricultural development. Such a perception corresponds with values of the Progressive Era, which emerged at the end of the nineteenth century. Progressivism, with its overarching principles of democracy and equality, arose to correct greed and corruption (Dreier & Flacks 2003).

#### **4.3.8 Perception of Nature**

In the late nineteenth century, American 'environmentalism' split between the concepts of preservationism and conservationism. Although both concepts are rooted in protecting the

environment from exploitation, their ideologies are fundamentally different. Preservationists believe land should remain unspoiled by humans, whereas conservationists support prudent development that benefits society (Nash 1982; Smith 1998). John Muir (1838-1914), who spearheaded the preservationist campaign, believed nature was God's earthly manifestation and in itself was divine (Nash 1982). To him, wilderness was intrinsically valuable as a sanctuary from modern civilization. During his expeditions through California in the 1870s and 1880s, he witnessed devastating and widespread ecological effects caused by capitalistic endeavours (Smith 1998). Increased demand from Eastern markets for agricultural and timber products created wealth for Western settlers, in accordance with the objectives of Manifest Destiny and the market economy. From Muir's perspective, altering nature for solely economic purposes simultaneously disconnected people from the natural world and increasingly enslaved them to the perils of modern society, such as intensified materialism and temporal scheduling of obligations (Nash 1982; Smith 1998).

Gifford Pinchot (1865-1946), Muir's conservationist counterpart, also despaired over nature's exploitation and believed nature's protection was imperative to the nation's and its people's future wellbeing (Smith 1998). However, Pinchot's views were more anthropocentric: he believed that managing the environment appropriately would allow for sustained use by and economic benefit to society (Nash 1982). In a water context, he and other conservationists advocated for reliable water supplies through infrastructure development. Preservationists such as Muir, on the other hand, argued that reservoir development would spoil the ecosystem's natural integrity (Moseley 2009).

The Hetch Hetchy dam controversy between Muir and Pinchot exemplifies the divergent perspectives of preservationism and conservationism (Nash 1982; Moseley 2009). In the early twentieth century, a dam was proposed for the Hetch Hetchy Valley, located in Yosemite Park, to provide water and electricity to San Francisco. Muir and his fellow preservationists argued that the

valley should be preserved for its natural value. Conservationists like Pinchot, on the other hand, believed submerging the valley for society's benefit served a higher purpose (Nash 1982; Moseley 2009). In 1913, the U.S. Congress passed a bill approving Hetch Hetchy Valley dam construction, which was completed in 1923 (Moseley 2009). The federal government's role in projects such as Hetch Hetchy had significant political implications, as discussed in Section 4.3.4. According to Horace Albright, National Parks Service director for President Herbert Hoover in the mid-1920s, Mulholland advocated for dam construction in Yosemite Park (Reisner 1993). This points to Mulholland's inclination toward conservationism.

Indeed, evidence from the dataset indicates that Mulholland subscribed to conservationism; he often praised water for its utility for society. In a 1905 letter appealing for United States Senator Flint's Aqueduct support, he wrote that diverting Owens River water to Los Angeles "would accomplish a much superior service and to a far greater number of people than if used for purely agricultural purposes in the Owens River Valley." Such a statement aligns with Theodore Roosevelt's Progressive concept of "the greatest good for the greatest number" (Reisner 1993) and indicates Mulholland's perception that water existed primarily for humans' use. Indeed, in a 1911 speech he remarked that by "nourishing and supplying valued improvements, orchards and so on," water "[served] a purpose of the highest sort."

Although he often lauded water's utility, Mulholland also valued its beauty. In 1929, Mulholland recalled his initial observation of Los Angeles upon his arrival in 1877:

"The Los Angeles River was the greatest attraction. It was a beautiful, limpid little stream, with willows on its banks...It was so attractive to me that it at once became something about which my whole scheme of life was woven, I loved it so much."

In this example, beauty is associated with the water's purity and the lush landscape water created along the riverbank. His perception of the river's beauty was also conveyed in a 1904 speech; he

emphasized its “splendid heritage” when describing how irrigation threatened the river’s integrity, and how willow trees along the riverbanks had “lent a charm to the scene” before the river dried up (1904.11.14). The term “splendid” conveys reverence, and his description of the tree-lined banks emphasizes his appreciation for water’s role in greening the landscape.

Indeed, Mulholland valued water’s role in the city’s “beautification,” that is, to maintain lawns and gardens. Such a perception corresponds with appreciation for its utility. From a TMT perspective, watering plants and flowers functioned to mask the desert landscape and may have alleviated death-thought accessibility. TMT investigations have suggested that humans detach themselves from nature as a technique to refute their mortality (Koole & Van den Berg 2005; Vess & Arndt 2008; Fritsche & Hafner 2012). Koole & Van den Berg (2005) found that exposure to wilderness gave rise to MS compared to cultivated or urban landscapes, since nature is “intrinsically associated with death” (p. 1014). Mulholland’s role in ‘rectifying’ a “lifeless” desert by supplying water to create an artificially lush landscape may have functioned to alleviate death-thought accessibility, at both an individual and societal level.

#### **4.3.9 Progress as a Concept**

The concept of ‘progress’ is entrenched in modern society. Progress refers to the idea that circumstances in the future can be improved compared to current conditions (Rutjens et al. 2009). Industrialization and capitalism defined nineteenth century America; the quest to increase production and consumption encouraged development further west across the continent. Developing further West would create twofold benefits. Firstly, it would open up access to natural resources that could be exploited and manufactured into products (increase production). Secondly, and relatedly, increased production would encourage western settlement, expanding the population base to create a larger market.

From Mulholland's perspective, a reliable water supply was the key to progress for Los Angeles' economic and population growth. He acknowledged this in a 1904 speech when he remarked about "the great importance this [water] problem has recently assumed, due first to the tremendous accession to our population and consequent development of the country in the last few years," and how water infrastructure development was necessary "if we expect to much farther expand our agricultural industries or indeed to add very much to the population of our towns" (1904.11.14). As the years passed, Mulholland perceived water infrastructure development as a means to a "thriving city" (1905), and the Owens River "served to aid the city's wealth and prosperity" (1911.12.02). The Aqueduct would "provide for a century's growth" and enable "the creation of new wealth" (1909.11.18).

Progress was understood in terms of humans' ability to harness water resources for their own benefit. In a 1904 speech, Mulholland said:

"As the City of Los Angeles is not the only portion of Southern California that is confronted with a water shortage, and the question being one of vital interest to this whole section of the State...that ever recurring query comes, "What of our future?""

Likewise, he noted water's significance to the city when he wrote in a 1906 letter that:

"the people of Los Angeles are endowed with sufficient courage to go ahead with this great work and take their chances on earthquake or other abnormal though seemingly inevitable happenings, rather than see the welfare of this fair country languish from lack of water."

Such remarks emphasize water's importance above and beyond to economic and population growth; they point to water's essential role in the city's very existence. Indeed, the primary dataset included several references to the Aqueduct's essential function to the city's future wellbeing. In a 1908 letter to a fellow water superintendent in Ohio, Mulholland said of the Aqueduct, "no City has ever undertaken an enterprise in which there are larger financial gains and future greatness possible." In a 1910 letter to Henry Dockweiler – fellow civil engineer – he wrote, "On the Aqueduct, the goose

hangs high,” which is an idiom related to having enough food to eat and is related to prosperity. In a 1911 public statement, Mulholland wrote that the Aqueduct would help the city “meet all possible future [water supply] demands of the present territorial limits of the City.” When discussing the drought Los Angeles experienced in the late nineteenth century, Mulholland remarked in a 1911 speech that “It was very obvious then that the city should guard against a future experience such as we had in those years, and the idea of the aqueduct was evoked.”

From a TMT perspective, the Aqueduct symbolized society’s ability to persist into the future and provided a sense of certainty about the city’s future existence and success. The ability to harness water resources enabled Mulholland and society to feel a sense of control over future circumstances, which may have functioned to alleviate mortality concerns. Mulholland’s ability to rise above the water scarcity problem created a sense of optimism and confidence across the city; this enthusiasm was rooted in a widespread desire for prosperity. The Aqueduct symbolized a robust future, which corresponds with Rutjens et al.’s (2009) suggestion that progressive hope provides a meaningful cultural construct by which people mitigate their existential concerns. Efforts to harness water resources point to what was considered ‘progressive’, and illustrates how the Aqueduct epitomized the era’s cultural values.

#### **4.3.10 Other Cultural Worldview Themes**

Evidence of three cultural worldview themes – pro-social behaviour, leadership, and mindfulness – did not materialize from the dataset. The Aqueduct was arguably ‘pro-social’ in nature, since it was meant to benefit the welfare of others. However, TMT literature focused on pro-social behaviour refers to personal altruism, such as assisting someone in a wheelchair (Taubman Ben-Ari et al. 2011), and willingness to donate to charity (Jonas et al. 2002). Although others’ accounts of Mulholland yielded evidence of his consideration and benevolence (Reisner 1993; Mulholland 2002), his

interpersonal pro-social behaviour was not revealed in Aqueduct-related documents and did not connect to his Aqueduct involvement. The Aqueduct's pro-social benefits were reflected more broadly, in its role in the city's progress and prosperity that were meant to enrich society across Los Angeles.

Similarly, although leadership on Mulholland's and the government's behalf was necessary for Aqueduct construction, evidence that mortality salience enhanced Mulholland's devotion to more charismatic political leaders was not expressed in the dataset. Despite the Aqueduct's political nature and his close-knit relationship with politicians, Mulholland publicly refrained from political disputes. He once said that he would rather "give birth to a porcupine backwards" than vie for mayor (Jackson & Hundley 2004: 44). This is not to say he was not politically involved; indeed, Reisner (1993: 84) wrote that "Mulholland seems to have been a far better political schemer than he was a hydrologist and civil engineer." However, given his public disdain for politics, leadership's terror management function could not be substantiated from the dataset. It is possible that mortality salience – provoked by the water scarcity threat – bolstered the public's confidence in Mulholland as a leader; however, exploring this idea was beyond the scope of this study.

The dataset did not reveal a sense of mindfulness on Mulholland's part. Perhaps mindful qualities would have been expressed in more intimate documents, such as diaries and personal letters; however, the dataset consisted of predominantly correspondence and speeches of a more professional nature.

## **Chapter 5: Results and Discussion**

Whereas Chapter 4 contextualized the broader American cultural worldview that emerged during the nineteenth century and Los Angeles' settlement, this chapter is a presentation of my coded data in response to the TMT hypothesis. Section 5.1 describes how water crisis primes may have increased death thought accessibility. Section 5.2 portrays evidence of proximal defenses within my data. Section 5.3 outlines the identified distal defenses, specifically, evidence of transference idealization, self-esteem striving, worldview defense, and outgroup antagonism.

### **5.1 Evidence that water crisis primes increase death-thought accessibility**

Water crisis primes were evident throughout the data, as demonstrated by Mulholland's expression of water-related threats and emotions. These threats and emotions support the idea that water crisis primes increase death-thought accessibility (DTA). Mulholland articulated water-related threats in 12 of the dataset's 38 documents. Two overarching threat themes emerged from the data: water scarcity and insufficient water quality. Water scarcity was the most commonly expressed threat identified in the data, appearing in 10 documents and encompassing both natural and human-induced threats to the city's water resources. Natural threats included diminishing, insufficient, or unreliable water supplies due to drought, seasonality, and climate, as well as acknowledgement of the city's naturally finite supply. Human-caused threats encompassed a diminishing supply due to overconsumption, privatization of the water supply, insufficient infrastructure, and an insufficient supply to meet projected and desired economic and population growth. The threat of insufficient water quality also included both human and natural causes. Natural causes included naturally poor water quality, caused by turbidity or stagnancy. Human causes related to potential contamination of the supply, either accidental or purposeful.

Cultural worldview themes derived from TMT literature, such as perception of nature and creatureliness, contextualize how water threats functioned as death primes. Mulholland's perception of nature is evident in a 1909 editorial, where he describes the desert as an inhospitable, unfavourable, and inaccessible environment, "destitute of habituation." In a 1911 speech, Mulholland described the Los Angeles region as a "broad area of sear valley, barren, bleak land." In a 1912 speech, he referred to the Mojave Desert as "forbidding" and with "not a sign that a human soul had ever been." Such portrayals of the desert landscape indicate a perception of nature that associates water scarcity with lack of life, and reinforce how images and thoughts of water scarcity may have enhanced Mulholland's DTA.

Since insufficient water quality can cause illness and death, the threat to health from consuming contaminated water may have reminded people of their creatureliness. I did not find evidence that Mulholland was personally concerned about water quality; he often defended the region's superior natural water quality against naysayers who opposed the Aqueduct construction (which may evince a proximal defense, as described in Section 5.2). However, others' efforts to incite public concern about water quality points to water's ability to activate creatureliness. In a 1907 letter, Mulholland noted that contaminated water's "more immediate effect of the stomach and bowels than almost any other of the customary substances used for the nourishment of our bodies" before downplaying the likelihood of Los Angeles water causing illness. In a TMT context, potential water quality threats may have enhanced DTA by triggering an awareness of human animality.

Nine documents explicitly referenced water-related emotions, which reinforced how water threats acted as death primes. Emotions identified in the data reflect how Mulholland and society perceived water threats. His use of words such as urgency, anxiety, fear, concern, and vulnerability convey how water crises – through scarcity or contamination – were understood to threaten society's

existence. Urgency was the most commonly identified emotion, encompassing feelings of alarm and desperation, and references to the water crisis as dire, critical, and an emergency. Vulnerability related to awareness of the city's susceptibility to water scarcity or contamination given its reliance on a single water source. Mulholland discussed fear, concern, and anxiety in terms of how water scarcity, and threats such as earthquakes and contamination, jeopardized peoples' future wellbeing in the region.

The single positive emotion, wonderment, was identified in two speeches – one from 1905 and one undated – in which Mulholland expressed wonderment at the relatively abundant groundwater supply given the region's arid climate. This emotion corresponds with the perception that settlers were destined to develop the region, as per the concept of Manifest Destiny that motivated European American settlement in the region during the nineteenth century.

References to water-related threats and emotions by Mulholland reflect his mortality awareness and indicate that water primes functioned to increase DTA. Water scarcity posed a continuous threat to Los Angeles' growth, wellbeing, and existence. In a TMT context, water-related threats and emotions could have activated proximal and distal defense mechanisms, as explored in the next two sections.

## **5.2 Evidence of proximal defenses in response to water crisis primes**

The primary dataset revealed evidence of proximal defenses related to water quality and natural and humanmade disasters. These examples provided direct death reminders because they were associated with destruction and human loss. The evidence suggests that they activated proximal defenses by Mulholland in the form of denial, trivialization, and rationalization.

As discussed in the previous section, the threat of contaminated water appears to incite mortality awareness. If so, Mulholland's threat denial can be considered a proximal defense. In two documents, he refuted others' accusations that Los Angeles' water quality would affect the public's health. In a 1907 letter to a newspaper editor, he denied water quality threats by emphasizing the human body's ability to overcome water contamination, and claiming that the city's water is purer than most other regions in the United States. He also stressed that life expectancy is similar across the country regardless of water quality, which suggests he is responding to concerns about water's effects to life expectancy. In a September 1912 letter to a colleague in London, England, he rejected his opponents' claims that the Aqueduct would harbour waterborne diseases that threatened human health. He argued that bacteria would not endure the time required for water to travel from the Owens Valley to the Aqueduct outtake.

When asked about risks associated with dams, Mulholland rationalized the integrity of earthen dams compared to concrete dams to minimize concerns about death from dam destruction. In a January 1912 letter to the Board of Public Service Commissioners, he emphasized that the vast majority of dam failures concern concrete dams, whereas Los Angeles' major dams are earthen. He mentioned one instance of an earthen dam collapse – the Johnstown Dam in Philadelphia in 1889 – but noted that its failure was preventable since it was caused by a removable blockage. Mulholland minimized the threat by vindicating earthen dam construction and actively trivialized the likelihood of dam-related calamity in Los Angeles.

I also identified proximal defenses induced by a natural disaster: the 1906 San Francisco Earthquake. In two letters responding to news agencies within months of the earthquake, Mulholland calmed concerns about potential earthquake effects on the Aqueduct by understating the effects of water infrastructure damage to San Francisco's water access following the earthquake. He

rationalized that water infrastructure can generally tolerate earthquakes since infrastructure is largely situated underground, and explained that San Francisco's largest reservoir survived despite being full to capacity when the earthquake occurred. Mulholland also emphasized that in the four months since the earthquake occurred, he was not aware of any injuries resulting from a failed water supply. In a January 1912 letter to the Board of Public Service Commissioners he noted again that the earthen dams and reservoirs in San Francisco withstood the 1906 earthquake. His responses demonstrate attempts to minimize and rationalize the potential for a similar scenario to affect Los Angeles and the Aqueduct.

Evidence of proximal defenses supports TMT's contention that images and thoughts of disasters and destruction bring death thoughts to focal attention. In the next section I discuss the evidence of distal defenses that emerged from my dataset.

### **5.3 Evidence of distal defenses in response to water crisis primes**

Distal defenses are activated when mortality concerns are outside of conscious awareness. They function to reinforce one's self-esteem and cultural worldview to keep death anxieties outside of conscious awareness (Pyszczynski et al. 2004). As described in my codebook, different types of distal defenses include transference idealization, self-esteem striving, worldview defense, and outgroup antagonism.

#### **5.3.1 Transference Idealization**

A transference object is an entity that an individual can attach his identity to, which satisfies cultural values and will exist beyond his physical life. Understanding water's value reveals how water-related death primes were potentially mitigated. Water functions as a transference object because it is laden with cultural significance, and Mulholland's ability to provide something so valuable would enable

him to symbolically transcend death. The primary data revealed water was valued for its reliability (9 documents), importance/necessity (8 documents), utility (8 documents), abundance (7 documents), and purity (7 documents).

Of the 38 documents that comprised my primary data, 25 included water-related values. The most prevalent water value identified in the dataset related to reliability, i.e., a constant, permanent, accessible, sufficient (in terms of quantity) supply. References to a plentiful water supply included such keywords as “copious,” “abundant,” and “prolific,” or allusion to having more than enough water (1904.11.14-S; 1911.02.17-C; 1912-S). In addition to explicit references to purity and sufficiency, adequate water quality was associated with being “sweet” and uncontaminated (1908.10.30-C; 1909.11.17-S; 1912.09.05-C).

Mulholland’s discussion of water threats often corresponded with references to water values. For example, perils associated with water scarcity were often discussed according to the negative effects to an abundant and reliable water supply. Likewise, water quality issues were expressed in terms of their effects to water’s purity. Access to a reliable, abundant, and uncontaminated water supply would minimize the water scarcity threat; from a TMT perspective, the sense of security provided by a constant, ample, and pure water supply may have helped assuage both Mulholland’s and the public’s death concerns.

I also identified a shift in how water values were conveyed after Aqueduct construction began in 1905. Prior to its development, when the city lacked a reliable water supply, they were expressed in relation to demand. For example, in a 1904 speech, Mulholland said the Water Department and city “are cognizant of the importance of this subject and are not supinely letting valuable time go by in which to prepare for the coming emergency.” Water’s importance was contextualized by the water scarcity threat. In contrast, as Aqueduct construction progressed, water values were more often

discussed according to how the Aqueduct would fulfill water values, i.e., how it would create a reliable and abundant supply, encourage economic development and population growth, and improve water quality. For example, in a 1909 speech he mentioned that the Aqueduct “would [bring] down from the north sufficient to serve domestic uses, provide for a century’s growth and in addition the necessary water to irrigate this extensive acreage.” Here, Mulholland contextualized water values by the opportunities provided by the Aqueduct’s development. Recognizing the Aqueduct’s ability to mitigate water threats reinforces how it functioned as a transference object by satisfying cultural values related to water.

Water’s utility included references to its economic and social benefits. The data indicates Mulholland understood that access to sufficient water – in terms of both quality and quantity – was imperative to commercial growth, including agriculture, electricity generation, and land development. In turn, economic development would promote population growth and the city’s prosperity. In this sense, water functioned as a transference object for Mulholland once he no longer influenced water because the ability to encourage economic growth and increased settlement would allow society to exist beyond Mulholland’s physical life.

Eight documents explicitly referred to water’s general importance or necessity. These indicators suggested only water’s importance, with no additional context related to its reliability, abundance, or purity. In addition to direct references to its importance or necessity, I included his remarks about water as a “serious problem,” as a “precious” substance, or as possessing a “splendid heritage” (1904.11.14-S; 1904.12.28-R; 1909.11.18-S). General but explicit references to water’s importance and necessity emphasize Mulholland’s awareness of Los Angeles’ dependence on water for its very existence. In a transference object context, such an awareness imbues water with power. Understanding water’s value helps explain how Mulholland’s involvement in bringing water to Los

Angeles allowed him to strive for heroism, in the TMT context. His references to water's significance may also represent a form of worldview defense, as described in Section 5.2.3.

Just as water-related emotions reinforce how water-related threats acted as death primes, understanding water infrastructure-related values and emotions supports the Aqueduct's role as a transference object that diminished water-related threats. Mulholland explicitly noted the Aqueduct's importance in 12 documents. He often referred to it as a "great work" or "stupendous undertaking." In three documents – two letters from 1908 and a 1911 speech – Mulholland stated directly that the Aqueduct would eliminate water scarcity. Emphasizing the Aqueduct's capacity to inhibit water-related threats distinguish it as a transference object.

It is noteworthy that, whereas water-related emotions emphasized water threats (i.e., anxiety, concern, urgency, etc. as described above), Aqueduct-related emotions upheld it as a transference object. The anxiety, vulnerability, and urgency that resulted from water-related threats were alleviated by the Aqueduct because it bestowed hope, pride, and excitement in both Mulholland and the public.

Several statements by Mulholland suggest the Aqueduct functioned as a transference object; Mulholland perceived the Aqueduct as a monumental undertaking that would last for centuries and embody peoples' courage and skill. For example, Mulholland concluded a 1904 speech about the condition of Southern California's water resources in the following way:

"Southern California in the past has had her vicissitudes of fortune and has always emerged from her difficulties in a manner that redounded to the credit of her glorious possibilities and the energy of her citizens. That she will meet the present emergency by the building of a work that centuries hence will be pointed to as a monument, not alone of engineering skill but of the indomitable pluck and foresight of the present generation of her people, is to be expected from her record in the past."

In 1905 Mulholland presented a speech to a local men's social club advocating for public, instead of private, water supply control. After disparaging water privatization, he used historical examples to tout the benefits of public water control:

“It is certain that from a very early period in the progress of civilization the duty of supplying cities with water was assumed as a public work second only in importance to the defense of the country. History of the early and middle ages does not seem to record any instance of this function having been performed by private parties on a scale larger than the mere work of individual water carriers, while fragmentary mention is made of what must have been very ambitious and elaborate works in the remote past. . . . The remains of aqueducts in many parts of the world give evidence that the ancients in many cases made generous provision for water for public use.”

He also used a historical reference in a 1909 editorial. . . :

“It is this very clear knowledge [that water is synonymous with life], I believe, that gave heart and [hardihood] to Los Angeles in undertaking the Owens River Project. So the first incentive for the building of the Los Angeles Aqueduct, which surpasses all of those of Imperial Rome and is surpassed only in turn by the Catskill Aqueduct of Greater New York, was that of self preservation.”

...and in a 1911 speech:

“But with regard to the quality of the work, I want to say to you now that you might discredit me or disbelieve me if I were to say that the aqueduct will last as long as the pyramids of Egypt or the Parthenon of Athens, or something like that. I wouldn't want to say that. That would sound as though I was trying to be grandiloquent or something like that. But I will tell you that the aqueduct will at least endure until Job Harriman is elected Mayor of the City of Los Angeles.”

These examples suggest that the Aqueduct functioned as a transference object. His recognition that other aqueducts and vestiges of ancient achievements have withstood the test of time and symbolized society's progress indicates he hoped or expected the Los Angeles Aqueduct would create a similar legacy.

Many references to transference idealization regarding the Aqueduct emphasize its anticipated future benefits. For instance, in a 1906 letter to Los Angeles' Chamber of Commerce president, Mulholland closed his letter by writing:

“I feel confident, therefore, that the water supply of the City will not become inadequate in advance of the completion of the Owens River conduit, after which our water troubles, let us hope, will be settled for all time.”

Likewise, in a 1908 letter to a fellow water superintendent in Ohio, Mulholland focused on the Aqueduct’s anticipated future value:

“It is a big work but we are not afraid. Certainly whatever the task from an engineering point of view, be it difficult or easy, the fact remains that no City has ever undertaken an enterprise in which there are larger financial gains and future greatness possible.”

Mulholland also highlighted future benefits when he concluded a 1911 letter by writing that the Aqueduct “assures a copious and permanent water supply.” Referencing the future illustrates how he envisioned the Aqueduct providing water for future generations and generating prosperity, which would render him symbolically immortalized.

In many of the aforementioned examples, Mulholland championed Los Angeles residents as courageous and tenacious. This is most explicit in an undated speech in which he proclaimed:

“But I found the people were full of courage; and when the matter was submitted to them, they voted in favor of the proposition by a vote of 14:1 and the project was put into effect...This will be the largest supply provided for any city in America, with the single exception of the city of New York, which at present is building an aqueduct 70 miles long, carrying a water supply of 450,000,000 gallons a day from the Catskill Mountains...in many particulars it is a greater work than that of the city of Los Angeles; but in proportion to the population it sinks into insignificance as compared with the work we are undertaking here. I think this work at the Owens River aqueduct is one of the greatest compliments to the courage and foresight and wisdom of a people, of anything that is going on in a public way in the world today. It is a great, stupendous piece of work; and it is very boldly undertaken, considering the fact that for over 150 miles there was not available, within any reasonable distance at all of a line of construction, a single drop of water to serve the men or to do construction work – supply the necessary water for mixing concrete and doing other things.”

His frequent references to citizens’ bravery and resolve evoke transference idealization by enhancing the Aqueduct’s significance. Appealing to peoples’ courage suggests that Aqueduct development satisfied patriotic values, which corresponds with the patriotic cultural worldview theme that emerged

from TMT literature. Acknowledging their courage may have assuaged death concerns by conveying their important role in enabling society to endure.

In a 1908 letter to Harrison Gray Otis, Mulholland expressed a desire to create an elaborate design for the Aqueduct outtake. He articulated his hope for a:

“...structure of imposing dimensions and possessing classical beauty of design, as its position on the site of the precipitous bluff in full sight of all passing trains will make it one of the most conspicuous artificial creations of Southern California.”

Coveting ornate and highly visible décor underscores Mulholland’s extrinsic values and demonstrates his desire for the Aqueduct to stand apart from and above nature, two cultural worldview themes I derived from TMT literature. Using the Aqueduct to portray wealth and prominence, and demonstrate humans’ ability to overcome nature, exemplifies transference idealization by amplifying its significance. Exhibiting extrinsic values and controlling nature have both been found to serve a terror management function.

### **5.3.2 Worldview Defense**

Worldview defense was exemplified in Mulholland’s bolstering of his own worldview and people who supported and shared it. Three types of worldview defense were identified from the primary data: asserting water’s importance, acknowledging others’ Aqueduct support, and bolstering Aqueduct supporters’ worldview. All worldview defense evidence functioned to directly or indirectly justify the Aqueduct’s construction.

#### **5.3.2.1 Asserting Water’s and the Aqueduct’s Importance**

Asserting water’s importance as a form of worldview defense corresponds with the idea that water functions as a transference object. The distinction is that, from a worldview defense perspective,

asserting water's importance reinforces how his career developing water infrastructure contributed to the greater good of society.

Mulholland often highlighted water's importance to life, and to economic and population growth. In a November 1904 speech, for example, he opened his speech with:

“...your program committee was probably actuated by the great importance this problem has recently assumed, due first to the tremendous accession to our population and consequent development of the country in the last few years...”

Beginning his speech by noting water's important role in population growth and development emphasizes his understanding of society's dependence on water for its very existence and suggests a desire to enable Los Angeles' growth and development. This was further reinforced later in the speech, when he implied that the city's reliance on a singular water source hindered its growth and development:

“With this general description of the hydrography that is common to all three of the valleys mentioned, we may pass to a more special study of the San Fernando Valley on account of its greater importance to most of us by reason of its being the sole and only present source of water supply for the great and growing City of Los Angeles.”

In the same speech, Mulholland noted how the presence of water was important for early settlers:

“It must not be inferred that this is the first period in the history of this country in which the water question took on a serious phase. The early settlers naturally established their abodes about the localities of abundant and easily accessible water, and the encroachment of later comers on what they conceived to be their rights in those waters, was as sturdily resisted and repelled as such real or imaginary invasions are at the present day.”

A 1905 speech to the Sunset Club, he once again described water's significance to the town's settlement:

“Almost the first act of the mission fathers upon the founding of the Pueblo of Los Angeles was the one of constructing ditches for the distribution of the waters of the Los Angeles River...over the fertile tract now occupied by our thriving city; indeed it was due to the existence of this stream that such a city as Los Angeles was ever built.”

Associating water's importance for settlement points to an understanding that without access to water, Los Angeles could not have been established in the first place.

Later in the same speech, when discussing the city's diminishing water resources, Mulholland referred to the city's water source as a "very much prized source of supply" and to "these great artesian belts" as "principal" that "we are rapidly eating up." He considered the shrinking water supply in terms of its importance to economic and population growth: "we cannot depend on the runoff from the natural water-sheds that have thus far supplied us if we expect to much farther expand our agricultural industries or indeed to add very much to the population of our towns."

Mulholland was a vocal proponent of water meters to gauge the city's water use. He often promoted water meters in the context of their ability to maximize the city's opportunities to grow and develop, which speaks to his desire for the city to expand. For instance, in a December 1904 letter report co-written with other Water Board members, he wrote that "...the general and extended use of meters would so correct the extravagant rate of consumption that still prevails in this City, as to enable us to provide for a very considerable increase of population with the present supply..." In the same report, he recognized "the seriousness of these [diminishing water supply] conditions," which further conveys his understanding of water's importance.

Similar to his support for water meter implementation, he was an outspoken proponent for public, rather than private, water resources control. In a December 1908 letter to Charles H. Windham, mayor of Long Beach, California, Mulholland wrote that "the distribution of a water supply should be one of the chief functions of every well regulated community" and described water as "an element so necessary to the life of a community" that it should not be placed "in the hands of private individuals." He noted in the letter that the natural supply was unable to sustain the city's "population of constant and increasing growth." His advocacy for public water control related to

private interests' inability or unwillingness to meet the city's increasing demands (1908.12.10-C; 1909.03.04-C), which reiterates his awareness of water's importance.

Mulholland also understood water's importance to the existence of life itself. He opened a November 1909 editorial by describing water as a "precious fluid" that is "synonymous with life." The city's "dire necessity" for water was important to sustain "one of the most remarkable growths of population known to American cities" and for "the opportunity for large commercial gain."

In a December 1911 speech, Mulholland noted "that the streets require constant sprinkling under the aridity of our climate and the wind that blows here in the afternoon" to maintain a "beautified" city. In the same speech, he expresses water's importance by describing the region as a "broad area of sear valley, barren, bleak land." These descriptions convey his perception that without sufficient water, the region would be unattractive and lifeless.

In total, Mulholland positively associated water with population and economic growth and/or the society's very existence in six of the dataset's 38 documents, including two letters, two speeches, one editorial, and one letter report. From a TMT perspective, reiterating water's importance provides evidence of the importance of his ongoing effort to re-affirm his values to keep death thoughts at bay.

Similarly to emphasizing water's importance, from a worldview defense perspective Aqueduct justification validated Mulholland's efforts to create water infrastructure. Explicit references to the Aqueduct's value and purpose illustrate its significance, and thereby uphold Mulholland's efforts as meaningful. There is a lot of overlap between Mulholland suggesting the Aqueduct functioned as a transference object (Section 5.2.2) and justifying its importance as a form of worldview defense; the distinction is that whereas transference idealization enabled Mulholland to

attach his identity to a project that would exist beyond his physical life, emphasizing its importance as a form of worldview defense would have served to bolster his worldview.

Mulholland often referred to the Aqueduct's importance to the city's economic and population growth. For instance, in an October 1905 letter, he wrote:

“Beginning at about [1902] there was a great accession to the growth of the city, which has continued ever since. Within a short period it became evident to the Board of Water Commissioners that, should this growth continue at its then rate, the city would soon be put to the necessity of acquiring water from other sources to supply her needs.”

He closed the letter by referring to the Aqueduct as “this vitally important undertaking.”

In a November 1905 letter to a colleague in Colorado, Mulholland noted that the Aqueduct would fulfill the city's “dire needs in the way of water supply” which had been heightened by “the [astounding] growth of this City, and in fact of this whole region, in population in the last two years.”

In a 1905 Mulholland wrote letter to F.P. Flint, a United States Senator from California, seeking his support for the Aqueduct. He justified the Aqueduct according to its necessity for economic and population growth, writing:

“We therefore respectfully submit that inasmuch as this city and vicinity is in direct need of water for her future growth and development, and as the surplus waters of the Owens River Valley are the only unappropriated waters within the possible economically attainable reach of this city, that the use of such waters for her needs would accomplish a much superior service and to a far greater number of people than if used for purely agricultural purposes in the Owens River Valley as designated by the Reclamation Department.”

He then closed the letter by referring to the Aqueduct as “the most vital need of our progressive city” and a “great public work.”

In addition to emphasizing the Aqueduct's role in economic and population growth, Mulholland also justified its construction by highlighting how it would protect the city from water scarcity. In an April 1908 letter to Harrison Gray Otis, Mulholland explained his desire to design a

purely decorative feature to exhibit the Aqueduct to passing trains. While acknowledging the inevitable water waste involved in such a feature, he remarked that “the city...can afford to be liberal in this matter.” This implies that the Aqueduct would provide such an abundance of water that sacrificing some for ornamental effect could be disregarded, and reinforces the perception that the Aqueduct would alleviate the water scarcity threat. In a December 1908 letter outlining the benefits of the city’s shift to public ownership, including the city’s Aqueduct undertaking, Mulholland noted that “[drought] has been guarded against by water development at widely different points and the storage and distributing systems widely enlarged and extended.” In a December 1911 speech Mulholland explained that the Aqueduct’s purpose was to “guard against any future [drought] experience such as we had [at the turn of the century].” In the same speech he said, “I don’t believe I need to dwell on the fact that there was some danger of experiencing a water famine in this city.” By describing the water scarcity threat in the past tense, Mulholland implied that the Aqueduct would provide a sense of security from drought.

In more general terms, Mulholland distinguished the Aqueduct as “worthy” (1904.12.28-R), “beneficial” (1911.12.02-S), “necessary” (1908.02.22-S and 1911.12.02-S), “full of merit”, and a “big undertaking” (1908.09.29-C) and “great enterprise” (1909.11.18-S). In a November 1909 he even described the Aqueduct as imperative to Los Angeles’ “self preservation” and states that “municipal life of Los Angeles today is practically centered around the completion of the Aqueduct.” In a TMT context, continually emphasizing the Aqueduct’s significance may represent his persistent attempts to alleviate death-related thoughts.

Whereas emphasizing the importance of water and water infrastructure reinforced the importance of Mulholland’s Aqueduct undertaking, worldview defense also occurred through his expressed allegiance to people and entities that supported its development. This was demonstrated in

two ways: his confirmation of others' Aqueduct support, and his bolstering of their (shared) worldview. Such worldview defense evidence is examined in the following two subsections.

### **5.3.2.2 Acknowledging Others' Aqueduct Support**

Others' support validated Mulholland's efforts to construct the Aqueduct. People who endorsed its development included fellow engineers and Los Angeles residents, including some politicians and city colleagues. In addition, Mulholland identified support from entities including legal institutions, the city's Water Department, and the United States Bureau of Reclamation. Evidence also suggested his belief that God supported his endeavours. Since I prioritized collecting primary information, there were infrequent indications of others' Aqueduct support; however, certain excerpts by Mulholland did allude to others' interest in his work.

Aqueduct support from fellow engineers and other water departments' superintendents would have called attention to Mulholland's prominence as an engineer. The Aqueduct was a renowned undertaking, garnering attention from across the country and in Britain; indeed, the dataset contained correspondence with engineers and water superintendents in Colorado, Nebraska, Ohio, Massachusetts, New York, and London, England. Endorsement from his associates in similar fields may have reinforced both his credibility and the Aqueduct's practicality. For example, in a 1905 letter to a fellow engineer in Colorado, he wrote, "Naturally this project has excited much attention among engineers." Mulholland began a letter to Cleveland, Ohio's, water superintendent by noting his pleasure that he "found interesting the First Report on the Aqueduct." Based on a 1910 letter to William B. Bryan, chief water engineer in London, England, Mulholland acknowledged Bryan's support when he commented on his reference to the Aqueduct as "one of the most important supply systems ever projected." From a TMT perspective, if experts in the engineering and scientific fields

recognized the Aqueduct's value and Mulholland's abilities, acknowledging the widespread Aqueduct-related attention may reinforce his own reputation as an expert himself.

References to the public's Aqueduct support occurred in five documents. Mulholland mentioned that an "overwhelming majority" of citizens voted for its construction (1905-S), and that:

"The most effective answer to your question, however, as to whether citizens would favor a return to corporation ownership is that the City is now occupied in building an Aqueduct 240 miles across the Mojave Desert and through the Crest of the Coast Range of mountains, capable of furnishing a supply of 280,000,000 gallons per 24 hours and costing 24,500,000. The first bond issue...was passed by a vote of 14 to 1, and the bond issue of...was passed by a vote of 10 to 1 with the largest vote cast that has ever been polled in Los Angeles at a bond election." (1909.03.04-C)

In this excerpt, Mulholland acknowledged the public's endorsement by using their Aqueduct support as an example of the benefits of shifting from private to municipal water control.

Other comments he made also indicated that the Aqueduct would not be possible without public support. In a 1911 public statement, Mulholland wrote that the Water Board's decisions "must be submitted to the vote of the people for ratification before they can be carried into practical effect, so the public interests are abundantly protected." In a 1911 letter to a Harvard University engineering professor, he noted that "It is doubtful if there is a city in America in which a deeper or more universal interest is taken in her welfare by her citizens than Los Angeles." In the letter's Aqueduct context, this conveys citizens' belief that the Aqueduct would benefit the city. Residents' support indicates their confidence in Mulholland and that the Aqueduct would solve their water problems, thereby bolstering Mulholland's worldview.

Mulholland also acknowledged institutional support, i.e., from government agencies and the law. For example, to challenge assertions that Aqueduct water would not be sufficient for human consumption, he remarked in a 1907 letter that:

“In addition to the analysis made by ourselves, and independently by every Committee that has gone up there to investigate the water supply, the United States government has for the past six months been taking samples from the Owens River at the proposed point of intake for the City’s Aqueduct. These samples were taken weekly and analyzed at the Government Laboratory with the result, as above stated, that the average dissolved solids is shown to be about 18 grains per United States gallon.” (1907.05.17)

In this example, Mulholland compared the results of his water quality analyses with the United States’ government to refute statements against his study of Owens River Valley water. Similarly, in a 1911 speech contradicting accusations that the Owens River water was “too vile for use,” he referenced the United States Government’s “hundreds of analyses...made at regular periods, regular stated intervals up to a week ago for a year and a half” that all found the water to be of better quality than that of their current supply. From a TMT perspective, such remarks can be viewed as evidence of Mulholland aligning his worldview with the government’s to maintain his integrity and reinforce his expertise.

Mulholland also used legal bodies’ support to justify the Aqueduct’s construction. In a 1911 speech he noted that the Board of Water Commissioners’ efforts to acquire land in the Owens Valley for Aqueduct development were within the law. He said, “the right of way will be granted without any doubt at all. The law provides for that. We need no rights of way on that.” In the same speech, he also referenced a 1903 case between the city and irrigators in which the Supreme Court granted Los Angeles River water rights to domestic (city) users before agricultural (irrigation) users. In a TMT context, having the law on his side would have helped validate his efforts to bring water to Los Angeles.

The dataset also contained evidence that Mulholland believed God supported his Aqueduct undertaking. In a 1905 speech to promote public, instead of private, water resources control, Mulholland said:

“Hezekiah, King of Judah, who reigned from 717 to 688 B.C., was a pioneer in constructing a system of water works, bringing water into the City of Jerusalem. Quoting from Scripture: “He made the pool and the conduit and brought the water into t the City;” and again, “He stopped the upper water course of the Gihon and brought it straight down to the west side of the City of David, and Hezekiah prospered in all his works.” After diligent search I failed to find any mention made of the dividends paid by this early enterprise so we may infer that the works were public, for public officials are guiltless of paying dividends except in the indirect way of good service if it so happens that they are good servants.” (1905-S)

In a 1908 editorial, he wrote:

“There can be no greater encouragement to an earnest worker than the knowledge that his employer is keenly interested and watchful of his work, for it is only from such an employer that he can expect to obtain the most prized portion of the reward of his toil; namely, appreciation. I am quite sure that the very marked improvement noticeable in the conduct of the City’s affairs in the last six or eight years is not wholly due to any purely corrective measures or suggestions from this or any other of the civic bodies but springs largely from their practice of applauding good work and their frequent implied use of the scriptural expression approbation, “Well done, Thou Good and Faithful Servant.”” (1908.02.22)

Mulholland’s scriptural references indicate his belief that developing water infrastructure for Los Angeles would satisfy God. In a worldview defense context, they could be viewed as his perception of God’s Aqueduct validation.

### **5.3.2.3 Bolstering Others’ Similar Worldview**

Another type of worldview defense that emerged was Mulholland’s bolstering of Aqueduct supporters’ worldview. Affiliating oneself with culturally-similar others functions as a worldview defense mechanism by validating one’s worldview. His support for others was usually manifested through endorsing their personality traits, abilities, and accomplishments. Identifying his supporters’ positive attributes indirectly bolstered his own worldview. For instance, during Aqueduct construction allegiance was reciprocated between Mulholland and the City, which enabled mutual reinforcement of their respective role in the city’s progress. Some keywords he used to portray his city colleagues included “knowledgeable” (1904.11.14-S), “engaged” (1904.12.28-C), “earnest” (1904.12.28-C),

“competent,” “conscientious,” and “public-spirited” (1910.11.14-C). In a TMT context, validating the Water Department’s and various City Boards’ position reinforced his own authority as a city leader, water expert, and engineer.

Similarly, showing interest in his colleagues’ work may have reinforced his own work’s authenticity and significance. He expressed admiration for their personality traits and abilities, referring to them as “honorable” (1912.01.08-C) and “proficient” (1911.10.13-C), and to their work as “exceptionally great” (1907.03.20-C), “of great importance and value” (1912.09.05-C), and “thorough, practical, and interesting” (1908.09.29-C). From a worldview defense perspective, highlighting the merits and significance of fellow engineers and water superintendents emphasized his own relevance.

Mulholland’s depiction of Los Angeles residents mostly related to their courage. In Section 4.1 I discussed how emphasizing their courage bolstered the Aqueduct’s significance. In a worldview defense context, their portrayal as courageous also may have reinforced or inspired Mulholland’s own bravery which, for instance, may have endowed him with the courage to create the Aqueduct.

Understanding who he identified and associated with provides further insight into his own worldview by informing qualities he admired in other people. The qualities he admired in others point to the qualities he sought in himself, and thereby may also indicate how he strove for self-esteem. Evidence related to Mulholland’s self-esteem striving are discussed in Section 5.2.5.

### **5.3.3 Outgroup Antagonism**

Just as bolstering culturally similar worldviews may have authenticated Mulholland’s worldview, criticizing contradictory worldviews also functioned to validate his water infrastructure involvement.

Primary data indicated the most typical outgroups were people who opposed Aqueduct development: private water enterprises and certain politicians.

From Mulholland's perspective, people who resisted Aqueduct development generally did so for politically-motivated reasons. Mulholland portrayed such opponents as greedy, inefficient, extravagant, corrupt, unscrupulous, self-interested, and ignorant. Discrediting their authority and acknowledging their nefarious motives reinforced his own credibility and integrity.

Mulholland depicted private water interests as incapable and unwilling to meet the city's water demands. By doing so, he emphasized the benefits of public water control, for which he was a vocal advocate. He also described people who supported private water enterprise as timid, which corresponds with his portrayal of Aqueduct supporters as courageous, as described in Section 5.2.3.3.

Other outgroups included people who did not trust scientific research. These included Los Angeles residents whose beliefs, according to Mulholland, were absurd. His acknowledgement of their ignorance reinforced his own faith in scientific expertise.

Before the city was informed about the Aqueduct idea, several engineers proposed solutions to Los Angeles' water supply problem. Mulholland conveyed their abilities and ideas as inadequate and infeasible. By depicting others as inferior, Mulholland asserted his superiority and proficiency, and his ideas as visionary.

#### **5.3.4 Self-esteem Striving**

Evidence that water infrastructure affected Mulholland's self-esteem striving could be reflected in his expressed feelings of achievement or failure related to the Aqueduct's construction. In a TMT context, affirming his Aqueduct-related successes would function to establish his significance. The

extent to which water infrastructure development influenced his self-esteem explain whether it served as Mulholland's hero project.

There was scant explicit evidence of Mulholland's self-portrayed successes exemplified in the dataset. It is possible that he did not use letters and speeches to boast about his accomplishments and capabilities; perhaps he did not want to appear unprofessional, or perhaps it was unnecessary to explain his achievements when he and his work were so renowned and prevalently discussed by the public and media. His lack of justification may, in fact, indicate high self-esteem and, from a TMT perspective, low death-related anxieties and death-thought accessibility. Self-assurance would minimize the need for him to validate his worldview; indeed, consistent with TMT, higher self-esteem is associated with a decreased need to justify oneself.

It is evident from the dataset, however, that Mulholland's work provided him with pride and gratification. For example, he noted the "strong fraternal feeling between waterworks officials the world over" (1911.12.02-S) and often expressed appreciation for their interest in, and support for, his Aqueduct undertaking (1905.11.09-C; 1907.03.20-C; 1908.09.29-C; 1910.06.01-C; 1910.11.04-C). On various occasions, he also noted that it was "a pleasing task" to both discuss the Aqueduct and observe its progress (1908.02.22-S; 1908.04.17; 1911.12.02-S). His enjoyment in his work may reflect its self-esteem-enhancing function.

Mulholland portrayed confidence in his own expertise when he declared: "I feel confident, therefore, that the water supply of the City will not become inadequate in advance of the completion of the Owens River Conduit, after which our water troubles, let us hope, will be settled for all time" (1906.06.05-C) and, when discussing the soundest form of dam development, that: "I am confident that with the materials available and the first class foundation existing under the Fernando dam-site, an infinitely tighter construction can be made with clay than could be made with the highest class of

concrete, and tightness is always the desideratum in dam construction” (1912.01.18-C). His self-confidence indicates he felt competent and able to succeed as an engineer.

Although evidence of his failures did not emerge from the dataset, in a December 1909 letter he indicated that “the burden of my duties here makes it imperative that I be continually on the work,” and referred to the Aqueduct as a “heavy responsibility which my own City has seen fit to place upon my shoulders.” This points to an understanding of his accountability for any negative consequences. Through a TMT lens, high self-esteem is associated with riskier behaviour; this has been experimentally demonstrated in peoples’ driving speed, smoking and tanning habits, and decision to execute a breast self-exam. If so, then perhaps high self-esteem motivated his involvement in Aqueduct development, despite its substantial challenges and exceptionally daring components.

If Mulholland’s water infrastructure involvement influenced his self-esteem, as the dataset suggests, then it crumbled – literally and figuratively – on March 12, 1928, with the St. Francis Dam collapse. The St. Francis Dam was built by 1926 to store Aqueduct water for Los Angeles’ ever-increasing population (Jackson & Hundley 2004). Despite concern from fellow engineers, who cautioned against situating such a major structure on the San Andreas Fault and unstable terrain, years of faith in Mulholland’s engineering expertise prompted city officials to authorize his proposals with little criticism or consideration (Graf 1992; Jackson & Hundley 2004). After its construction, Mulholland also disregarded fellow engineers’ recommendation to fill the reservoir gradually to ensure the dam’s stability (Graf 1992).

Cracks and leaks were identified on the structure from the outset of its operation. While a small amount of leakage is to be expected from such a significant dam, in March 1928, “observers noted sediment in water leaking from the dam, an indicator of erosion that threatened the integrity of the dam” (Kahrl 1976: 9). On March 12, Mulholland inspected the structure and deemed it safe;

within hours, it crumbled, killing more than 400 people and triggering millions of dollars in property damage (Jackson & Hundley 2004). It remains the second most deadly dam disaster in American history, and the worst in the twentieth century and in California's history (Mulholland 2002; Jackson & Hundley 2004).

The St. Francis Dam collapse ended Mulholland's career; he immediately resigned from his responsibilities and almost entirely withdrew from the public eye (Mulholland 2002). While his retreat to relative solitude must have been largely prompted by remorse for the destruction and loss of life caused by the dam failure, his fall from grace also signifies the extent to which water infrastructure development formed his identity and self-worth.

## Chapter 6: Conclusions

Across expanses of remote and largely unexplored territory, nineteenth-century European-American settlers traversed the American Western frontier to improve their lives after the crowded, dirty Eastern and European cities they left behind. They yearned to escape the monotony and constraints of the emerging industrial society that benefited a wealthy few but inhibited the mass's liberties. The ideal of rugged individualism appealed to them in their pursuit of freedom and fortune.

Upon arriving to the West, they encountered a harsh and unfamiliar environment. The region was characterized by rugged mountains and vast deserts, and extremes in temperature, weather, climate, and elevation. Perhaps the singular commonality across the Southwest's diverse landscapes was its sparse, scarce, and unpredictable water resources. Throughout the mostly arid region, rivers were ephemeral; springtime snowmelt created torrential deluges that would reduce to an unrecognizable trickle during the dry season. To create a 'civilized' modern American society in this wilderness, it was essential to conquer the water (Reisner 1993).

Coinciding with the intensification of American Southwestern settlement was a profound shift in the dominant perception of water. The United States' economic and population growth objectives, combined with scientific advancements and technological innovations, emphasized water's utility for human progress. In the late nineteenth and twentieth centuries, water control was predominantly shaped by the Hydraulic Mission paradigm, which emphasized large-scale, technical solutions to water scarcity (Molle et al. 2009). The modern, utilitarian conception of water gave rise to substantial damming, diversion, and draining projects – such as the Los Angeles Aqueduct – that have both enabled progress and produced considerable destructive social and ecological effects.

William Mulholland served as my case study to assess whether evidence of mortality salience (MS) could explain his involvement in the Los Angeles Aqueduct's development. Consistent with Terror Management Theory (TMT), humans have developed mechanisms to cope with anxieties engendered by their awareness of death's inevitability (Rosenblatt et al. 1989; Greenberg et al. 1992). These mechanisms are expressed through cultural worldview participation and self-esteem striving. A cultural worldview provides a framework by which humans can contribute meaningfully to the world. Self-esteem is secured by fulfilling their worldview's expectations. Successfully implementing these mechanisms qualifies individuals to achieve literal or symbolic immortality. Literal immortality allows people to transcend death by earning an afterlife; symbolic immortality involves producing a legacy that will endure beyond an individual's mortal life. A 'hero project' enables symbolic death transcendence as an opportunity for the participant – or 'hero' – to satisfy values established by the cultural worldview. Fulfilling cultural values immortalizes the hero because he or she is credited with upholding, and perpetuating, the cultural worldview. Through this study, I explored whether the Los Angeles Aqueduct functioned as Mulholland's personal hero project.

I used a combination of Content Analysis (CA) and Critical Discourse Analysis (CDA) to assess 38 primary historical documents related to Mulholland's involvement in Aqueduct development. A CA of the dataset yielded evidence of terror management mechanisms. Using CDA allowed me to identify and acknowledge power dynamics to account for preconceptions or misconceptions about the social context, i.e., whether Mulholland's influence shaped the discourse.

Water's importance was particularly resonant for populations living in arid regions, such as Southern California, where modern western achievements depended on significant water infrastructure. Consistent with TMT, I hypothesized that the desert landscape served as a looming

reminder of the potential for water scarcity to threaten society's existence and prosperity. Indeed, evidence showed that Mulholland associated the arid landscape with lifelessness.

The potential for humanmade and natural disasters also threatened society in a water infrastructure context. In accordance with TMT, bringing death thoughts to conscious awareness activates proximal defense mechanisms. I hypothesized that reminders of the calamity and destruction associated with earthquakes, infrastructure failure, and poor water quality would incite proximal defenses, which include rationalizing, trivializing, and denying threats' severity (Pyszczynski et al. 1999). Evidence indicated that reminding Mulholland of earthquakes, dam collapses, and health effects related to inferior water quality – and their potential effects to infrastructure and human life – prompted his use of proximal defense mechanisms. These were demonstrated through efforts to substantiate his credibility as an engineer and underestimate threats' potential to his work, Los Angeles, and its people. This evidence verified my second hypothesis and suggested that water crisis primes functioned as direct death reminders.

It is significant to this research that water crisis primes – as expressed through threats of scarcity and disaster – enhanced death-thought accessibility and triggered proximal defenses. TMT experiments have shown that death primes are manifested in several, often innocuous, ways. Surely these implicitly reminded Mulholland of the inevitability of his own demise relatively frequently, in accordance with TMT. The significance of water-related death primes, however, is that they directly undermined Mulholland's worldview and his efforts to provide water to Los Angeles. Such primes were likely more profound to him, and added meaning to his work as death reminders were pushed to an unconscious level.

To overcome ever-looming death reminders, humans have developed distal defense mechanisms. Distal defenses function to repress death thoughts into unconscious awareness, and

include transference idealization, worldview defense, outgroup antagonism, and self-esteem striving (Greenberg et al. 1994; Pyszscynski et al. 1999; Dickinson 2009). For Mulholland, distal defenses were reflected in his involvement in the Los Angeles Aqueduct. Transference idealization involves attaching one's identity to an entity – a person, deity, or object – whose existence will endure beyond one's own physical life. The data suggested that the Aqueduct functioned as a transference object for Mulholland; he meant for it to permanently resolve the region's water crisis, compared its legacy to that of ancient monuments, and touted it as the key to the region's future prosperity. His ability to supply water to arid Los Angeles also rendered water as a transference object; by bestowing it with significance and understanding its necessity, Mulholland reinforced his own value as a water provider.

Mulholland expressed worldview defense in three ways. By 1) asserting water's and the Aqueduct's importance, 2) acknowledging others' support, and 3) bolstering his own cultural in-group, he substantiated his efforts to construct the Aqueduct. In a TMT context, asserting water's and the Aqueduct's importance bolstered his worldview by affirming his work's value. Others' support for his work in turn justified his efforts, and endorsing his in-group validated his own worldview. Outgroup antagonism also functioned as a form of worldview defense; by undervaluing the abilities and opinions of those who opposed the Aqueduct, Mulholland validated its development. Outgroups primarily consisted of engineers and scientists – i.e., experts – he considered inferior, and people he believed were politically motivated to oppose the project.

Self-esteem striving was expressed not only in the pride and pleasure his work provided him, as extracted from the dataset, but moreover in his lifelong dedication and interest in Los Angeles' water supply. Perhaps the most compelling evidence that Mulholland's work provided him with self-esteem is reflected in the events that followed the St. Francis Dam collapse in March 1928. After

more than a half century of water-related triumphs and accolades, in a matter of hours this catastrophic event ruined Mulholland's reputation and villainized his persona. His professional disgrace coincided with the demise of his spirit and fervour and a more reclusive disposition. Los Angeles' water infrastructure was so entwined in and aligned with his identity that its collapse was demoralizing; the failure of something that had brought him such success and honour shattered his sense of purpose and competence.

Evidence from the dataset corroborated each TMT hypothesis, suggesting that mortality salience influenced Mulholland's involvement, and that the Aqueduct functioned as his hero project. Through his involvement with the Los Angeles Aqueduct, he was able to contribute meaningfully to society by satisfying the modern, American cultural worldview to which he subscribed. The Aqueduct provided Mulholland with a sense of purpose, which was validated by society. Indeed, his contributions rendered him a valued member of society, and his successes were widely recognized and celebrated. The Aqueduct was both physically and symbolically monumental, and enabled Mulholland to create a legacy to persist beyond his biological life.

Despite using a single case study, this research has wider implications. Water infrastructure across the American Southwest and around the world has drastically altered the environment. Once ephemeral and erratic rivers, if they still exist at all, have been fully overpowered by ambitious infrastructure undertakings. Humankind has straightened river channels, created artificial lakes and ecosystems, and diverted water hundreds of miles across unforgiving landscapes to give rise to megacities that would otherwise have never existed. Mighty rivers' violent and volatile outbursts have been tamed. Water is at humans' mercy, and their ability to harness it has produced unprecedented and wide-ranging social, economic, and ecological effects.

Water infrastructure development reflects social power dynamics; the dominant cultural conception of water influences how it is harnessed for human use. In other words, water infrastructure echoes cultural values. In accordance with TMT, involvement in its development enables people to fulfill cultural values and contribute meaningfully to the worldview, and thereby achieve symbolic immortality. For example, the Hydraulic Mission responded to the challenges and objectives that arose from modernity. Water management became more bureaucratic and expertized, access became more individualized, and projects were undertaken in the name of nation development. Water was perceived as valuable for rapid and rampant urbanization and industrialization, and controlling it reflected nature's commodification. Such was the cultural context in which Mulholland was entrenched during his engineering career. Developing the Los Angeles Aqueduct fulfilled modern, American cultural values, and thereby immortalized him.

Despite humans' domination over water resources, exerting their control has left society vulnerable to various forms of collapse. As I conclude my thesis, nowhere does this resonate more intensely than in California, which is currently experiencing a historic water crisis. California's cities and towns rely on snowmelt to refill their water supplies. Four consecutive years of below-normal snow accumulation up to 2015 drastically reduced water resources. Throughout 2015, the public was inundated with media portraying the effects of California's water scarcity. A severely stunted ski season adversely affected the economy and a popular recreational activity. Without the snowpack, lakes and reservoirs depleted. Lakefront homes no longer front on lakes, or if they do, their docks illustrate the extent to which water levels have declined. In addition to skiing, other popular recreational activities like swimming, boating, and fishing, have been jeopardized.

Last year (2015) marked the first time the state mandated water restrictions, requiring cities and towns to reduce water usage by 25 percent. A popular social media movement, #droughtshaming,

allows frustrated Californians to publicly express their frustrations about water-wasting neighbours, companies, and celebrities. Across North America, there were calls to boycott almond-based products; as aggravated Californians were told to limit their residential water use by one quarter, almonds became vilified for demanding 10 percent of the state's entire supply. Regardless of whether almonds deserve to be scapegoated, the state's agricultural sector yields half of the nation's produce and nut supply, and 15 percent of its international agricultural output (Christian-Smith et al. 2012). A lack of water severely threatens the state's and nation's economy, and creates food security concerns across North America.

At a more local level, the water crisis has so far most punitively affected the rural, poor, and largely Hispanic population who work in the agriculture sector. Wells in towns like Porterville have dried up, leaving residents without water for drinking, washing, or food preparation. Their vulnerability to the water crisis is enhanced by the shortage's effect of jeopardizing agricultural job security, leaving them immobilized, desperate, and humiliated (Perez 2015). As Marc Reisner wrote, "water flows uphill toward money" (1993: 13). To non-marginalized populations, the water crisis was easy to ignore before it threatened their recreational activities, lush lawns, and healthy almond- and avocado-based diets.

This research shows how TMT can provide insight into the motivational roots of water-related decisions and perceptions, which is particularly important as water scarcity becomes more common and widespread. This is well illustrated by the current drought in California. I found that reminders of drought and water scarcity function as indirect death reminders, which have been shown to activate distal defense mechanisms. If this is the case, then images of water-related problems that have proliferated the media over the past year, such as decreasing lake levels and fallow agricultural fields, might increase death-thought accessibility and therefore also increase peoples' worldview

defense and self-esteem striving efforts. If a water crisis prompts distal defenses, then TMT could help us understand the underlying motivations behind different responses to water scarcity. TMT has shown that humans engage in risky and unsustainable behaviour that contradicts the best approaches to their continued existence. In a water context, perhaps it can help explain how people justify their water consumption habits, despite an awareness of the water crisis and looming uncertainty related to it.

The same infrastructure that facilitated California's prosperity – including the Los Angeles Aqueduct – may also contribute to its demise. In this sense, this research demonstrates how TMT can be used to provide insight into historical water-related decisions and perceptions. For example, decision-makers' efforts to make light of droughts as infrequent and cyclical events in the 1980s and 1990s were politically-motivated (Changnon 2000). From a TMT perspective, however, perhaps they evince proximal defenses to deny or trivialize droughts' severity or humans' role in water crises. Now California is suffering the consequences of the problems those decision-makers avoided in the past. This study is also relevant in a contemporary context. The public is bombarded with messages and images related to imminent, dire, and uncertain circumstances caused by a lack of water. Perhaps TMT can help predict different responses to the water crisis and inform more meaningful, effective, and rational ways to involve and engage people in water-related decisions. Understanding this issue from a terror management perspective may provide new insight into how and why we often fail to address water security and tend to justify unsustainable and destructive practices.

This study is consistent with TMT's hypothesis that death awareness influences decisions and perceptions. Throughout history, water has been a focal point of cultural worldviews, affecting peoples' decisions, attitudes, and behaviours. Individuals immerse themselves in culture to refute life's meaninglessness, assert their value, and thereby deny their mortality. Integrating TMT and both

water history and contemporary water issues can help explain the motivational underpinnings of water-related decisions and perceptions, and may inform more sustainable water use and management. Such insight is tremendously valuable in an increasingly water-scarce world.

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## Appendix A: Index of Primary Documents

<b>Date Created</b>	<b>Reference ID</b>	<b>Document Type</b>	<b>Intended Audience</b>
1903.07.18	1903.07.18-C	Correspondence	Lee & Scott (city's lawyers in Hooker-Pomeroy case re: city's access to L.A. River water)
1903.10.06	1903.10.06-C	Correspondence	Mr. G.M. Thayer (L.A. resident)
1904.11.14	1904.11.14-S	Speech	Sunset Club (men's social club)
1904.12.28	1904.12.28-LR	Letter Report	Board of Directors of the L.A. Chamber of Commerce
1905.10.03	1905.10.03-C	Correspondence	S.F. O'Fallon (Agent for Dept. of Interior)
1905.11.09	1905.11.09-C	Correspondence	J.H. Quinton (fellow engineer)
1905	1905-C	Correspondence	F.P. Flint (United States Senator)
1905	1905-S	Speech	Sunset Club (men's social club)
1906.01.09	1906.01.09-C	Correspondence	J.B. Lippincott (Reclamation Service engineer)
1906.04.23	1906.04.23-C	Correspondence	Harry Brook (Asst. Editor to L.A. Times)
1906.05.15	1906.05.15-C	Correspondence	Mr. Chas. H. Prisk (Editor, Pasadena Evening Star)
1906.06.05	1906.06.05-C	Correspondence	Mr. W.J. Washburn (Pres. L.A. Chamber of Commerce)
1906.07.18	1906.07.18-C	Correspondence	Fred Eaton (Los Angeles mayor/city engineer)
1907.03.20	1907.03.20-C	Correspondence	J.H. Quinton (fellow engineer)
1907.05.17	1907.05.17-C	Correspondence	Harry Brook (Asst. Editor to L.A. Times)
1908.02.22	1908.02.22-S	Speech	L.A. Chamber of Commerce
1908.04.17	1908.04.17-C	Correspondence	Harrison Gray Otis (Owner, L.A. Times)
1908.09.29	1908.09.29-C	Correspondence	Mr. E.W. Bennis (Superintendent, City Water Dept., Cleveland, OH)
1908.10.30	1908.10.30-C	Correspondence	George B. Woodberry (City Clerk, Glendale, California)
1908.12.10	1908.12.10-C	Correspondence	Hon. C.H. Windham (Mayor, Long Beach, California)
1909.03.04	1909.03.04-C	Correspondence	Mr. A.H. Hipple (Board of Water Commissioners, Omaha, Nebraska)
1909.11.18	1909.11.18-E	Editorial	Written for the L.A. Examiner
1909.12.15	1909.12.15-C	Correspondence	Mr. Edward Keating (Managing Editor, The Rocky Mountain News, Denver, Colorado)
1910.03.15	1910.03.15-C	Correspondence	Mr. Henry Dockweiler (fellow engineer, San Francisco)
1910.06.01	1910.06.01-C	Correspondence	Mr. J. Waldo Smith (chief water engineer, New York City)
1910.11.04	1910.11.04-C	Correspondence	Mr. William B. Bryan (chief engineer, Metropolitan Water Board, London, England)
1910.12.06	1910.12.06-C	Correspondence	Mr. Frederic P. Stearns (chief water engineer, Boston, MA)
1911.02.17	1911.02.17-C	Correspondence	Captain J.D. Leitch (Secretary General Staff, War College Division, War Dept.)
1911.10.13	1911.10.13-C	Correspondence	Mr. Lewis J. Johnson (Professor of Engineering, Harvard University, Cambridge, MA)

1911.11.17	1911.11.17-PS	Public Statement	Statement by the Board of Public Services Commissioners, to which Mulholland contributed as Chief Engineer
1911.12.02	1911.12.02-S	Speech	Los Angeles City Club
1912.01.08	1912.01.08-C	Correspondence	Honorable Board of Public Service Commissioners, Los Angeles
1912.05.02	1912.05.02-C	Correspondence	Honorable George Alexander, Mayor of the City of Los Angeles
1912.09.05	1912.09.05-C	Correspondence	Mr. William B. Bryan (chief engineer, Metropolitan Water Board, London, England)
1925.01.11	1925.01.11-E	Editorial	Written for "Western Pipe and Steel News" published by the Western and Steel Company of California
Undated	c.1908-S	Speech	Unknown
Undated	c.1912-S	Speech	Unknown
Undated	Undated	Speech	Honorable Chairman and Members of the Board of Trade of the City of Pasadena