Oñati International Institute for the Sociology of Law
Instituto Internacional de Sociología Jurídica de Oñati
Oñati Socio-Legal Series
ISSN: 2079-5971

Oñati Socio-Legal Series, v. 3, n. 2 (2013) – Disasters and sociolegal studies
ISSN: 2079-5971

The Comparative Jurisprudence of Wildfire Mitigation: Moral Community, Political Culture, and Policy Learning

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Burton, L., 2013. The Comparative Jurisprudence of Wildfire Mitigation: Moral Community, Political Culture, and Policy Learning. *Oñati Socio-legal Series* [online], 3 (2), 234-253. Available from: http://ssrn.com/abstract=2012287

Abstract

The cultural and societal diversity in the jurisprudence of living dangerously reflects equally diverse views on the deeper question of law's moral purpose. What duty of care does (or does not) a community owe to those at the greatest risk of harm to their homes and persons? And is there also a right to be left alone—to assume all the risks and all the responsibilities for one's own well-being, neither helped nor hindered by the community of which one is a part?

This article reports comparative research being done on two states in the U.S. that have used the law to answer these morally freighted questions in very different ways, with specific regard to land use regulation in forested areas where wildfires have taken many lives and destroyed billions of dollars in residential property. It also suggests how this same analytic framework might be applied to transnational research in other legal cultures also endangered by catastrophic wildfires, such as Australia and Spain.

Key words

Disaster mitigation; policy learning; political culture; US; Australia; Spain

Resumen

La diversidad cultural y social en la jurisprudencia de los lugares en los que se vive bajo un peligro refleja equitativamente diferentes opiniones sobre el propósito moral de la ley, un tema más profundo. ¿Qué obligación tiene (o no) una comunidad de ofrecer atención a aquellos individuos en mayor riesgo de sufrir daños sobre sus hogares o personas? ¿Y existe también el derecho a que cada uno asuma todos los riesgos y todas las responsabilidades sobre su propio bienestar, sin que le ayude, o le moleste, la comunidad de la que forma parte?

Article resulting from the paper presented at the workshop *Disasters and Sociolegal Studies* held in the International Institute for the Sociology of Law, Oñati, Spain, 21-22 July 2011, and coordinated by Susan Sterett (University of Denver) and Thomas Birkland (North Carolina State University). The workshop organizers are grateful for the support of the Institute, which did an excellent job of hosting the workshop and shepherding the papers to publication. The workshop was also supported by National Science Foundation SES-1051408.
Acknowledgements by author(s)

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Este artículo presenta una investigación comparativa desarrollada en dos estados de EE.UU. que han utilizado la ley de manera muy diferente, para responder a estas preguntas de gran carga moral, con especial referencia a la regulación del uso de la tierra en zonas donde los incendios forestales han causado muchas víctimas personales además de pérdidas de millones de dólares en propiedades residenciales. También sugiere que este mismo marco analítico podría aplicarse a la investigación transnacional en otras culturas jurídicas también amenazadas por los incendios, como Australia y España.

Palabras clave

Mitigación de desastres; aprendizaje político; cultura política; EE.UU.; Australia; España

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1. Introduction and overview

Are catastrophic natural disasters really so 'natural' if the loss of life and property resulted from people choosing to live in dangerous places? Around the world each year, thousands perish and/or lose their homes and belongings to forest and bushfires, flooding, earthquakes, volcanic eruptions, tsunamis, tornadoes, and hurricanes. And all this loss of life and property takes place in locations where such events been happening regularly for millennia.

These cataclysmic events are not disasters. They are naturally occurring events. They are what the Earth's geosphere, hydrosphere, biosphere, and atmosphere sometimes *do*. What makes them disasters is us—our presence, and our perception of them. We call them disasters (from the Middle French and the Greek: "ill-starred") because in sufficient proximity and scope they threaten our estate, health, safety, social structure, and sometimes our very survival.

People move into harm's way for many reasons. The well-off live in aesthetically pleasing but disaster-prone natural environments such as beaches, coastal bluffs, steep canyons, and forested open space because they like the view and want to be "close to nature" (not nature as it is, of course, but as they wish it to be). The poor live in dangerous circumstances such as neighborhoods in the shadow of dangerous heavy industry, on reclaimed swampland, or in trailer parks in the path of tornadoes because they cannot afford to live anywhere else. Others make their homes in places that—due to factors such as overcrowding or climate change—are more dangerous now than they use to be, like 'one hundred-year' flood plains that now flood every three to five years.

Various cultures and societies use the law in various ways to adjudicate the relationship between at-risk populations and their perilous surroundings. Some lay no restrictions at all on where people can live or in what manner. Some impose absolute "hard law" prohibitions on living in some places and stringent structural and land management requirements for living in others. Some use "soft law" approaches such as public education and requiring full disclosure notice requirements to would-be residents of risky areas, but nothing more.

This cultural and societal diversity in the jurisprudence of living dangerously reflects equally diverse views on the deeper question of law's moral purpose. What duty of care does (or does not) a community owe to those at the greatest risk of harm to their homes and persons? Does this duty differ according to the volition of the residents—that is, between the relatively affluent who willingly move to beautiful but dangerous places, and the disadvantaged who cannot afford to live elsewhere? And is there also a right to be left alone—to assume all the risks and all the responsibilities for one's own well-being, neither helped nor hindered by the community of which one is a part?

In this paper I describe a research framework for cross-cultural analysis of these questions, within the context of the first category—communities of residents who live in aesthetically pleasing (but relative dangerous) natural environments by choice. The specific environment in question is what in the United States is referred to as the "wild lands/urban interface (WUI). These are the formerly open spaces surrounding major urban areas that are gradually being populated with residents intent on escaping the noise, pollution, pace, and density of urban life. Yet they also still want and to some extent expect amenities that cities offer, such as reliable and effective emergency services, and ease of access to the financial and cultural benefits of urbanity. Desiring neither city life nor the isolation and minimal infrastructure of true rural life, WUI residents live lives on the edge in more ways than one. In fire-prone landscapes, they also inhabit a danger zone.

Sadly, climatologist sand foresters are all telling us to prepare for more rather than fewer wildfire disasters in the future, even as the number of people living in harm's way continues to grow. A 2011 report on climate change impacts prepared by the

U.S. National Research Council predicts a 200-400% increase in forest acreage destroyed by wildfires in the United States over the course of this century if current global warming trends continue (U.S. National Research Council 2011).

It is not only the ecosystems, infrastructures, and economies of nation-states plagued by wildfires that will be subjected to greater stress by the growing scope of these disasters. Their legal systems will be stressed as well, as conflicts between communities seeking to minimize the consequences of disaster and individual community members' resistance to regulation of their land use continue to grow.

Given the scrutiny the law of living in dangerous places is now under, the time seems right to have a closer and deeper look at the moral grounding of this body of law, at how various cultures order competing moral claims within the jurisprudence of disasters, and at how this variety is expressed in specific policies and practices across these cultures in the specific context of mitigating death and destruction by wildfires in the WUI. That closer look is what this paper provides.

Building on existing research in this area, this paper first presents a descriptive theoretical construct for understanding the moral dimensions of wildfire mitigation law and policy. Second I apply this construct to the development of case studies of two states in the American West—California and Colorado—that to date have followed different policy paths toward the goal of more effective wildfire mitigation. And third, I suggest how this construct might be similarly applied to case studies of wildfire mitigation in other cultures that share a similar genealogical heritage regarding the moral foundations of law (in this instance, Australia and Spain).

2. The theoretical construct

The construct consists of four related propositions, each flowing from the previous one. In order, they are that:

- *Moral purpose in the law* of modern western nation-states and the institutions that implement it is both discoverable and traceable to a common jurisprudential ancestry.
- *Political culture* is one means by which the polis orders its core values, for the determination of which moral claims will take precedence in the design and function of its laws and the institutions that implement them.
- *Catastrophic disasters challenge the status quo ante.* They may call into question the efficacy of pre-existing laws, policies, and institutions responsible for disaster management if they are perceived to have failed to honor their underlying moral duty to the polis.
- *The long-term sustainability* of both the political culture and the natural environment on which it depends will be determined in part by how flexible the culture is in re-ordering its value structure and its institutional behavior to accommodate changed environmental circumstances.

Justice and Moral Purpose in Law. Since jurisprudence first emerged as a subject of public discourse in ancient times, one of its enduring themes has been articulation of the relationship between that which is legal and that which is just. In their writings on systems of governance and the role of law within them, the classical Greek philosophers did not begin with the question of "What form of government and laws should we have?" The question was instead, "What constitutes the good life?" And thus, "What forms and functions of government are most conducive to making the good life possible?" (Wills 2002).

Aristotle, the leading foundational thinker in the natural law tradition, posited that justice as a governing principle was derived from two interactive sources: an innate human tendency toward virtuous behavior as a necessary precondition to living in a safe and civil community, and social conventions intended to institutionalize virtuous behavior (*Nicomachean Ethics*, Book V, chp. 7). In his writings on the art

of political persuasion in the *demos*, he characterized appeals to the virtuous *(ethos)* as one of three prime motivators to political action, along with appeals to reason *(logos)* and to sentiment or passion *(pathos)* (*Rhetoric*, Book I, chp. 2). What Aristotle apparently meant by ethos is a combination of the modeling of moral character on the part of the persuader and the evocation of the good—specifically including principles of justice and fairness—from within the value structure of the community being addressed.

Nearly a millennium later, Aristotle's views helped lay the intellectual foundation for the Emperor Justinian's *Corpus Juris Civilis*, the most comprehensive rendering of the laws of the state and the principles underlying them that the ancient western world ever produce. Within the *Corpus*, the *Code* contains the substance of the laws governing the empire, while the *Institutes* provide the jurisprudential justification for the exercise of the powers of the state and the rights of its citizenry.

Two doctrines in the *Institutes* are central to understanding the moral underpinnings of modern public law: *jus regium* (law or rights of the regime); and *res publicum* (rights of the public). Both doctrines make clear that the sovereign's only justification for holding such plenary powers is that they be truly exercised on the public's behalf— to regulate private behavior (including land use) in the public interest; and to ensure that the rights of the public (including access to public resources) were protected. This moral imperative on the part of the sovereign to wield its power in the public interest and to honor publicly held rights in doing so found its first expression in English law in *Magna Charta* in 1215 (Patalano 2001).

When 13 of Britain's North American colonies revolted against the British Crown, their Declaration of Independence was in large part an indictment of the sovereign for failing in its moral duty to protect rather than oppress them, and to respect their rights as British subjects. The preamble to the new nation's constitution represents a promise to the American people that the federal government would use its powers for their benefit.

Most state government constitutions also made the same assurances to the public—to the polis. But state government's legal authority to govern on the public's behalf differs from that of the federal government as a matter of federal constitutional law. In 1824 in *Gibbons v. Ogden*, U.S. Supreme Court Chief Justice John Marshall was the first American jurist to use the term "police power" to describe the plenary powers state governments have to govern on behalf of their residents—powers reserved to the states by the 10th Amendment to the U.S. Constitution.

In *Martin v. Waddell's Lessee* in 1842, the high court also affirmed that state governments did indeed inherit both the powers and obligations of *res regium* from the British Crown upon victory in the American Revolution (Tribe 1988). The difference between the doctrine as originated in Roman jurisprudence and exercised as a God-given right by the sovereigns of western Europe was social contract theory holding that the powers of *res regium* emanated from the polis itself.

As American cities grew in size and population density in the late 19th century, so too did associated urban problems, such as frequent devastating fires and the prevalence of deadly infectious diseases. So among the most important early assertions of the municipal police powers were those associated with fire prevention and preventive public health protection (Hoffer 2006). State and federal courts steadily supported the use of these powers; in 1905 the U.S. Supreme Court upheld local government power to require immunization against some potentially fatal communicable diseases.

In the realm of land use regulation, a historic turning point was the Supreme Court's 1926 decision in *Euclid v. Ambler Realty*. Here for the first time the court affirmed the power of the state (and its subordinate local jurisdictions) to engage in comprehensive land use planning and zoning, for the purpose of protecting the "public health, safety, morals, and welfare".

While this decision affirmed state and local government's ability to regulate private rights and behavior in the interests of public health and safety, matters took a very different turn when it came to regulating public morals. As late as the mid-20th century, states in various regions of the country outlawed birth control, prohibited inter-racial marriage, segregated students by race in public schools, and criminalized a woman's efforts to end an unwanted pregnancy.

In each of these examples, the federal courts stepped in to void this use of state and local governments police powers. Repeatedly, the U.S. Supreme Court ruled that such use of the police powers was itself morally compromised, in that it denied fundamental rights to privacy, personhood, individual dignity, due process and the equal protection of law assured in the federal constitution. Put another way, the national political culture asserted its values regarding such issues to be morally superior to those of state and local governments violating such rights.

As emperor of Rome, Justinian knew from the examples set by his predecessors in office how the power of the state could be used for good or ill, and how the very survival of any regime depends on the judgment of its subjects as to whether the laws of the state were being crafted and enforced in their best interest. The principles he spelled out on the obligations of the state to govern on behalf of the needs and rights of its citizenry may have come too late to save an empire dying from its neglect of such ideals, but they did provide a guiding light for future nation-states seeking moral legitimacy for their use of power.

Political Culture. In the half-century since Almond and Verba's (1965) definitional work on the subject, the concept of political culture has taken on diverse meanings. Generally, it has to do with how the value structure of a given political community (polis) influences the form and function of its governing institutions. Daniel Elazar (1966) also did pioneering work on the subject, offering a 3-part typology of value structures within American states as determinants of political behavior and institutional function.

In one view, political culture is simply the observed variation in how different cultures and societies practice politics and make public policy—an interpretation in which the first word in the phrase carries more emphasis than the second. In Mishler and Pollack's (2003) distinction between "thick" and "thin" culture (in the context of understanding political culture), this view certainly falls into the thin category.

The alternative perspective sees culture as thick indeed (emphasis on the second word)—and in many ways determinative of political behavior. Culture in this view is a 'learned network of patterns of thought and behavior through which members of a defined community understand and relate to themselves, each other, their communities, and their environment' (per Geertz 1973; and Spradley and McCurdy, 1987). It is the community's collective consciousness, including the symbols and systems of meaning it uses to make sense of itself and its surroundings.

Several contemporary scholars of disaster law and policy in the United States allude to the role of culture in influencing how communities respond to past disasters and mitigate against future ones. Peter Schuck (2009) cites American political culture as preferring populism over technocratic expertise in disaster management policy making; federal appellate court judge Richard Posner (2004) goes further, indicting an anti-scientific bias in American popular political culture that too often thwarts the adoption and enforcement of science-based disaster management decision making. And Thomas Birkland (2006) identifies a positive association between the size and scope of a disaster and the likelihood of a realignment of values sufficient to instigate and support disaster policy reform.

If law's ability to fulfill its moral purpose depends in part on the value structure of the polis governed by that law (that is, its political culture), what we need is some sort of litmus test for determining which values support that fulfillment and which

ones do not. In other words, with specific regard to the wielding of its police powers, what constitutes moral community?

In *The Moral Commonwealth*, Selznick (1992) proposed just such a normative theory of community, and provides a list of criteria for assessing the degree to which morality informs its use of power. Morally grounded community, he held, is recognizable by its simultaneous honoring of certain key values at some threshold level: historicity, identity, mutuality, plurality, autonomy, participation, and integration.

Historicity is both an understanding of and respect for a community's shared history as an important basis for wise decision making about its future. *Identity* derives from shared history (as well as from family lineage, ethnicity, religion, profession, or common purpose); this is the means by which one defines oneself in relation to community.

Mutuality connotes reciprocal obligation; it is the duty of care we owe to each other by virtue of community membership, as well as the community's medium for the expression of common purpose (including the making of public policy). *Plurality* refers to "intermediate associations" in the larger community within which individuals can more immediately experience connection with others who hold shared views, interests, and purpose. Without these, community becomes nothing more than the relationship between a collection of individuals and one central authority.

When the values of either mutuality or plurality are coercively enforced, it is nearly always at the expense of personal *autonomy* and liberty. The importance of respect for personal autonomy within community—in both theory and practice—is what most clearly distinguishes Selznick's "liberal communitarianism" from the earlier formative principles of earlier, more conservative communitarian theorists.

Regarding the value of *participation*, Robert Putnam and others' "social capital" and civic engagement are every bit as crucial to Selznick's concept of community as they are to that of either Putnam (1993) or Bellah *et al.* (1985). Personal, voluntary investment in the enterprise of community is ultimately what makes it possible. While autonomy respects the right to be left alone, participation respects equally the right of those who wish to participate to have the opportunity to do so.

Finally, *integration* refers to the "supportive institutions, norms, beliefs, and practices" required to actualize the foregoing values—to ensure that they are all honored simultaneously to some recognizable degree. In Selznick's view, the first six values and the community's ability to hold them all in balance via the seventh, comprise a metric: "the moral quality of a community is measured by its ability to defend all the chief values at stake, to hold them in tension as necessary, and to encourage their refinement and elaboration" (Selznick 1992, p. 364).

The research protocol described in this paper does just that: it applies Selznick's metric to the study of moral aspects of the law of living in dangerous places as derived in diverse communities, cultures, and geographic environments. Though Selznick's work has been criticized for being somewhat over-reaching in its claims of objective measurability and general applicability, it certainly has relevance for the cultures and cases described in this research. And it is in applying Selznick's general principles to particular cases that the concept of political culture has proven useful.

As Selznick understood, his moral community can only exist within a specific cultural context. And each culture will order the values in his pantheon a little differently, as he also recognized. But to maintain its moral grounding, he argued, a community may not so privilege some values as to ignore or sacrifice others.

Catastrophic Disasters and the Status Quo Ante. In the political science policy process literature, considerable attention is devoted to the concept of a "focusing

event" as a potential stimulus to policy change. In the specific context of disaster law and policy, authors such as Thomas Birkland (2006) have documented the circumstances under which catastrophic disasters either have or have not resulted in significant law and policy reform.

In most such cases, a popular call usually goes up for policy reform to mitigate against the negative consequences of such event happening in the future. However, only under some circumstances does such reform ensue. Those who benefit from the status quo tend to oppose reform. In order to overcome such resistance and bring about learning-based policy change, several factors must be present: (1) the scope and scale of the disaster must be sufficient in size to compel the attention of the public and policy makers alike, combined with public demand for policy change; (2) pre-existing or quickly assembled coalitions of policy actors (both inside and outside government) must have idea-based diagnoses of the disaster's causative factors as well as evidence-based prescriptions for effective future mitigation; and (3) they must keep public and policy maker attention focused on the issues long enough and intensively enough to achieve the desired reforms (Birkland 2006, at 13%).

Cultural and Environmental Sustainability. In *Collapse*, Jared Diamond (2005) presents a series of cases studies of ancient societies which either came close to or actually did commit ecocide—the fatal degradation (through excessive and unrestrained exploitation) of the life-sustaining capacity of the environment on which their survival depended. As a result of such degradation, the society itself collapsed. Jared's work is a highly cautionary tale. In these cases, he demonstrates how the rigidity and inflexibility of a society's value structure (what today we might call its political culture) prohibited it from rapidly and effectively transitioning to more sustainable environmental management.

In contemporary terms, what the societies that collapsed failed to do was to engage in policy learning and learning-based policy reform that was timely enough and effective enough to stave off environmental doom. The two principal symptoms of impending societal demise were failure to timely acknowledge the severity of environmental disaster the society was bringing about (or at least contributing to); and an inability to realign its value structure sufficiently to adjust their expectations and behaviors to changed environmental realities.

Applied to the study of contemporary wildfire management and policy, Diamond's findings are eerie. The human population in the WUI in some of the world's most fire-prone landscapes goes up every year, as does the death and destruction occasioned by the fires that strike there. And all the climate change models that have been run so far point to the strong likelihood that the wildfire danger will only continue to worsen.

3. Case studies: applying the theoretical construct to wildfire mitigation

In a catastrophic WUI wildfire, many factors contribute to determining whether lives and properties will be saved or destroyed by the conflagration. These include the characteristics of the fire scene (weather conditions, terrain, vegetative structure), ease of ingress and egress at the fire scene, timely and adequate notice to residents in the fire zone, and interoperability (of communications and fire-fighting technology and lines of authority) among first responder agencies.

Yet fire science research—in both laboratory settings and post-conflagration fire zones—reveal one of the most significant determinants of private property survivability to be characteristics of what fire scientists call the *home ignition zone*. The U.S. Forest Service researchers define this as the area within a 100-foot radius of home (U.S. Department of Agriculture Forest Service 2012, p. 65). The design of structures and the materials of which they are made can make them either fire prone or fire-resistant, to varying degrees. And the relative presence or absence of

Oñati Socio-Legal Series, v. 3, n. 2 (2013), 234-253
ISSN: 2079-5971

fuel sources (trees, bushes, and flammable ground cover, as well as piles of firewood and other introduced fuel sources) within the HIZ, in combination with the fire resistance of the structure itself, constitute the most important determinants of whether a structure (and those who may be within it) will survive a major WUI wildfire. Research on Colorado's 2010 Fourmile Canyon fire provides recent compelling evidence that this is so.

It has now been well over a century since major American cities started using their police powers to enforce fire mitigation building construction and maintenance codes within their jurisdictions (Hoffer 2006). In some of America's western states, the same thing is beginning to happen with regard to defensible space ordinances in the WUI. So one goal in the development of these case studies was to learn how state and local government police powers are being deployed HIZ defensible space regulation.

For comparative assessment purposes, I gathered information on two dimensions of the defensible space regulation of private property in the WUI. One is the *locus of authority*—the level of political community at which primary authority for WUI regulation is vested: local, regional, or state. The other is the *form of authority* dimension. What is the mixture of "soft law" and "hard law" in the WUI wildfire mitigation policy? Does it consist primarily of public information and education programs, urging voluntary cooperation with optional mitigation standards? Or are there provisions that impose mandatory mitigation standards on property owners, on either newly built structure or all existing ones in the WUI? Is the severity of the mandate gradated in accordance with the perceived risks? Are there areas in the WUI deemed to be of such high risk that no permanent human habitation is permitted at all?

The case studies of California and Colorado presented here begin with a discussion of the historical roots of their respective political cultures (the second of the four theoretical propositions). I then use this perspective on the value structure of the polis (using Selznick's typology) to help explain differences between the two states in terms of locus and form of authority for land use regulation in the WUI (third proposition), followed by commentary on the moral dimensions of the use of police powers in these two states (first proposition). Then in the concluding section of the paper I suggest ways this approach may be used to study other cultures and legal regimes located in similarly fire-prone regions of the world. I also stress the importance of searching community self-evaluation in the polis of its value structure relative to its WUI wildfire dangers and its use of *res regium* (in the U.S., state and local police powers) to mitigate those dangers (fourth proposition).

These case studies are like sketches on canvas, outlining the features of the painting that is coming more fully into being in the course of ongoing research. The cases are suggestive of rather than fully illustrative of the analytic framework being used. The U.S. interstate comparative study is ongoing, as data are still being collected and analyzed. The transnational comparative work remains to be done, informed by what has been and is being accomplished now.

California, the "Bear Flag Republic". Archeological evidence indicates that humans have lived in present-day California for at least twelve thousand years, with the highest population concentrations being along the mild-weather, resource-rich coastlines. And when European explorers first ventured into the landscape, it was also mostly via the sea. Spanish colonial governance was seated in the sheltered harbor of Monterey, even as Catholic mission settlements developed there and elsewhere along the coastline, as well as inland.

When Mexico gained its independence from Spain in 1821, California became a Mexican province—though not for long. Just twenty-five years later the United States made war on the unstable and militarily weak Mexican government, and seized millions of acres of formerly Mexican land, including the entirety of

California, which essentially became a prize of war (though the 1848 Treaty of Guadalupe Hidalgo along with a cash payment from the U.S. to Mexico put a post-hoc legal imprimatur on the outcome of this war of aggression and acquisition).Notwithstanding that the treaty called for equal treatment of formerly Mexican citizens, the reins of political power were firmly in the hands of the Anglo victors.

When rumors of impending war reached northern California in 1846, expatriate American settlers seized (with no armed resistance) the Mexican Army garrison at Sonoma, captured Commandant Vallejo, and declared California to be a free republic. They fashioned a flag with the words "California Republic" on it, along with a star, a stripe, and the image of a grizzly bear (which settlers were already busily hunting to extinction). Just a week later, a small U.S. Army contingent arrived—confirming the war rumors—and all of California was declared to be an American military protectorate. The republic may have been short-lived, but the banner was not; it remains today as California's official state flag.

At the war's conclusion, Congress failed to declare California an American Territory due to conflict over the question of whether slavery would be allowed there. When it failed to do so again in 1849 (as the Gold Rush was flooding California with new people), the ex-military governor summoned a constitutional convention, which was made up mostly of American settlers. They adopted a fairly liberal constitution (patterned largely on New York's) that established institutions of government, outlawed slavery, and included a Bill of Rights. Residents governed themselves as a state under this constitution until Congress finally granted California statehood in 1850 (Lloyd 2001).

So Californians (at least, those who held most of the political power) desperately wanted statehood, and arrogated to themselves that status in advance of congressional action. California was a state born out of war, the political culture of which included strong elements of self-identification as Californians—a short-lived republic, and then a self-declared state before the Congress would recognize it as such. With its fairly robust statewide institutions of government, the 1849 constitutional conventioneers were quite evidently opting for a system of governance that valued highly the principle of *mutuality* as well as unity—sensing the need for laws and institutions sufficiently empowered to forge a unified state out of the sprawling ethnically, geographically, and financially diverse landscape the Spanish and then Mexican governments had never proved capable of governing effectively. Respect for the value of *autonomy*—for individual rights—(though not so much for ethnic diversity) was written into this document as well, but the early history of this constitution's implementation clearly put more emphasis on *unum* than *e pluribus.*

The 1849 Gold Rush catapulted San Francisco into the status of California's pre-eminent city, as nearly all the supplies necessary to support the burgeoning mining and milling industry as well as the railroads and northern California agriculture flowed into the state from the city's deep-water port. And the wealth flowed from the hinterland back into the city, to fuel commerce, banking, manufacture, and communications.

So San Francisco's sudden major-city status owed far more to circumstance than anything resembling rational planning or adequate urban infrastructure. The city burned down five times in the first three years of the Gold Rush, and its criminal laws were enforced mostly by vigilantes (Rubin 2005). It was nearly the end of the nineteenth century before San Francisco came to resemble a fully structured city in the same sense of those in the eastern United States.

And then in 1906 it burned down again, the fire this time being started by a huge earthquake. Nearly every major structure in the city was damaged or destroyed by the combined effects of the earthquake and fire. In the wake of this unprecedented

disaster, there were calls for rational urban planning, building codes to make structures safer, and limitations on what could be built where. But all of these efforts were successfully resisted by the city's moneyed commercial, financial, and real estate interests, who spoke only of the great San Francisco fire and minimized the role of the earthquake's devastation. Even though most of the deaths and injuries were caused by collapsing structures rather than fire, city leaders feared that if San Francisco came to be known as a place where devastating "acts of God" could again level the city, real estate investors and property insurance companies might decide to take their business elsewhere.

Geologists at the University of California immediately undertook a seismic survey of the city in response to the 1906 event, and founded the seismological society that would soon document the fact that nearly every city of any size in the state was built on or near a major earthquake fault. Their findings went unheeded by civic and government leaders at the time, but highly destructive earthquakes in Santa Barbara in 1925 and Long Beach in 1933 (along faults the scientists had already located) prompted the California Legislature to enact the first statewide mandatory seismic safety building codes. It turned out that *not* having such as code was more discouraging to investors and insurers than having one.

Protecting public health and safety is one of the prime legal as well as moral rationales for empowering governments to articulate and enforce our mutual commitments to our own well-being, even if it is at the partial expense of the autonomy of those resisting regulation. In California, science, historicity, and a sense of common purpose in its political culture dating back to the founding of the state made statewide disaster mitigation through land and property use regulation a reality.

This precedent having been established, other disaster mitigation laws followed. They addressed some of the other deadly environmental events to which the state is prone, such as landslides, flooding, and wildfires at the WUI. By the 1970's, the WUI had grown so dramatically throughout the state (along with the incidence of wildfires within that zone) that the leadership combined fire services at the local, regional, and statewide levels met to develop their own integrated disaster management system. These meetings, in turn, informed creation of the all-hazards, all-phases disaster management framework set forth in the National Governors' Association 1979 report on integrated emergency management.

The history of the evolution of California WUI wildfire law and policy is intertwined with the history of ever-more deadly and disastrous fires at the WUI (Lundberg 2009). In reviewing news accounts of major WUI California wildfires over the last three decades, the phrase "worst wildfire in California history" appears frequently. This is because in every drought cycle, the fires that raged through the WUI were larger, more deadly, and more destructive because the perimeter of the WUI itself had expanded. So every three to five years, the state would suffer another, larger Worst Fire in State History. The forests were not moving down into the cities and setting them ablaze. The cities were moving up into the forests, and into the deadly gears of the seasonal wildfire cycle that is a defining characteristic of much of California's open space.

The first policy response was to better coordinate multi-jurisdictional firefighting efforts (the all-hazards, all-phases framework for unified command of major wildfire suppression efforts). While a necessary measure, it proved to be an insufficient one. So just as fire departments in municipalities have the authority to enforce building and maintenance codes for the prevention of fires, so too did the California Legislature empower the state fire marshal and fire service to adopt mandatory statewide regulations for wildfire prevention.

Nearly all of California's deadly WUI fires rise in the parched landscapes of the southern chaparral regions in the mountains above urban centers such as San

Diego, San Bernardino, and Los Angeles. But in 1991, the Tunnel Fire flaring up suddenly in the hills above Berkeley and Oakland killed 25 people and destroyed 3,500 residences collectively worth more than $1.6 billion. Then two years later the Laguna Beach fire and others back in southern California destroyed over 1,600 homes.

In keeping with the policy learning/policy reform model described by Birkland (2006), in 1993 the California Legislature adopted the "Bates Bill." This amendment to Government and Natural Resources Codes represented a fundamental reform of WUI wildfire mitigation law. It directed the state fire marshal to create two kinds of maps: one to divide the entire state into zones based on their degree of vulnerability to catastrophic wildfires; and the other to demarcate what firefighting service (local, state, or federal) at the WUI had fiscal responsibility for wildfire mitigation and suppression in what specific areas of the state: State Responsibility Areas (SRAs) and Local Responsibility Areas (LRAs).

The law also empowered the state fire marshal to write a model code containing mitigation requirements for adoption and enforcement by local government in areas for which they have fire management responsibilities. City and county governments could avoid adopting such a code only if they had substantial evidence showing that the fire marshal was incorrect in designating lands within their borders as high-hazard zones—a daunting burden of proof. In essence, what the Bates Bill did was to grant to the state fire marshal many of the same science-based discretionary authorities to mitigate against WUI wildfires that had been held by municipal fire marshals since the beginning of the 20th century.

As the code is written, the greater the wildfire hazard in a given zone, the more stringent the property management requirements. For instance, the more hazardous, the greater the space around a structure that must be clear of flammable vegetation and other materials, and the more fire-resistant the materials comprising such structures must be.

Since this regulatory framework was adopted, it has been amended several times in response to lessons learned from ensuing catastrophic wildfires—each time in the direction of more stringent regulations to close loopholes in the previous ones. In October of 2003, for example, the Cedar Fire—the latest Worst Fire in California's History—broke out in San Diego County, eventually burning over 270,000 acres and destroying over two thousand homes. Fourteen people died, including one firefighter. Over 60 local, state, and federal fire service agencies were eventually mobilized, putting into the field more than 15,000 firefighters. Other large fires in San Diego County simultaneously burned with equal ferocity, but were smaller in scope.

Up until that time, new subdivisions built in San Diego County were allowed to include homes with highly flammable wooden shake shingle roofs. And haphazard residential land development on steep hillsides in narrow canyons with equally narrow roads proved to be a deadly combination: thirteen of the deaths in what was to become known as the "San Diego Firestorm" were among residents trapped in one subdivision in just such circumstances (Lundberg 2009). As a result, WUI building codes in high-risk areas in California no longer allow the use of flammable roofs in new construction, and ingress and egress requirements in newly build neighborhoods have also been employed.

How one defines a "worst fire" or "worst fire season" depends on how the word "worst" is defined. The southern California season of 2007, which included hundreds of fires throughout the region (the largest ones again in San Diego County) created nearly one million fire refugees, which comprised the largest peacetime movement of displaced persons in the history of the United States. State legislation the following year moved the defensible space perimeter in very high-

hazard WUI zones from thirty out to one hundred feet, and enhanced the state's efforts to control tree-killing bark beetle epidemics in its forests.

As in Colorado, there is a strong "home rule" clause in the California Constitution that gives incorporated cities in the state a great deal of autonomy in crafting policies and ordinances that do not directly conflict with state law and constitutional authority. Thus, the *plurality* and *autonomy* values of local communities are recognized in the California Constitution, as are the autonomy values of individuals in the protection of rights in private property.

When it comes to wildfire mitigation at the WUI, however, the California Legislature was very explicit in terms of the assertion of the *mutuality* value at the level of statewide political community. In setting forth the rationale for the 1993 Bates Bill, legislators declared, "The prevention of wildland fires is not a municipal affair, as that term is used in . . . the California Constitution, but is instead, a matter of statewide concern" (Cal. Govt. Code 51175).

The rationale for this assertion of plenary state authority over wildfire mitigation at the WUI exemplifies the very essence of the mutuality value. It avails a local community at the WUI little if it does everything possible to mitigation wildfire devastation, but its neighboring communities do little or nothing. They will all be destroyed by the same fire. Uneven, inconsistent, or non-existent patchwork regulation at the local level has cost Californians billions of dollars in property losses, and several hundred of them their lives. It was the intent to the legislature to ensure that no one lose their lives or property by reason of their neighbor's failure to maintain a fire-safe property.

California's centralized, state-driven system of wildfire mitigation regulations in high-risk areas of the WUI, where an estimated forty percent of all homes in California are located, certainly does represent the subordination of individual and local government autonomy to the authority of the state. But it rests on the understanding that everyone living in and every community located in the WUI bears a reciprocal duty to each other—a mutually held obligation—to manage their own property not just to protect their own well-being, but that of their neighbors as well.

Colorado, Where Home Rule Rules. Each U.S. state has its own official nickname, or self-descriptor. California is the "Golden State". Colorado is the "Centennial State", since Congress granted it statehood in 1876, just a century after the founding of the United States. But Colorado might just as well have been named the "Reluctant State", or the "Ambivalent State". For in marked contrast to California's eagerness to assume statehood, it was seventeen years from the time that residents of present-day Colorado first voted on statehood (against it) until the "Centennial State" was born.

In 1859, residents voted by a ratio of three to one against statehood and in favor of becoming a federal territory instead. The argument that carried the day against statehood was that if Coloradans voted themselves into statehood, they would also have to tax themselves to finance the state government. However, as long as the area remained a federal territory, it was the federal government that would bear fiscal responsibility for administering it (Abbot, Leonard, Noel 2005).

Coloradans voted against statehood again in 1864. In 1865, they voted in favor, but President Andrew Johnson vetoed the bill. He also vetoed later attempts; historians suspect it was because the Democratic president did not want to see two senators from a strongly Republican new state seated in the Congress (Abbott Leonard, Noel 2005). It took several more votes and petitions and a more welcoming president to usher Colorado into the union in 1876.

It has since been argued, and with substantial historical evidence, that the strong libertarian influence on Colorado politics and public discourse today can trace its

roots back to these very early attitudes favoring either no government or as little government as possible—and preferably one that someone else has to pay for. As contrasted with California, from its very inception, the political culture of Colorado has been one that places a much higher premium on the values of autonomy and plurality (in this case, empowering local and intermediate levels of government at the expense of the state—and empowering them no more than absolutely necessary) than on the mutuality value at the state level that is the ultimate source of moral authority for stronger state laws.

A comparative look at environmental management generally in the two states illustrates the very different approaches they have taken in terms of institutional design. For example, the federal Clean Air Act and Clean Water Act devolve very substantial implementation authority to state (and in some cases regional and local) governments, should those governments wish to assume such powers. When Congress was first crafting these laws, representatives from California and some other populous states argued successfully for the inclusion of provisions empowering the states to establish more stringent environmental protection regulations than the federal ones if they wished to do so, and still have those regulations enforceable as federal law. And California subsequently did just that. Clean air and clean water standards in California are substantially stronger with regard to certain pollutants and regional environments.

As in California, Colorado legislators also adopted clean air and clean water legislation in order to enable state regulators to enforce federal law. The difference in Colorado is that—instead of adopting stricter standards—the legislator forbade state regulators from enacting environmental health protection standards that are any more stringent than the federal ones. The contrast in political cultures between the two in this regard is fairly stark; Colorado simply favors weaker state governmental institutions in the realm of environmental management and environmental protection generally than does either California or some other states in the Mountain West.

So it should come as no surprise that while California has among the strongest statewide mandatory WUI wildfire mitigation laws in the nation, Colorado has none. It has adopted some aspects of the California approach, including the mapping of WUI fire hazard levels statewide, and differentiating areas for which the state and local governments, respectively, have fiscal responsibility for fire suppression. But there is no mandatory WUI wildfire mitigation law in the state, and most such regulation at the local level applies only to new construction.

Colorado law does go as far as far as requiring that counties with high-risk WUI zones adopt community wildfire protection plans. But the law does not specify specific defensible space measures to be taken, nor does it mandate their inclusion in county plans. It only directs that county governments shall "take into consideration" recommendations from the state forester regarding WUI mitigation measures.

As a result, some counties have developed fairly rigorous WUI mitigation regulations at least with regard to newly built or newly remodeled structures, while other high-risk jurisdictions have done little or nothing. So the state has a patchwork of uneven local regulation, which has led to equally uneven levels of protection from wildfire. Some landscapes are considerably more at risk than others not by reason of natural conditions alone but also by a lack of attention to forest fire fuels management on private property.

To compound the situation, the U.S. Forest Service has also been compelled by budget constraints to make some hard choices as to which forests it will expend funds to clear of excess fuels along the WUI, and which ones it will not. No matter how hard a mountain community works to make itself fire-safe, if the surrounding

national forest has not been thinned of excess trees and undergrowth and succumbs to a racing crown fire, the community can still be at peril.

Colorado is no stranger to destructive WUI wildfires. In the 21st century alone, the state has experienced a series of increasingly destructive—and very recently, deadly—conflagrations. Colorado's two Worst Fires in State History (depending again on the definition of "worst") both occurred in the century's first decade. The greatest acreage burned was in the 2002 Hayman Fire in the Pike National Forest in the mountains ninety miles southwest of Denver. About 138,000 acres of forest on both public and private lands burned down, but only 132 homes (about 600 structures total). No human lives were directly lost in the fire (Kent *et al.* 2003). Property insurance claims totaled $46 million (Bounds and Snider 2010).

The 2010 Fourmile Fire (in Fourmile Canyon, five miles north of Boulder, Colorado) was quite another story. Though it burned only 6,000 acres of public and private forestland, it destroyed 169 homes, resulting in $217 million in insurance claims. Reasons for this contrast to the Hayman fire include the fact that Fourmile Canyon is much more densely populated, the terrain is steeper and less accessible, and the assessed value of the homes was much higher. In Colorado, about 14% of the WUI has been subjected to exurban residential development; in Boulder County, over 60% of the WUI is now residentially occupied. This makes Boulder County home to the most densely populated WUI in the state, and the tenth densest in the entire Mountain West (Bounds and Snider 2010). Fortunately, no one died in the Fourmile Fire.

However, as of the end of 2011, this fire history appears to have had little meaningful effect on the process of either policy learning or policy reform. No state legislative measures similar to California's Bates Bill arose during the 2011 law-making session. And in fact, there is some evidence that at least at the local level, the policy process is moving in the other direction.

Summit County, Colorado sits atop the Continental Divide, and within it are some of the state's most popular ski resort towns. The county has no mandatory WUI mitigation requirements for pre-existing structures, but does require that in high-hazard areas all new construction and major remodeling work be done with fire-resistant materials, and that a defensible space perimeter be created.

Prior to the 2009 fire season, the city council in the Summit County resort community of Breckenridge decided to go further, and adopted an ordinance requiring all homeowners within the city limits (which extend well up into the forested hillsides) to create defensible space around their existing homes and other structures. But within two months, the ordinance itself had gone up in smoke. A local real estate agent organized an initiative to rescind the ordinance on the argument that "thinning vegetation to create fire breaks around mountain homes 'should be a homeowner's choice'" (Finley 2009). The city council then voted to make defensible space activities voluntary, leaving other resort community governments in the mountains very reluctant to adopt any form of mandatory mitigation regulation.

During an unseasonably hot, dry, windy spell in March of 2012, the deadly Lower North Fork WUI wildfire broke out in the mountains west of Denver in suburban Jefferson County, killing three residents and destroying over two dozen homes. Interestingly, in the immediate aftermath of the fire, press coverage of the three lives and homes lost focused only on an out-of-control prescribed burn and a faulty phone warning system as causative factors. There was no mention made at all of the defensible space status of the homes destroyed—including those residents received no warning to flee.

Comparing the Cases. California is only a third larger than Colorado in geographical area, but it has six times more residents. Forty per cent of California's housing stock (and thus, a relatively high percentage of its population) is in the

WUI. By contrast, over eighty percent of Colorado's population lives in towns and cities along the Front Range, the seam where the state's eastern prairies meet the base of the Rocky Mountains. And while the population is definitely growing along the WUI interface as the cities' exurbs move up into the foothills, the great majority of Front Range residents live down in the cities of Denver, Boulder, Aurora, Fort Collins, Colorado Springs, and Pueblo. Generally, the WUI in the high country along the Continental Divide and in the mountains to the west is much less populated than the Front Range, although that is changing. Thus, California's wildfires are generally deadlier because its WUI is far more vast and much more densely populated.

There is occasional public debate in Colorado over whether it would be wise for the state to adopt some form of mandatory WUI wildfire mitigation statute, like California's or Nevada's. So far, the sentiment against such a law has prevailed, based mostly on two arguments. The first is that such a statute represents an unwarranted intrusion into the realm of private property rights, on the view that it should be an individual property owner's choice whether to mitigate against the threat of wildfire, or take the risks associated with doing nothing.

The second argument is that since Colorado has never experienced anything approximating the massive, costly, deadly fires that commonly strike California, such a law is not needed. As of this writing, it remains to seen whether the fatalities in the 2012 Lower North Fork fire will make such mandatory state regulation more likely.

What this raises is the larger question of law's moral purpose, and the competing arguments over that purpose—specifically, in this instance, the debate over preventive versus reactive regulation (Burton and Egan 2011). Colorado is now rapidly doing the same thing that California did in the 1970's—filling its fairly inaccessible, fire-prone mountain canyons and ravines with housing, and thus inviting those who can afford to do so to move directly into harm's way. In so doing, however, neither growth-hungry Colorado counties nor the state is so far applying any of the tragic lessons California has learned from its wildland/urban interface residents assume such terrible risks and suffer such profound losses.

Reactive regulation means not employing the regulatory authority of the state until repeated catastrophes have demonstrated an undeniable need for such regulation. At that point, regulation can consist of only remedying the specific causes of the past disaster (reactive), or it can be transmuted into a more preventive form—anticipating the likelihood of similar future events, and proactively regulating in a way that mitigates against the likelihood of a catastrophe of similar scope and harm occurring in the future.

California started making the move from reactive to proactive statewide regulation in the realm of seismic safety as early as the 1930's, and in WUI wildfire mitigation nearly two decades ago. Policy learning of the sort described by Birkland (2006) was very much in evidence in the steadily shifting WUI wildfire mitigation law in California. Each new wildfire catastrophe in the WUI gave rise to more stringent statewide mitigation measures. Given Colorado's political culture, however, it may be that effective, preventive WUI wildfire mitigation law and policy must await more uncontrolled residential infilling in the WUI, and then uncontrollable wildfires that may take lives as well as property.

WUI defensible space regulation is a means, not an end. The end is to mitigate against the loss of lives and property in WUI wildfires. Colorado may indeed figure out a way to use its relatively soft-law, local control approach to achieve these ends. The stakes are high in this experiment, however. Colorado continues to rapidly populate its WUI, just as are other states in America's Mountain West. More and more people are moving into harm's way, making the question of what duty of care its government may or may not owe them ever more urgent.

4. Implications for a transnational comparative research agenda

In-depth research on the comparative law and policy approaches to WUI wildfire mitigation in California and Colorado is already under way, and will continue for some time—probably encompassing some other fire-prone states in the American West, such as New Mexico and Arizona. But just as this work may help provide a framework within which various states can learn more of each other's approach to WUI mitigation, so too can comparison with other nation states enhance that learning potential for all concerned. Scholars and regulators from the Common Law countries of Australia and the United States may have a lot to learn from each other, regarding how the local, state, and national governments of each has accommodated common law principles of the jurisprudence of property into their respective regulatory regimes, and addressed the moral arguments raised for and against WUI wildfire mitigation.

And comparing these regimes with the regulatory approach to mitigation taken in the equally fire-prone landscapes of a European Union member country such as Spain can make for an even richer learning experience, especially when all three of these bodies of law and policy are viewed through the common framework of something like Selznick's criteria for the constitution of moral community. In addition to the policies of its autonomous regions and national government, regulators in Spain must also factor in the general directives of the European Commission, which has already taken a heavily mutualistic stance in its adoption of the precautionary principle in the area of public health and safety regulation (Ponce 2013).

Research applying the four descriptive theoretical propositions set out in this paper to transnational studies involving nations such as Australia and Spain might yield some important insights into the methods these nations and the U.S. do and don't use to mitigate the dangers to populations in a given political community who live in harm's way. More specifically, a great deal might be revealed in terms of policy learning and values realignment by comparing the substance of wildfire mitigation law before and after the February (summer), 2009 "Black Friday" fires that engulfed vast swaths of residential landscape and took 178 lives in the Australian State of Victoria.

In the northern hemisphere, the hot, dry, windy summer of 2009 saw similarly devastating wildfires devour as much landscape and take lives in Mediterranean Europe. Spain and Greece were especially hard-hit. A before-and-after search for wildfire mitigation policy reform in Spain's local and national levels of government as well as that of the European Commission could yield valuable insights into whether policy learning and any degree of wildfire mitigation law reform has occurred there as well.

All of Britain's former colonies around the Pacific Rim—including Australia and the United States—share with the civil law nations of Europe a common ancient intellectual heritage on the subject of law and moral community. It dates back to Aristotle and to Justinian's *Institutes*. It has since been explicated by an array of Enlightenment, Romantic, Modern, and post-Modern political and legal philosophers.

This heritage is also an important basis for studying the comparative jurisprudence of wildfire mitigation. From these shared origins, we may be able to discern a common moral purpose in the goal of protecting ourselves from catastrophic harm, even if we use different means.

A lot depends on our ability to learn from our own and each other's experience in trying to mitigate against the effects of major natural disasters such as WUI wildfires. As Jared Diamond demonstrated in *Collapse*, our ability to save ourselves, our estates, our communities, and the integrity of our own cultures and institutions is in the balance.

Nature's four archetypical elements of earth, water, wind, and fire will continue to do what they have always done: burn, shake and split, storm, and flood. These are not "ill-starred" events except to the extent that we choose to live in harm's way oblivious to what Nature is up to. Perhaps Shakespeare was on to something, when in the voice of Cassius in *Julius Caesar*, he observed, "The fault, dear Brutus, lies not in our stars, but in ourselves".

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