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The Tragicomedy of the Commons

Brigham Daniels

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The Tragicomedy of the Commons

Brigham Daniels*

ABSTRACT

Scholarship on the commons focuses on a diverse set of problems, ranging from crashing fisheries to crowded court dockets. Because we find commons resources throughout our natural and cultural environments, understanding old lessons and learning new ones about the commons gives us leverage to address a wide range of problems. Because the list of resources identified as commons resources continues to grow, the importance of gleaning lessons about the commons will also continue to grow.

That being said, while the resources that make up the commons are certainly diverse, so too are the ways scholars depict it and the challenges it faces. Consider, for example, how three of the most prominent commons scholars capture the likeness of the commons: Garrett Hardin, a celebrated ecologist who gave us the concept of the tragedy of the commons, spoke of the commons as an all-out free-for-all. Elinor Ostrom, a Nobel Prize winner and a world-renowned political scientist, devoted much of her career to helping us understand how to govern the commons to avoid tragic ends. She showed us that in the commons we often find ways to keep our consumption and that of others at bay. Ostrom also made famous a

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number of case studies that provide examples of where use of the commons is sustainable for long periods of time, even centuries. Carol Rose, a giant within legal academia, helped us see that sometimes an additional user of the commons leads to positive rather than negative ends. She explained that sometimes we face a comedy of the commons, as opposed to a tragedy. In such a case, the challenge of a commons is not imposing diets or trimming a guest list. Rather, the challenge is drawing additional people into a commons feast. Echoes of these characterizations of the commons are found throughout the commons literature.

This Essay tries to unify these three stories that we tell and retell about the commons. To do so, it focuses on the strands that bind these stories together into a single narrative. Quite coincidentally, the overarching theme of this larger narrative very much follows the storyline of an extended tragicomedy. And, like any tragicomedy, this narrative has two dominant strands. One strand is plagued with challenges, most of which can be traced back to the internal characteristics of the commons—the nature of the resource, the traits of its users, the way the commons is governed, and the value placed on the commons resource. The second strand is one of hope—that through governance we can overcome these internal challenges and this inertia. However, hope in this context is fragile. Fortunately, even though the storyline is difficult to alter, the end of each commons story is ours to write.

INTRODUCTION	1349
I. HERDERS, SUN BATHERS, AND A CONTRAST OF IRRIGATORS.....	1351
A. <i>The Tragedy of the Commons</i>	1351
B. <i>The Comedy of the Commons</i>	1352
C. <i>Governing the Commons</i>	1354
II. TRAGICOMEDIES: RELATIONSHIPS BETWEEN CHARACTERIZATIONS OF THE COMMONS	1355
A. <i>Unacknowledged Limits</i>	1356
B. <i>Interconnected Commons</i>	1359
C. <i>Problems of Resources with Multiple Dimensions</i>	1362
D. <i>The Mistake of Assuming Something Is a Pure Public Good Resource</i>	1364
E. <i>Tragic Institutions</i>	1367

CONCLUSION	1372
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INTRODUCTION

The commons is depicted in such different ways that even when just considering the classic scholarship on the commons, we might have the same reaction to the commons as the protagonist of Jane Austen's *Pride and Prejudice*, Ms. Elizabeth Bennett, had to Mr. Darcy on the night of the Netherfield Ball: "I hear such different accounts of you as puzzle me exceedingly."¹

Consider, for example, how three of the most prominent pieces of scholarship on the commons capture the likeness of the commons: Garrett Hardin, a celebrated ecologist who gave us the label for the concept of the tragedy of the commons, warned us that where we find a commons, we should be prepared for an all-out free-for-all.² Nobel Laureate Elinor Ostrom devoted much of her career to helping us understand how resource managers and even consumers of a commons might find ways to govern the commons to avoid such a tragic end. She showed us that in the commons, we often find ways to keep consumption at bay and made famous a number of case studies where use of the commons is sustainable for long periods of time, even centuries.³ Carol Rose, a giant among legal academics, helped us see that sometimes in the commons an additional user of the commons leads to positive ends, rather than negative ends; the commons is a place where we find not just classical tragedies, but also comedies.⁴ In such cases, we should not worry about managing crowds, just attracting them; not imposing diets and a trimmed guest list, just enticing as many people as possible to join a commons feast.

This Article tries to unify these stories we tell and retell to describe the commons. To do so, it focuses on the strands that bind together these different stories. Quite coincidentally, the overarching theme of this narrative very much follows the storyline of an

1. JANE AUSTEN, *PRIDE AND PREJUDICE* 81 (Bantam Classic ed. 1981).

2. Garrett Hardin, *The Tragedy of the Commons*, 162 *SCI.* 1243, 1244 (1968).

3. ELINOR OSTROM, *GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION* 88–102 (1990).

4. Carol Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 *U. CHI. L. REV.* 711, 768 (1986).

extended tragicomedy.⁵ And, like any tragicomedy, this narrative has two dominant strands. The first is plagued with challenges, most of which can be traced back to the internal characteristics of the commons—the nature of the resource, the traits of its users, the reasons the commons is valued, and the way it is governed. The second strand is more hopeful—that through governance we can overcome these challenges. This hope is fragile, however, because very often it depends on not only building and sustaining governance of the commons but also adapting commons governance as circumstances change. While commons narratives are likely to find both elements of tragedy and comedy, the ending of a commons story is not predetermined at the outset and can change over time.

In Part I, this Article provides three brief character sketches of the commons. Within this context, we explore tragedies of the commons and comedies of the commons. This Part will also look at well-governed commons.

In Part II, the remainder of this Article shows connections between what we believe are comedies of the commons, well-governed commons, and tragedies of the commons. To this end, this Article introduces four types of situations where commons problems often lurk.

5. Perhaps it should come as no surprise given the tremendous success of both *The Tragedy of the Commons* and *The Comedy of the Commons* that this Article is not the first to use the concept of the tragicomedy of the commons. While there are a number of scholars that have employed the term, two of them warrant our attention here. The well-known political economist Professor Russell Roberts, currently the John and Jean De Nault Research Fellow at the Hoover Institution, wrote a working paper in 1990 that used the term “tragicomedy of the commons” in its title. Russell D. Roberts, *The Tragicomedy of the Commons: Why Communities Rationally Choose “Inefficient” Allocations of Shared Resources* (working paper 1990), available at <http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/5665/The%20Tragicomedy%20of%20the%20commons%20why%20communities%20rationally%20chose%20inefficient%20allocations%20of%20shared%20resources.pdf?sequence=1>. In his article, Roberts introduces situations where management of the commons benefits a subset of the community using a commons at the expense of the larger community. In pursuing its benefit, the subset leaves additional gains in wealth on the table that could be gained if more community members shared more broadly in the commons. *Id.* at 12. Roberts calls this “inefficient” method of using the commons, which he saw repeatedly, a *tragicomedy*. In another article, Professor Donald Elliott introduced what he called a “tragi-comedy” of the commons. E. Donald Elliot, *The Tragi-Comedy of the Commons: Evolutionary Biology, Economics, and Environmental Law*, 20 VA. ENVTL. L.J. 17 (2001). Elliot argues that human nature does not necessarily lead us to tragedies of the commons, nor does it necessarily lead to comedies of the commons; it can lead to either, neither, or both. *Id.* at 19–20. He shows that human nature is complex and that the predictive models often employed in environmental law oversimplify the situation.

I. OF HERDERS, SUN BATHERS, AND IRRIGATORS

This Part paints three different characterizations of the commons. These characterizations come from arguably the three most important works focused on the commons: Hardin's *Tragedy of the Commons*, Rose's *Comedy of the Commons*, and Ostrom's *Governing the Commons*. Juxtaposing these three different depictions of the commons not only provides an insight into the highly diverse ways scholars have characterized the commons, but also provides a backdrop that is necessary to understand the thesis of this Article: these different depictions are best understood as highlighting different aspects of the commons that require vigilance if we are to stave off problems in the commons.

A. *The Tragedy of the Commons*

While others had previously identified the incentives that fuel the tragedy of the commons,⁶ Garrett Hardin's work solidified the consequences of these sorts of incentives as a class of problems.⁷ Specifically, Hardin looked at resources that are characterized by the following traits: first, when a user of the commons consumes part of the commons, that user gets all of the benefit of that use; and second, the cost of this consumption is shared across all potential users. When resources had these traits and were not restricted, Hardin saw the potential for a resource free-for-all—something that

6. Many others have made observations that are similar to those found in Hardin's *The Tragedy of the Commons*. Elinor Ostrom points out that what is known as the tragedy of the commons even appeared in Aristotle's writing. OSTROM, *supra* note 3, at 2–3 (citing Aristotle's *Politics*, which states, "what is common to the greatest number has the least care bestowed on it. Everyone thinks chiefly of his own, hardly at all the common interest."). Some of Hardin's contemporaries made similar points to those of Hardin. *See, e.g.*, H. Scott Gordon, *The Economic Theory of a Common-Property Resource: The Fishery*, 62 J. POL. ECON. 124, 135 (1954) ("Wealth that is free for all is valued by none because he who is foolhardy enough to wait for its proper time of use will only find that it has been taken by another."); Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347, 354 (1967) ("Suppose that land is communally owned. . . . If a person seeks to maximize the value of his communal rights, he will tend to overhunt and overwork the land because some of the costs of his doing so are borne by others. The stock of game and the richness of the soil will be diminished too quickly.").

7. *See* Barton H. Thompson, Jr., *Tragically Difficult: The Obstacles to Governing the Commons*, 30 ENVTL. L. 241, 242 (2000) ("Hardin gave the problem a vivid and visceral name that quickly captures our attention and tells us much of what we need to know.").

he called *the tragedy of the commons*. To make his point, Hardin told a story about cattle grazers who had the option of adding more cows to an open pasture, a commons. Each time a grazer added a cow to the field, that grazer later brought the cow home for the slaughter, whereas the pressure placed on the pasture by adding the cow was a cost that was shared across all potential users of the commons.⁸

By identifying a number of situations that had the same incentives in place as his story of the grazers and then classifying these situations as a particular sort of problem, Hardin brought an unprecedented amount of attention to the commons and energized scholars by challenging them to find ways to solve the tragedy of the commons. Through this work, commentators have identified a host of problems that are tragedies of the commons. This scholarship first focused on the archetypal commons resources Hardin focused upon, like crashing fisheries⁹ and overproduction of oil fields.¹⁰ Scholars continue to find new ways to apply the tragedy of the commons. Recent examples include overuse of asbestos¹¹ and the race among states to hold the first presidential primary.¹²

B. *The Comedy of the Commons*

Many scholars have studied the commons and, after rummaging around for a bit, identified tragedies of the commons—Carol Rose saw something quite different. Rather than finding that each additional user of the commons gained at the expense of the crowd, she identified a subset of cases where each additional user contributed to the net benefit of the crowd. Given that what she

8. Hardin expressed these payoffs in terms of “utilities”—each herder received one positive utility every time he added a cow and lost a fraction of one utility every time a cow was added to the commons. Hardin, *supra* note 2, at 1244.

9. Rose, *supra* note 4, at 748 (“[O]verfishing was our initial metaphor for the ‘tragedy of the commons.’”).

10. Lee Anne Fennell, *Common Interest Tragedies*, 98 NW. U. L. REV. 907, 914 n.32 (2004) (“Oil presents a tragedy of the commons to the extent that the total amount of oil available for anyone’s use diminishes with overly speedy extraction, or to the extent such rapid extraction ushers in other inefficiencies that reduce the total benefits to be gleaned from the resource (such as private storage costs).”).

11. Francis E. McGovern, *Tragedy of the Asbestos Commons*, 88 VA. L. REV. 1721 (2002).

12. Brigham Daniels, *Governing the Presidential Nomination Commons*, 84 TUL. L. REV. 899 (2010).

found was quite different from what Hardin told her to expect, she called this situation *the comedy of the commons*:

In a sense, this is the reverse of the “tragedy of the commons”: it is a “comedy of the commons,” as is so felicitously expressed in the phrase, “the more the merrier.” Indeed, the real danger is that individuals may “underinvest” in such activities, particularly at the outset. No one, after all, wants to be the first on the dance floor, and in general, individuals engaging in such activities cannot capture for themselves the full value that their participation brings to the entire group. Here indefinite numbers and expandability take on a special flavor, relating not to negotiation costs, but to what I call “interactive” activities, where increasing participation enhances the value of the activity rather than diminishing it. This quality is closely related to scale economies in industrial production: the larger the investment, the higher the rate of return per unit of investment.¹³

If there is a story that speaks to the comedy of the commons, we can find it at the beach. There are many elements of the beach that present comedies of the commons: swimming is more fun with friends, and beach volleyball and Frisbee require others. As Rose noted, “Recreation is often carried on in a social setting, and therefore it clearly improves with scale to some degree: one must have a partner for chess, two teams for baseball, etc.”¹⁴ But perhaps the phenomenon can best be reduced to a simple insight (mine, not Rose’s—much too tacky to be hers): for those who go to the beach to strut their stuff, it requires others to be there to see said stuff strutted.

While the comedy of the commons may owe some of its intellectual genesis to the beach, the concept has increasingly become associated with intellectual and cultural resources.¹⁵ Certainly, libraries are at their best when they are used; Wikipedia

13. Rose, *supra* note 4, at 768 (footnote omitted).

14. *Id.* at 779.

15. Carol Rose, *Surprising Commons*, 2014 BYU L. REV. 1257 (2014); see also Yochai Benkler, *Commons and Growth: The Essential Role of Open Commons in the Market Economies*, 80 U. CHI. L. REV. 1499, 1499 (2013) (arguing that Rose’s *Comedy of the Commons* has been “most extensively developed in work on the Internet and the role of the public domain in the production of knowledge, information, culture, and innovation”).

and open source software do not even exist without users coming together to create them.

C. Governing the Commons

A number of social scientists have tried to shift our focus from commons resources to the users of the commons and the ways in which the commons is governed. The real jewel of this literature was written roughly two decades after Hardin recounted the fictionalized tragedy facing the herdsmen. Elinor Ostrom combed through the empirical evidence and identified unifying principles that characterized those cases where commons users overcame the tragedy of the commons. In her preeminent work, *Governing the Commons*,¹⁶ she referred to these as “design principles of long-enduring institutions.”¹⁷ These principles are much admired: the Nobel Committee cited these principles before any other aspect of her work in justifying Ostrom’s recent receipt of the Nobel Prize;¹⁸ fellow Nobel Laureate Douglass North puts so much faith in this aspect of her work that he considers Ostrom’s design principles commandments rather than principles.¹⁹

While management systems that best embody Ostrom’s principles could take different forms, an irrigation system in Spain is a well-known example that she has provided.²⁰ Ostrom explains that in parts of Spain, we find irrigation systems in defined areas, known

16. OSTROM, *supra* note 3.

17. *Id.* at 88–102.

18. See Royal Swedish Acad. of Scis., *Scientific Background on the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2009: Economic Governance* 13 (Oct. 12, 2009), http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2009/advanced-economicsciences2009.pdf. The very first sentence of the press release the Royal Swedish Academy of Sciences provided to announce Ostrom’s receipt of the Nobel Prize reads, “Elinor Ostrom has demonstrated how common property can be successfully managed by user associations.” Royal Swedish Acad. of Scis., *The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2009: Press Release*, NOBELPRIZE.ORG (Oct. 12, 2009), http://nobelprize.org/nobel_prizes/economics/laureates/2009/press.pdf. Certainly, this is a reference to these design principles.

19. See Douglass C. North, *Dealing with a Non-Ergodic World: Institutional Economics, Property Rights, and the Global Environment*, 10 DUKE ENVTL. L. & POL’Y F. 1, 10 (1999).

20. Note that Ostrom also focuses on particular communal herders in Switzerland and forest harvesters in Japan. OSTROM, *supra* note 3, at 61–69. She also provides an example of an irrigation system in the Philippines, which she suspects can trace its roots to the Spanish system. *Id.* at 82–88.

as *huertas*.²¹ She reports that these huertas have been around for at least 550 years, and perhaps as many as 1000 years.²² Up until the past century, this water allocation system has worked in a number of water basins without the benefit of dams and despite times of extreme drought.²³ To give a bit of perspective, think how this water allocation system was around before Columbus sailed under the Spanish flag and before the Spanish Inquisition, and may have been around at the time the Moors ruled Spain. This history covered times of great droughts.²⁴ The huertas survived the industrial revolution, the world wars, and still live on to this day.

Through these three different stories—that of the herders, recreationalist on the beach, and the irrigation practices of the huertas—we see very different characterizations of the commons. These characterizations, while wildly different, are all about the commons. The next part of this Article attempts to weave these stories together.

II. TRAGICOMEDIES: RELATIONSHIPS BETWEEN CHARACTERIZATIONS OF THE COMMONS

In this Part, this Article sketches out connections between the three characterizations of the commons discussed in Part I. These interrelationships illustrate the difficulties in governing the commons in a way that heads off problems in the commons in the long run. This Part plays out the thesis of the Article—that the divergent characterizations of the commons are all correct: in fact, we simultaneously see comedy and tragedy and should expect to continue to do so. These divergent views of the commons are not in conflict but rather are threads of an interrelated narrative. And while there is often inertia that slumps toward tragedy, this inertia is not unstoppable.

This Part lays out four instances where positive and negative futures of the commons coexist.

21. *Id.* at 69, 71.

22. *Id.* at 69.

23. *Id.* at 69–82.

24. *Spanish Droughts Over Past 500 Years Reconstructed*, SCIENCE DAILY (Jan. 2, 2009), www.sciencedaily.com/releases/2008/12/081217192739.htm (discussing severe drought conditions at this time, particularly between the seventeenth and eighteenth centuries).

A. Unacknowledged Limits

The first type of situation that deserves our attention arises when there is nothing stopping the free-for-all of the tragedy of the commons, but the negative consequences of crowding have not manifested themselves. This sort of situation is particularly prone to occur where the robustness of a resource seems to far exceed demand. In such a case, it may seem that we have a well-governed commons or even a comedy of the commons, but a tragedy of the commons is lurking in the shadows.

In his classic article *The Economic Theory of a Common-Property Resource: The Fishery*, which served as an important precursor to *The Tragedy of the Commons*, H. Scott Gordon explains:

During the latter part of the last century, the Scottish fisheries biologist, W. C. MacIntosh, and the great Darwinian, T. H. Huxley, argued strongly against all restrictive measures on the basis of the inexhaustible nature of the fishery resources of the sea. As Huxley put it in 1883: "The cod fishery, the herring fishery, the pilchard fishery, the mackerel fishery, and probably all the great sea fisheries, are inexhaustible: that is to say that nothing we do seriously affects the number of fish. And any attempt to regulate these fisheries seems consequently, from the nature of the case, to be useless."²⁵

It does not take much to see that MacIntosh and even the great Darwinian Huxley missed the mark by some distance. Because fisheries are crashing throughout the world,²⁶ it may be tempting to dismiss this passage as nothing more than an example of antiquated ignorance. That would be a mistake, however, because we are continuously finding that we are exceeding the capacity of resources that seemed beyond our ability to exhaust.

Take for example space, sometimes referred to as "the final frontier."²⁷ It is easy to think that space is a place where no one has gone before, but more and more, rather than emptiness, we find

25. H. Scott Gordon, *The Economic Theory of a Common-Property Resource: The Fishery*, 62 J. POL. ECON. 124, 126 (1954) (footnotes omitted).

26. See generally, SUZANNE IUDICELLO ET AL., FISH, MARKETS, AND FISHERMEN: THE ECONOMICS OF OVERFISHING (1999); MIKE WEBER, FROM ABUNDANCE TO SCARCITY: A HISTORY OF U.S. MARINE FISHERIES POLICY (2002).

27. *Star Trek: The Corbomite Maneuver* (NBC television broadcast Nov. 10, 1966).

conflict in space, and not just with Klingons and Sith lords either. Consider, for instance, satellites in geostationary orbit traveling directly above the equator. Because these satellites must be spaced, there are only a limited number of orbital “slots” for satellites. We find countries jockeying to secure a piece of the action; countries at the equator have even attempted to assert their control over the space above them.²⁸ Similarly, the Convention on International Liability for Damage Caused by Space Objects,²⁹ also known as the Space Liability Convention, along with the Outer Space Treaty of 1967, set out liability rules meant to resolve liability for accidents and harm. The Convention was relied upon to arbitrate fault related to the crash of the nuclear-powered Soviet satellite Cosmos 954.³⁰ There is no way around it; we are starting to see the closing of the final frontier.

What all this points to is that crowding of the commons is what matters and *crowded* is not an on-and-off switch, but a spectrum. The crowdedness of a commons is an interaction between the number of users of a commons and the consumptiveness of their use.³¹ The extent to which crowding matters depends on the perceived robustness of the commons resource.³²

Returning to Rose’s depiction of the beach as a place where we are apt to find comedies of the commons, part of what is going on there is that beaches, generally speaking, are not so crowded that we worry about crowding. That is not to say that beaches are never crowded; they can be, and when they are, we start to see the tragedy of the commons—no space for Frisbee, no place for laying out towels, just wall-to-wall people getting in each other’s way. However, this is not the general experience we have on beaches, and when the costs of adding another person on the beach are negligible (which is often the case), we might find that the added benefit of another person on the beach will tend to outweigh those costs.

28. *Current Documents: The Bogota Declaration*, 6 J. SPACE L. 193 (1978).

29. Mar. 29, 1972, 24 U.S.T. 2389, T.I.A.S. No. 7762, 10 I.L.M. 965.

30. Joseph A. Burke, *Convention on International Liability for Damage Caused by Space Objects: Definition and Determination of Damages After the Cosmos 954 Incident*, 8 FORDHAM INT’L L.J. 255, 270–74 (1985).

31. Brigham Daniels, *Emerging Commons and Tragic Institutions*, 37 ENVTL. L. 515, 536 (2007).

32. *Id.*

It is also important to note that when we see rapid shifts in the number of users that access the commons or their ability to consume, we might find ourselves quickly pushing up against a tragedy of the commons in areas that we did not assume had problems. As I have stated elsewhere,

[S]everal factors influence the number of users of a commons, including the size of a population, technological change, levels of wealth, and market demands. While these factors are self-explanatory, importantly, increases in all of these factors tend to increase strain on commons, yet there are some notable exceptions. For example, technology can make it less costly to access the commons (e.g., transportation improvements) or less costly to exclude others (e.g., the barbed-wire fence). Likewise, wealth might mean more consumption or the willingness to invest to protect a commons.³³

Furthermore, “technology changes may increase or decrease the consumptiveness of a use of a commons.”³⁴ Not far from my hometown, Provo, is a huge open-pit mine, the Bingham Copper Mine. The story of the rate of extraction of the mine is largely a story of technology. The story began with a few miners, but once the railroad came to the mine, many more miners came as well.³⁵ Over time, technology made mining efforts more and more productive. I remember visiting the mine when I was younger and standing beside tires for mining trucks that were so large that my head barely reached the rim of the tire. Some of the trucks in the mining fleet today are almost thirty feet tall and more than fifty feet long, with a hauling capacity of more than three hundred tons in a single load.³⁶ This progression of technology is responsible for transforming a mountain into a pit so large that it can be seen from space.³⁷

33. *Id.*

34. *Id.*

35. For a brief history, which oddly omits reference to the mine’s incredible environmental destruction, see Louis J. Cononelos & Philip F. Notarianni, *Kennecott Corporation*, http://www.uen.org/utah_history_encyclopedia/k/KENNECOTT_CORPORATION.html.

36. *KSL News: Building Kennecott’s Monster Dump Trucks, One Piece at a Time* (KSL TV television broadcast Nov. 13, 2012), available at <http://www.ksl.com/?sid=22958177>.

37. *Bingham Canyon Mine, Utah: Image of the Day*, NASA EARTH OBSERVATORY (Oct. 22, 2007), <http://earthobservatory.nasa.gov/IOTD/view.php?id=8144>.

B. Interconnected Commons

The second sort of problem we find in the commons is the presence of complex connections that inevitably result in externalities—even in very well-managed commons. Perhaps the best way to illustrate this point is with a personal story.

A number of years ago, I took my family to Disneyland. My favorite ride of the day was the ride leaving the parking lot. Don't get me wrong, we had a great time. But we left the park along with tens of thousands of other people just as the park closed. As the crowd made its way to the parking lot, I saw all the elements of misery on the horizon: a long wait, exhausted kids, and a compact car. In fact, I dreaded this scenario so much that in the past I had stayed in one of the hotels across the street from Disneyland just to avoid this very situation. Bracing for misery, we all raced to the car and crammed in.

To my surprise, we were out of the parking lot within minutes. The exuberance and thrills the rides had given my children all day were all mine in that moment. It was not dumb luck either. I had Disney engineers and planners to thank for my quick getaway. Disney had built a masterpiece parking lot that allowed traffic to easily flow out of the lot—all in a way that was completely painless for the driver. Even though traffic picked up dramatically once we had left the lot, I determined I would never again patronize the hotels across from Disneyland. How could I resist the temptation to stay at cheaper hotels further away, and then hop in the car to travel to the paved parking paradise that beckoned me?

Often, when I am leaving a concert, a ballgame, or a crowded shopping center's lot, I think longingly about Disneyland's parking lot. Far too often I find myself stuck in traffic thinking that Disney's parking creation, if implemented widely, could revolutionize the parking experience. I have told my students that Disney manages potential congestion so well that—if properly understood—its parking lot very well could be the envy of resource managers the world over. After all, too much demand for resources is often a central problem facing those managing not only parking lots but also fisheries, rivers, public roads, radio bandwidth, and a myriad of other high-demand commons resources. And the free-for-all that we often

face in crowded parking lots is a textbook example of the tragedy of the commons.³⁸

Disney seems to have avoided this tragedy. But still, Disney's management of its parking lot might be seen in a dimmer light. Its creation of the greatest parking place on Earth seemingly adversely affected the public and commercial infrastructure surrounding the park. It seems likely that the reason we hit traffic congestion once outside of the parking lot is that the public infrastructure was designed to facilitate Disney's parking as if traffic flowed like a spigot and not a fire hose. Additionally, if patrons calculate the relative values of staying near the park or further away, the restaurants, hotels, and shops surrounding the park no longer have the allure they had when people could be certain of the misery that awaited them as they exited Disneyland. With this in mind, we might wonder what sort of future this commercial district faces, particularly if this area does not become a great deal more pedestrian-friendly and walkable in order to convince patrons that cars are unnecessary once they arrive.

Additionally, despite my periodic longing for the proliferation of Disneyland-like parking lots, this might give some pause: if Disney's scheme were widely adopted, it might give people yet another incentive to drive. It could reduce incentives to take the train or bus and perhaps work to kill walkable shopping districts in favor of megastores and malls. It might spell the end of downtowns across the country—other than “downtowns” found in places like lovely amusement parks that feature Main Street as a quirky blast from the past where one can buy old-time candy and have pictures taken with some sweaty teenager hidden inside a plush mouse costume. Perhaps, it's best to leave Disney's parking magic to Disney's Magic Kingdom.

The stories that have made Disney into the children's propaganda behemoth that it is often strain for a moral ending. Given this, we might ask, what sort of heavy-handed message might we glean from this story about the commons? If there is a lesson to be learned about the commons here, perhaps it as simple as this: solving any particular tragedy of the commons does not mean our work is done. After all, if an army of Disney's engineers doing their

38. See Hardin, *supra* note 2, at 1245.

best work at managing traffic leaves us both in awe of their successes and worried about the implications of applying these same successes more widely, we should proceed with our work on the commons with more than a modicum of caution and humility.

Beyond this personal narrative, consider a couple of examples of commons problems rooted in policy. When Congress passed the Clean Air Act in 1970, it saw the problem of air pollution as mainly a localized problem.³⁹ In other words, Los Angeles's air pollution was considered a problem for Los Angeles, but not a problem for Phoenix. Many of the provisions eventually implemented in the Act provided emitters of air pollution an incentive to reduce their impact on local air quality. Some larger emitters of air pollution—particularly coal-fired power plants—complied with Clean Air Act regulations in a way probably not foreseen by Congress when it passed the Act. Rather than reducing emissions, these larger emitters converted localized air pollution into regional air pollution.⁴⁰ They did this by building super-sized smoke stacks that pump pollution higher into the atmosphere. While this practice relieved local air pollution, it also substantially increased regional air pollution and its associated problems, including acid rain. In fact, one of the principal reasons regional air pollution became such a problem in the 1980s was that the commons solution to localized air pollution provided in the 1970 Clean Air Act overlooked regionalized pollution.⁴¹ In

39. See, e.g., Jeffrey L. Roelofs, *United States-Canada Air Quality Agreement: A Framework for Addressing Transboundary Air Pollution Problems*, 26 CORNELL INT'L L.J. 421, 435 (1993); R. James Steiner, *The North American Acid Rain Problem: Applying International Legal Principles Economically; Without Burdening Bilateral Relations*, 12 SUFFOLK TRANSNAT'L L.J. 1, 19 (1988). Note that Congress, while drafting the Clean Air Act, mainly cited the need to decrease local air pollutants as one of the rationales behind the legislation. *Massachusetts v. EPA*, 549 U.S. 497, 512 (2007). The EPA, however, argued (unsuccessfully) that the Act should not apply to global pollutants, like greenhouse gases. *Id.* at 510–14. The Supreme Court's decision against the EPA in *Massachusetts v. EPA* had nothing to do with whether the Court believed that Congress mainly concerned itself with local air pollution in 1970 and everything to do with the actual text of the Clean Air Act. *Id.* at 528.

40. See JOHN MCCORMICK, ACID EARTH: THE POLITICS OF ACID POLLUTION 73 (3d ed. 1997) (“[A]cidification remains a problem in and downwind of the major industrialized areas of . . . North America.”); Joseph MacD. Schwartz, *On Doubting Thomas: Judicial Compulsion and Other Controls of Transboundary Acid Rain*, 2 AM. U. J. INT'L L. & POL'Y 361, 400 (1987).

41. See Michael R. Bosse, *George J. Mitchell: Maine's Environmental Senator*, 47 ME. L. REV. 179, 197–212 (1995) (discussing the political and legislative history of the 1990 Clean Air Act Amendments).

addition to aggravating regional air pollution, the political dynamic associated with the Clean Air Act also created entrenched interests with a stake in continuing to emit regional air pollution, making the problem all the more difficult to address.

Consider a second example. The past two decades have seen an explosion of wireless technologies that rely on radio bandwidth to function.⁴² These wireless devices include wireless laptops, cell phones, GPS technologies, and even garage door openers. One hurdle in getting wireless technologies on the market is the scarce availability of radio spectrum due to generous licensure of the spectrum to technological innovations of the past, particularly broadcast radio.⁴³ It is important to recognize that the reason broadcast radio holds so much of the spectrum is that the government wanted order on the dial. To do that, it divided up the scarce bandwidth. Before this was instituted, stations bled into each other and listeners would jump around the dial to get a better signal. As Justice Frankfurter said, “[W]ith everybody on the air, nobody could be heard.”⁴⁴ Licenses issued in the past to meet yesterday’s problems make dealing with the challenges of the present more difficult.

C. Problems of Resources with Multiple Dimensions

The way that we usually conceive the commons is often overly simplistic.⁴⁵ Let me justify this assertion with an illustrative story.

A few years ago, I attended a conference on the commons in Cheltenham, England. Cheltenham sits at the edge of the Cotswolds, a beautiful landscape of rolling hills. At the close of the

42. See Thomas W. Hazlett, *The Wireless Craze, the Unlimited Bandwidth Myth, the Spectrum Auction Faux Pas, and the Punchline to Ronald Coase’s “Big Joke”*: An Essay on Airwave Allocation Policy, 14 HARV. J.L. & TECH. 335 (2001).

43. See generally Thomas W. Hazlett, *Spectrum Tragedies*, 22 YALE J. ON REG. 242 (2005) (discussing alternative regulatory schemes for radio bandwidth).

44. Nat’l Broad. Co. v. United States, 319 U.S. 190, 212 (1943).

45. Daniels, *supra* note 31, at 521 (“Commons institutions are intentionally myopic. The herdsmen looked at a field and saw a pasture; salmon fishers see rivers and oceans in terms of salmon habitat; jurisdictions attempting to limit greenhouse gases look at forests as greenhouse gas sinks; wilderness advocates see remote places as areas ‘where the earth and its community of life are untrammelled by man.’”).

conference, my spouse and I went on a field trip to see the landscape.

While the nerd-factor for me that week was already through the roof, the highlight of the field trip really pushed it up a notch when we came upon an actual commons (an honest-to-goodness, real-life commons!). My spouse did her best to restrain her eye rolling as I tried not to jump out of my seat.

As the bus slowed down, we saw cows on the commons (there were actual cows on the commons!). Beyond the cows, we saw people on the commons in the distance. I blurted out as I stood out of my seat, “Are those the herders?!” I was beyond giddy.

As the bus moved on and got closer to the people on the commons, we realized that they were golfing. In a moment of mental confusion, all I could think of was, “Why would herders golf?! Wait. . . . These are not herders, these are golfers.” It was hard to see it any other way. Golfers were right there . . . with the cows . . . on the commons. I was surprised to say the least, but the tour guide—witnessing my excitement followed by confusion—explained it was really nothing out of the usual.

When Hardin introduced us to the commons, he set me up for confusion. I blame him really. Hardin did not describe a field, he asked us to “[p]icture a *pasture* open to all.”⁴⁶ There is a difference between fields and pastures, even though a field has geographic dimensions similar to those of a pasture. The main difference between the two is that implicit in the idea of a pasture is the assumption of a particular use—grazing animals.⁴⁷ Grazing happens on the pasture, golfing on the green, and both—apparently—on a commons in the Cotswolds.

While Hardin’s environmental storytelling is much celebrated and helpful in getting Hardin’s point across, he tells the story exclusively through the eyes of the herders, ignoring—as much of the commons literature is apt to do—that there might be competing uses of the field that will have to go unfilled because the herders laid claim to the field. The commons literature is replete with suggestions

46. Hardin, *supra* note 2, at 1244 (emphasis added).

47. A field is defined as “a land area free of woodland, cities, and towns[,]” while a pasture is defined as “grass or other plants grown for the feeding of grazing animals.” WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 845, 1653 (16th ed. 1986).

about how the herders and other commons users may avoid the tragedy of the commons. But we ignore other potential dimensions of the field that others might find appealing: a place for golfers, a space for picnickers, watershed managers, wildlife hunters, or policymakers in search of a place to grow a forest as a greenhouse gas sink.

Even when a resource does not have multiple uses associated with it, it often has multiple dimensions. Even just focusing on preserving air quality, we find that there are local, regional, and even global dimensions to air resources. Furthermore, people value them for different reasons and to different degrees. For some, their concerns might be protecting forests from acid rain whereas others are concerned about the impact of pollution on asthmatics. These different dimensions of the commons frequently lead to connections between tragedies of the commons, comedies of the commons, and well-governed commons.

D. The Mistake of Assuming Something Is a Pure Public Good Resource

When we find resources that have elements of public good resources, we are likely to also find comedy. The main difference between a commons and a public good is that using a public good does not consume or diminish the resource.⁴⁸ Very few goods (perhaps none) are truly public goods, but frequent examples are national defense⁴⁹ and information.⁵⁰ While there are certainly resources that have public-good dimensions to them, there are no resources where rivalry does not play some role, at least sometimes. Because of this, pure public-good resources do not exist.

Where we find a resource with elements of a public good, it captures our attention. The problem is that we might be tempted to overlook aspects of the resource that, while perhaps with less allure, are likely to be a source of problems. At the end of the day, the

48. See Robert O. Keohane & Elinor Ostrom, *Introduction*, in LOCAL COMMONS AND GLOBAL INTERDEPENDENCE: HETEROGENEITY AND COOPERATION IN TWO DOMAINS 13 (Robert O. Keohane & Elinor Ostrom eds., 1995); Fennell, *supra* note 10, at 919.

49. See, e.g., Daphne Keller, *A Gaudier Future That Almost Blinds the Eye*, 52 DUKE L.J. 273, 321 (2002).

50. See, e.g., Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1, 32 (2004).

assertion that a resource cannot be consumed or be diminished is—to use a highly technical term—hogwash.

The notion that an assumed public good is nonrivalrous falls apart for a number of reasons. Sometimes this occurs because resources have multiple dimensions, some of which look more like public goods and others that look more like commons.⁵¹ Take the example of the gases in the Earth's atmosphere that create the greenhouse effect. Emissions of greenhouse gases have often been characterized as a classic commons problem.⁵² This makes sense because as an individual adds greenhouse gases to the global atmosphere, she experiences all the benefits associated with emitting the gases but only bears a minuscule fraction of the costs. On the other hand, gases in the global atmosphere are also a textbook example of a public good. Greenhouse gases form a fairly uniform blanket around the planet that warms the entire Earth. One person's experience of this additional warmth does nothing to diminish the greenhouse effect.

Now, consider a recipe. It could be easily argued that this is a textbook public good because no matter how many times it is copied, it still remains undiminished for the owner.⁵³ Some aspects of a recipe, however, can easily be diminished—such as the ability of a person to make money off of a recipe—if it is broadly shared.⁵⁴ In other words, we see that aspects of the tragedy of the commons apply to recipes as well. In other work, I made the point this way:

51. See Keohane & Ostrom, *supra* note 48, at 14.

52. See, e.g., Kirsten H. Engel & Scott R. Saleska, *Subglobal Regulation of the Global Commons: The Case of Climate Change*, 32 *ECOLOGY L.Q.* 183, 190 (2005); Richard B. Stewart, *Environmental Regulation and International Competitiveness*, 102 *YALE L.J.* 2039, 2099 (1993); Christopher D. Stone, *Beyond Rio: "Insuring" Against Global Warming*, 86 *AM. J. INT'L L.* 445, 461 (1992); Thompson, *supra* note 7, at 253.

53. See Geraldine Szott Moohr, *Federal Criminal Fraud and the Development of Intangible Property Rights in Information*, 2000 *U. ILL. L. REV.* 683, 692–93 (making this claim and providing an interesting example that highlight some of the complexities related to managing public goods).

54. Professor Moohr's example, *id.*, does not ignore these aspects of recipes but rather couches them as part of difficulties of managing public good resources. This characterization is arguably correct and certainly found in many other places when dealing with discussions of knowledge resources. My sense is that what is going on here is less about the complexities of dealing with public goods and more of a problem related commons resources.

While it is a bit ridiculous, consider the example of the potential value of the fried chicken recipe at the heart of a memorable speech delivered by one of Mike Myers' characters in *So I Married an Axe Murderer*. The character could hardly contain his scorn as he explained at Kentucky Fried Chicken that the Colonel "puts addictive chemicals in his chicken, making you crave it fortnightly." Had the Colonel blabbed the recipe far and wide, when the craving kicked in, getting out the fryer would be an alternative to paying a visit to the Colonel. In reality of course, addictive chemical or not, KFC goes to great lengths to keep the "Colonel's Secret Recipe" a secret, hiding away the recipe in a vault protected by various motion detectors and surrounded by concrete. If the recipe got out, every potential customer who opted not to buy his chicken would illustrate for the Colonel the sting of rivalry.⁵⁵

For the Colonel, the resource of his recipe would be quite diminished mainly because of the way he values it has commons dimensions. There would certainly be those who would appreciate the public good aspect of the recipe being exploited more—certainly the father in *So I Married an Axe Murderer* would have: "Oh, I hated the Colonel with his wee beady eyes, and that smug look on his face. 'Oh, you're gonna buy my chicken! Ohhhhh!'"⁵⁶

Beyond the dual nature of public good resources, often when commentators invoke the concept of public good resources, what really is at play is a public good resource that is not currently facing a lot of pressure from congestion. For example, one of the most common examples of a public good is a highway without much traffic.⁵⁷ At least at some level this makes sense: adding more traffic to the highway might have little or no effect on other potential users. Still, highways, and many other resources that serve as an adequate proxy for public goods in many instances, are of course prone to crowding.⁵⁸ Regardless, the major point here is clear: focusing on the public good aspects of a resource while ignoring the commons dimensions of that resource is done at our own peril.

55. Brigham Daniels, *Legispedia*, in GOVERNING KNOWLEDGE COMMONS 445, 451–52 (Brett M Frischmann et al. ed., 2014) (parenthesis and footnotes omitted).

56. *SO I MARRIED AN AXE MURDERER* (TriStar Pictures 1993).

57. Richard Cornes & Todd Sandler, *THE THEORY OF EXTERNALITIES, PUBLIC GOODS AND CLUB GOODS* 273–77 (2d ed. 1996).

58. *Id.*

E. Tragic Institutions

Any scholar, resource manager, or commentator who concerns herself with the future of a commons or the well-being of a group of commons users would love to have a toolbox that helps ferret out potential exposure to the tragedy of the commons along with tools to address these weaknesses. This is exactly what the scholars who have concerned themselves with synthesizing the volumes of case studies on various commons have provided us—the most well-known of these, of course, is Ostrom's principles of long-enduring institutions,⁵⁹ but similar compilations by others are also quite useful.⁶⁰

While much effort by other scholars has gone into uncovering these principles, these various compilations differ somewhat from scholar to scholar. What seems quite useful, but is not currently available in the literature, is to think about what—if anything—unifies the principles that have been identified. It seems three important threads bind these principles together.

First, many of the factors identified above can be seen as an attempt to provide commons users a credible commitment that they will reap future benefits for any sacrifices they make today. The role of credible commitments has been noted to resolve a host of problems in the commons⁶¹ and society more generally.⁶² The purpose of credible commitments in the commons is an inducement: we ask users of the commons to cut back and in return give a promise that they specifically will benefit from their sacrifice. Within this context, we might think about rules that clearly determine at the

59. See OSTROM, *supra* note 3, at 88–102.

60. See JEAN-MARIE BALAND & JEAN-PHILIPPE PLATTEAU, HALTING DEGRADATION OF NATURAL RESOURCES: IS THERE A ROLE FOR RURAL COMMUNITIES? 243–45 (1996); ROBERT WADE, VILLAGE REPUBLICS: THE ECONOMIC CONDITIONS OF COLLECTIVE ACTION IN INDIA 215–16 (1988); Arun Agrawal, *Common Property Institutions and Sustainable Governance or Resources*, 29 WORLD DEV. 1649, 1654 (2001); Margaret A. McKean, *Success on the Commons: A Comparative Examination of Institutions for Common Property Resource Management*, 4 J. THEORETICAL POL. 247 (1992).

61. See OSTROM, *supra* note 3, at 43–45.

62. See, e.g., Kreps, 1990; North and Weingast, 1989; Williamson, 1983. In fact, and by no means coincidentally, Williamson was given the other half of the 2009 Nobel Prize in Economics for his scholarly contribution, which in large part is devoted to exploring the concept of credible commitments. See Royal Swedish Acad. of Scis, *supra* note 18.

outset who has rights⁶³ to what⁶⁴ and where.⁶⁵ A second example is the principle that commons users should have the ability to participate meaningfully in the governance in the commons.⁶⁶ It makes sense that this would help because we are asking commons users to trust that the promises made at the outset ultimately come to fruition.

Providing credible commitments in the commons is often difficult because when it comes to cutting back in the commons, “temptations to free-ride and shirk are ever present.”⁶⁷ Without credible commitments, it makes sense that users of a commons are squeamish to cut back. As a perceptive federal judge observed more than one hundred years ago, “no person would engage in [labor in the commons] if the fruits of his labor could be appropriated by any chance finder.”⁶⁸ Scholars of the commons have recognized that without credible commitments, any conservation only leaves more for others, making them a “sucker”⁶⁹ or a “patsy.”⁷⁰

A second theme that binds many of the factors that make a difference in warding off the tragedy of the commons is that they attempt to provide credible threats aimed at those tempted to circumvent the rules of the game. Credible threats are just the flip side of the coin used to make credible commitments. Just as is the case with credible commitments, there is a rich literature that explores credible threats.⁷¹

63. See OSTROM, *supra* note 3, at 91; McKean, *supra* note 60, at 258, 263; WADE, *supra* note 60, at 215; Agrawal, *supra* note 60, at 1654.

64. See OSTROM, *supra* note 3, at 91–92; McKean, *supra* note 60, at 264–66.

65. See OSTROM, *supra* note 3, at 91–92; WADE, *supra* note 60, at 215; BALAND & PLATTEAU, *supra* note 60, at 344; Agrawal, *supra* note 60, at 1654.

66. See OSTROM, *supra* note 3, at 93–94; BALAND & PLATTEAU, *supra* note 60, at 344; Agrawal, *supra* note 60, at 1654.

67. See OSTROM, *supra* note 3, at 15.

68. *Ghen v. Rich*, 8 F. 159, 162 (D. Mass. 1881).

69. See OSTROM, *supra* note 3, at 17, 35 (citing fears of being the “sucker”).

70. See Thompson, *supra* note 7, at 242 (“Because no one can bind anyone else’s actions, not consuming simply makes one a patsy.”).

71. See THOMAS SCHELLING, *THE STRATEGY OF CONFLICT* (1960). Schelling’s contribution to the literature on credible threats is in large part why he also won a Nobel Prize in economics. The Royal Swedish Acad. of Scis, *The Prize in Economic Sciences 2005—Robert Aumann’s and Thomas Schelling’s Contributions to Game Theory: Analyses of Conflict and Cooperation*, NOBEL PRIZE 3 (Oct. 10, 2005), available at http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2005/advanced-

The need for compliance and the importance of excluding those without rights are themes that run through the principles scholars have identified. It is not surprising that some of the principles include making monitoring as easy as possible and devoting resources to ensure monitoring is effective,⁷² escalate sanctions,⁷³ and set out the rules of dispute resolution.⁷⁴ If consequences do not follow the violation of any commitment made in the commons, it is hard to say how we could call such a promise “credible”; credible threats are part and parcel of making commitments.⁷⁵

The third thread that runs through these factors is the value of low transaction costs in securing cooperation in the commons. The importance of transaction costs in determining the success of collective action is well documented.⁷⁶ Note that some of the factors identified by commons scholars are matters of institutional design and within the grasp of those attempting to govern the commons to change. Examples include the use of nested enterprises within large and complex commons resources⁷⁷ and giving resource users management responsibilities over the commons.⁷⁸ Some other factors are just a reflection that the situation in some commons resources is more optimal than in others for reasons generally difficult to foster. Smaller resources are easier to manage than larger

economicsciences2005.pdf. See also ROBERT AXELROD, *THE EVOLUTION OF COOPERATION*, (Basic Books rev. ed. 2006); ROGER B. MYERSON, *GAME THEORY: ANALYSIS OF CONFLICT* (1991); Wolfgang Leininger, *Escalation and Cooperation in Conflict Situations: The Dollar Auction Revisited*, 33 J. CONFLICT RESOL. 231 (1989).

72. See BALAND & PLATTEAU, *supra* note 60, at 345; OSTROM, *supra* note 3, at 94; McKean *supra* note 60, at 272–74.

73. See BALAND & PLATTEAU, *supra* note 60, at 345; OSTROM, *supra* note 3, at 94–100; Agrawal, *supra* note 60, at 1654; McKean, *supra* note 60, at 275.

74. See BALAND & PLATTEAU, *supra* note 60, at 375; OSTROM, *supra* note 3, at 100–01; Agrawal, *supra* note 60, at 1654.

75. See SCHELLING, *supra* note 71, at 43 (“Among the legal privileges of corporations, two that are mentioned in textbooks are the right to sue and the ‘right’ to be sued. Who wants to be sued! But the right to be sued is the power to make a promise: to borrow money, to enter a contract, to do business with someone who might be damaged. If suit does arise, the ‘right’ seems a liability in retrospect; beforehand it was a prerequisite to doing business.”).

76. See MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION* (1965) (using transaction costs to explain the reason why interests of small, concentrated interests can often outmaneuver larger groups that stand to reap more diffuse benefits).

77. See OSTROM, *supra* note 3, at 101–02; Agrawal, *supra* note 60, at 1654.

78. See McKean, *supra* note 60, at 258–61; Agrawal, *supra* note 60, at 1654; McKean, *supra* note 60, at 258–61.

resources.⁷⁹ It helps when these are part of a tight-knit community or the commons users at least have a shared set of values.⁸⁰

While one may take a more nuanced view of these principles, as the many principles discussed above illustrate, these three categories are useful not only because they encapsulate all of the principles, but also because they provide a rationale for why factors of successful commons are factors in the first place. Credible commitments and threats help commons users meet the challenges posed by the tragedy of the commons; they work together to assure that sacrifices made by users today will benefit them specifically in the future and not just another user of the commons. Coordination of collective action helps promote cooperation in a circumstance where many would be tempted to free ride. They also reduce the costs of users governing a commons in the first place.

While the literature places the role of these principles in a very optimistic light, credible commitments and threats along with reduced collective action costs not only provide stability but also risk introducing entrenchment. While these principles certainly provide an answer to the tragedy of the commons, they also create problems in themselves by creating barriers for those committed to extract rival values from the commons. Solving the tragedy of the commons does little to address the foreseeable conflicts among competing uses. More and more, fights in the commons concern not only the problem of overconsumption by a particular kind of user, but also the push and pull of entirely different competing uses.

Whenever we commit to manage a commons for the benefit of a particular set of users, we often lock out potential rivals and make change more costly. In this way, stability can become rigidity. I have argued in the past that just as the tragedy of the commons continually crops up in diverse commons, the problem of competing uses continues to reappear.⁸¹ Because commons resources are complex and can be used for many purposes, it is typical that when we attempt to solve a problem in the commons, we find that laws

79. See WADE, *supra* note 60, at 215; Agrawal, *supra* note 60, at 1654.

80. See BALAND & PLATTEAU, *supra* note 60, at 344–45; WADE, *supra* note 60, at 215; Agrawal, *supra* note 60, at 1654.

81. Daniels, *supra* note 31, at 522.

and policies put in place to solve past problems complicate our efforts and may in fact be the very source of our frustrations.⁸²

Managers of the commons are well acquainted with attempts to push the commons in one direction or pull it in another. Should we protect owl habitat or allow loggers to cut down trees? Should our sidewalks be open to vendors, reserved for walkers, or a place for the homeless to sleep? Should coastal wetlands be drained for development, protected for wildlife, or valued for flood control? The number of competing pressures vying for the commons within our forests, rivers, cityscapes, the radio spectrum, and even the global atmosphere highlight such tensions.

The problem of competing uses of the commons is not as simple as it appears. There is more going on than an us-against-them problem. The nature of the commons actually lends itself not only to competing values but also entrenched interests. Very often, when we try to solve a tragedy of the commons, we not only address a problem but make a commitment to value a commons in a certain way: forests are for logging; sidewalks are available for vendors to use; wetlands are for wildlife. Whenever we commit to manage a commons for the benefit of a particular set of users, we often lock out potential rivals and make change more difficult. In this way, the stability that Ostrom's long-enduring institutions celebrate for rival users seems more like rigidity and barriers to change.

An example that highlights these concerns is the important role and evolution of voluntary associations of irrigators in the arid West.⁸³ Originally these irrigation systems were designed to promote cooperation among many water users; water districts brought people together and created rules to govern users long before legislatures and courts even considered asserting government power in this area.⁸⁴ In the 1800s, these water districts changed much of the West

82. *Id.*

83. Stephen N. Bretsen & Peter J. Hill, *Irrigation Institutions in the American West*, 25 UCLA J. ENVTL. L. & POL'Y 283, 295–300 (2007) (discussing the history of local irrigation associations in the western United States); Chris Bromley, *A Political and Legal Analysis of the Rise and Fall of Western Dams and Reclamation Projects*, 5 U. DENV. WATER L. REV. 204, 206–16 (2001) (discussing the doctrine of prior appropriation and the monopolization of water rights in the West).

84. Bretsen & Hill, *supra* note 83.

from uninhabitable deserts to locations where settlers could develop towns and cities.

While irrigation companies depend on and continue to promote cooperation among water users, they also have become a vehicle to channel lobbying efforts designed to protect their water use rights and otherwise maintain the status quo.⁸⁵ From the perspective of incumbent water users, the need for a unified front has grown. Today, the West is increasingly concerned with providing water to burgeoning cities and more interested in using water to satisfy environmental, esthetic, and recreational values. What we find is that the methods that allowed for governance over a commons resource in one era now serve to complicate governing the commons today. In the commons, the seeds of conflict are often sown in the accomplishments of the past.

CONCLUSION

While the stories we tell and retell about the commons have elements of tragedy and of comedy, it turns out that these stories have elements that tie them together and that often we find elements of tragedy and comedy coexisting. On one hand, we find that commons resources are plagued with challenges, most of which can be traced back to the internal characteristics of the commons—the nature of the resource, the traits of its users, the way the commons is governed, and the value placed on the commons resource. At the same time, we find that through governance there is at least hope that we can overcome these internal challenges and this inertia. Even though the storyline is very difficult to alter, it is ours to write.

85. See generally Janis M. Carey & David L. Sunding, *Emerging Markets in Water: A Comparative Institutional Analysis of the Central Valley and Colorado-Big Thompson Projects*, 41 NAT. RESOURCES J. 283, 303–14 (2001).