

Environmental Justice and the Tragedy of the Commons

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In The Tragedy of the Commons, Garrett Hardin argues that those who can use a resource for free consume more of it than they would if they had to pay for it. Public resources eventually collapse because people overuse them. Hardin's widely accepted argument seems correct as far as it goes, but he focuses on small-scale resource failures such as overgrazing, which affect people within a narrow geographic range and become evident soon after the resource is consumed. Modern environmental problems, and particularly global climate change, are more complex because they are more universal and there may be a considerable time lag between the exploitation of a cost-free resource and the consequences that result. Thus, the tragedy of the commons is a temporal phenomenon and not just a physical one.

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INTRODUCTION

Garrett Hardin's article, *The Tragedy of the Commons*,¹ has had a remarkable influence on the legal academy, particularly environmental law and property law scholars. His basic argument is that those who make use of a cost-free common resource will use more than they otherwise would, because they

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1. Garrett Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243 (1968), available at <https://www.jstor.org/stable/1724745> [<https://perma.cc/CWT7-VC68>] [hereinafter, Hardin, *Tragedy*].

reap all the benefit of their use while paying only a small part of the cost.² This leads to overuse of public resources.³ Speaking of cattle grazing on a village common, Hardin argues that

[e]ach man is locked into a system that compels him to increase his herd without limit – in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.⁴

Hardin’s article has been widely cited in the legal literature. A Westlaw search for the title and author’s name discloses 2,026 citations just in the secondary sources database. Even more remarkably, the same search *omitting* the author’s name reveals 4,186 citations, meaning that more than half the people to use the phrase “tragedy of the commons” in a legal academic article did not even cite to the author. This demonstrates how the phrase has evolved from the title of a specific article into a concept that is widely used as a part of ongoing legal discourse. It is entirely possible that some of the authors who used the term did not know its source, or even Professor Hardin’s name. This impact is all the more astonishing when one considers that Hardin was not a law professor, his article was published more than fifty years ago, it appeared in the journal *SCIENCE*, and it is only five and one-half pages long.

The author’s argument has not been free of controversy. Some scholars have contested Hardin’s proposition on the merits.⁵ Others argue that some people, including Hardin himself, have built on this work and used it in support

2. *Id.* at 1244.

3. *Id.*

4. *Id.* (also noting that this argument contradicts Adam Smith’s view that there is a “tendency to assume that decisions reached individually will, in fact, be the best decisions for an entire society”).

5. See, e.g., Elinor Ostrom, *Beyond Markets and States: Polycentric Governance of Complex Economic Systems*, NOBEL PRIZE LECTURE, Dec. 8, 2009, <https://www.nobelprize.org/prizes/economic-sciences/2009/ostrom/lecture/> [https://perma.cc/63V6-NXKG], at 416 (“The classic assumptions about rational individuals facing a dichotomy of organizational forms and of goods hide the potentially productive efforts of individuals and groups to organize and solve social dilemmas such as the overharvesting of common-pool resources and the underprovision of local public goods.”).

of eugenics,⁶ anti-immigration policies,⁷ and even white nationalism.⁸ While I certainly do not support any of those extensions of Hardin's thesis, my goal in this short piece is not to enter that particular fray. Whatever the personal leanings of Professor Hardin or his acolytes, his article's basic thesis has had considerable influence on the academic literature, and many of those who cite his publication are probably unaware of these controversies.

My purpose here is to argue that Hardin's thesis understates the scope of the tragedy by focusing primarily on users whose negative effects on the commons have a small and immediate impact. With the growing recognition of ongoing climate change and other slower-acting global tragedies, it seems that Hardin actually understated the problem by de-emphasizing the negative effects of resource overconsumption that are not visible right away. The commons can be harmed today, as Hardin notes, or harmed further down the road, as he mostly fails to consider. Thus, the tragedy is not solely one of the commons. It is also a tragedy of the temporal commons.

I.

THE TEMPORAL DIMENSION OF THE COMMONS

It is not completely accurate to state that Hardin overlooks this problem. Early in the short article, he notes that some issues we must confront today were not of concern in earlier times because population growth and technological development have intensified their negative effects.⁹ And Hardin does employ

6. See, e.g., Richard Lynn, *Garrett Hardin, Ph. D. – A Retrospective of his Life and Work*, THE GARRETT HARDIN SOCIETY, Dec. 11, 2003, https://www.garretthardinsociety.org/tributes/tr_lynn_2001.html [<https://perma.cc/GQ7Z-876W>] (“Although Hardin’s principal concern has been the growth of population numbers, he has also voiced concern about population quality and it is here that his writings have a eugenic dimension.”).

7. See, e.g., Garrett Hardin, *Living on a Lifeboat*, THE GARRETT HARDIN SOCIETY, 1974, updated Jun. 9, 2003, https://www.garretthardinsociety.org/articles/art_living_on_a_lifeboat.html [<https://perma.cc/55MQ-5FGL>]:

How curious it is that we so seldom discuss immigration these days!

Curious, but understandable – as one finds out the moment he publicly questions the wisdom of the status quo in immigration. He who does so is promptly charged with *isolationism*, *bigotry*, *prejudice*, *ethnocentrism*, *chauvinism*, and *selfishness*. These are hard accusations to bear. It is pleasanter to talk about other matters, leaving immigration policy to wallow in the cross-currents of special interests that take no account of the good of the whole – *or of the interests of posterity*.

8. SPLC: Southern Poverty Law Center, Garrett Hardin, <https://www.splcenter.org/fighting-hate/extremist-files/individual/garrett-hardin> [<https://perma.cc/YUZ7-YWV7>] (listing “Extremist Info” for Hardin and noting his “nativist attitudes toward race and immigration,” his “articles in far-right publications . . . [known for] . . . racism and anti-Semitism,” his efforts “to promote policies that can be fairly described as fascist,” and the fact that “on white supremacist websites, . . . he is celebrated as a hero”).

9. Hardin, *Tragedy*, *supra* note 1, at 1245 (noting that “[t]he pollution problem is a consequence of population” and that natural “chemical and biological recycling processes [have become] overloaded”).

as general examples the problems of pollution, overfishing, and overuse of the National Parks, all of which develop cumulatively over time.¹⁰

However, his primary illustration and concern is that of neighbors sharing pastureland. Each cattle owner asks, ““What is the utility *to me* of adding one more animal to my herd?””¹¹ That herdsman considers the immediate gain and its cost. The gain is one animal, and since the owner receives the full benefit of that animal, “the positive utility is nearly +1.”¹² The cost of potential overgrazing, however, is borne by the community at large, so “the negative utility for any particular decision-making herdsman is only a fraction of -1.”¹³ Thus the rational herdsman, and all the others who share this commons, will keep adding animals to their respective herds until the public resource breaks down.¹⁴ Both the community costs and the individualized benefits of each decision emerge immediately, or very soon, and the commons is destroyed.

Many common resources, though, are longer-lived than a field of grass that is struggling to support one cow too many. Gradual overuse of fragile water supplies, for example, may lead to progressive environmental degradation and harm to endangered species, and eventually to destruction of an essential resource. This is especially true when many users are consuming tiny amounts and are dispersed over thousands of square miles, as in *Koontz v. St. Johns River Water Management District*.¹⁵ While this may just be a variation of Hardin’s overgrazing illustration, the users are so many, the area in question so vast, and the lag time between overuse and negative outcome so lengthy, that users may not appreciate the connection between cause and effect, or they simply may not care.¹⁶ Moreover, it is nearly impossible to quantify the magnitude and the likelihood of any harm that might result.

Hardin’s cattle grazers will suffer consequences soon enough to feel them. The Florida property developer in *Koontz* may not feel those consequences quickly enough to note the connection between his new building and the water degradation that eventually results; in fact, only his grandchildren may bear the burden. This is not just a physical moral hazard, such as the one Hardin illustrates, but also a temporal one. Hardin’s overgrazers soon will be unable to raise any cattle themselves, so they will pay the costs of their own poor resource

10. *Id.*

11. *Id.* at 1244.

12. *Id.*

13. *Id.*

14. *Id.*

15. 570 U.S. 595, 601 (2013) (interpreting a Florida law requiring “that permit applicants wishing to build on wetlands offset the resulting environmental damage by creating, enhancing, or preserving wetlands elsewhere”).

16. For a valuable discussion of how the size of the commons may affect the behavior of the participants, see Carol M. Rose, *Commons and Cognition*, 19 THEORETICAL INQUIRIES IN LAW 587, 590–91 (2018) (“in commons or collective action situations, the participants’ major cognitive stances are distrust, ignorance and indifference, but . . . the significance of those stances varies with the scale of the commons or collective action issue at stake.”).

management. Florida's overdevelopers will bequeath those debts to future generations. Moreover, the problems caused by modern resource exploitation may be discontinuous, meaning that individual overuse causes little negative impact until cumulative overuse reaches a catastrophic breakpoint.¹⁷ If this is so, then while Hardin's overgrazers pay an immediate cost of "only a fraction of - 1," Florida's overdevelopers may believe they are paying nothing at all, and they may be right in the near term. Their cost-benefit analysis shows them only benefits.

This seems to be the implicit theory behind *Juliana v. United States*,¹⁸ in which twenty-one individual plaintiffs, all ages 8-19 at the beginning of the litigation in 2015, along with two organizations, sued the United States, arguing that they are entitled to constitutional protection against ongoing climate change.¹⁹ While the plaintiffs' First Amended Complaint for Declaratory and Injunctive Relief is lengthy and complex, the thrust of their argument is, "The affirmative aggregate acts of Defendants unconstitutionally favor the present, temporary economic benefits of certain citizens, especially corporations, over Plaintiffs' rights to life, liberty, and property."²⁰ The Ninth Circuit dismissed the case for lack of standing, concluding that there is no judicial remedy for the plaintiffs' claims.²¹

The essence of the *Juliana* plaintiffs' argument is that some victims of resource overuse cannot defend themselves because the harm occurs today while the costs are deferred until later generations. The environment is a temporal commons, and past and current degradation of resources unfairly burdens future citizens.²² One can easily come up with similar examples, such as the storage of

17. See, e.g., United Nations Environment Programme, *Global Environmental Outlook 5: Environment for the Future We Want* (2012), https://wedocs.unep.org/bitstream/handle/20.500.11822/8021/GEO5_report_full_en.pdf?sequence=5&isAllowed=y [<https://perma.cc/Y5PS-F4SW>], at 158 ("Possible thresholds, amplifying feedbacks and time-lag effects leading to tipping points appear to be widespread and make the impacts of global change on biodiversity hard to predict, difficult to control once they begin, and slow and expensive to reverse once they have occurred.").

18. 947 F.3d 1159 (9th Cir. 2020).

19. The litigation history of this unusual case is fairly tortured. See generally Our Children's Trust, *Juliana v. United States*, Youth Climate Lawsuit, <https://www.ourchildrenstrust.org/juliana-v-us> [<https://perma.cc/JRA2-H8CB>] (describing, from plaintiffs' perspective, the history of the case and providing links to opinions, motions, and certain litigation documents). See also John Schwartz, *Judges Give Both Sides a Grilling in Youth Climate Case Against the Government*, N.Y. TIMES, June 4, 2019, <https://www.nytimes.com/2019/06/04/climate/climate-lawsuit-juliana.html> [<https://perma.cc/CA2J-6CHW>] (describing oral arguments in the Ninth Circuit).

20. *Juliana v. United States*, First Amended Complaint for Declaratory and Injunctive Relief (D. Ore. 2015), <https://static1.squarespace.com/static/571d109b04426270152febe0/t/57a35ac5ebbd1ac03847eece/1470323398409/YouthAmendedComplaintAgainstUS.pdf> [<https://perma.cc/R4Z8-MSV9>], at 91.

21. 947 F.3d 1159, 1175 (9th Cir. 2020) ("That the other branches may have abdicated their responsibility to remediate the problem does not confer on Article III courts, no matter how well-intentioned, the ability to step into their shoes.").

22. See Carolyn Kormann, *The Right to a Stable Climate is the Constitutional Question of the Twenty-First Century*, NEW YORKER, Jun. 15, 2019, <https://www.newyorker.com/news/daily->

nuclear waste and the regulation of the financial services industry. Property interests, after all, inherently display a temporal aspect, given the longevity of the asset. The *Juliana* plaintiffs, most of whom were minors at the time the suit began, asked the courts to prevent an ongoing tragedy of a long-term temporal commons. *Juliana* is a particularly vivid illustration of a type of tragedy that Hardin barely mentioned.²³

II.

POSSIBLE SOLUTIONS

Hardin suggests several solutions to the tragedy of the commons, while noting the limitations of each. A community might sell its commons and convert the land to private property, which would cause every owner or tenant to internalize all its own costs.²⁴ Or it might keep the resources public but ration them by price (through an auction), by merit (however defined), by lottery, or by queue.²⁵ And as Hardin acknowledges in a brief reference, these inadequate alternatives are particularly unhelpful in the case of cumulative tragedies such as pollution. Herds of cattle jointly consume a public benefit. By contrast, polluters jointly contribute to a public evil, and some of his proposed solutions would be difficult to implement and enforce in this inverse setting.²⁶ That leaves only two options, coercion and taxes, and as the ensuing five decades have illustrated vividly, both alternatives are politically fraught.²⁷

Thus, Hardin accurately describes a problem but comes up with solutions that are imperfect and that can succeed only in piecemeal fashion. And those solutions are particularly ill-suited to multi-generational problems such as climate change and the other temporal commons illustrations discussed here.

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23. A similar case is proceeding in Australia. Lisa Cox, *Whitehaven Coal's Vickery Mine Given Green Light by Environment Minister*, THE GUARDIAN, Sept. 15, 2021, <https://www.theguardian.com/australia-news/2021/sep/16/whitehaven-coals-vickery-mine-extension-given-green-light-by-environment-minister> [https://perma.cc/9UV6-SHW2] (“The approval . . . follows a federal court ruling that [Australia’s environment minister] has a duty of care to protect young people from the climate crisis.”).

24. Hardin, *Tragedy*, *supra* note 1 at 1245.

25. *Id.*

26. *Id.* (referring to pollution as “fouling our own nest”).

27. This is not to suggest that pollution control laws have been ineffective during the fifty years since Hardin published his article. But however much better off our environment may be than it would have been without these laws, there is no doubt that climate change remains a contested political issue even today. See, e.g., Oliver Milman, *‘It’s a Ghost Page’: EPA Site’s Climate Change Section May Be Gone for Good*, THE GUARDIAN, Nov. 1, 2018, <https://www.theguardian.com/us-news/2018/nov/01/epa-website-climate-change-trump-administration> [https://perma.cc/F8ZN-DU4G] (“More than a year after the US Environmental Protection Agency took down information on climate change from its website for an ‘update’, it now seems uncertain whether it will ever reappear.”).

After describing these solutions' weaknesses, all Hardin can recommend is "temperance," by which he means administrative responses that are sensitive to context and (he hopes) somewhat immune from corruption.²⁸ Thus taxes and charges for the private use of a public resource, such as fees and fines for public parking, may be the best that our legal system can come up with. "We institute and (grumblingly) support taxes and other coercive devices to escape the horror of the commons."²⁹

CONCLUSION

However controversial it may be, Garrett Hardin's argument from 1968 continues to resonate today. It has influenced the law so significantly that many people use the term "tragedy of the commons" the way they might use the word "superego," without focusing on the fact that an individual actually thought up the idea and is entitled to at least a footnote. Hardin described what economic authors refer to as an externality, namely a cost that is borne by someone other than the party who benefits from using a resource.³⁰

Hardin, though, focused his argument on costs and benefits that were relatively modest in magnitude and that were visible immediately or nearly so. And while there are numerous illustrations that demonstrate the validity of his argument, he made his case too narrowly. A more pernicious externality is one that is larger and that does not manifest itself for an extended period of time. The user of a resource enjoys a current benefit, while the party who suffers the corresponding loss does not do so today, may not realize that they will suffer tomorrow, and may not even be born yet. The cost is deferred and shifted, to be shouldered by later generations that are currently defenseless.

Most scholars in 1968 were not thinking of massive global transformations such as climate change, in which the costs of many actions are individually small but cumulatively huge and may be postponed far into the future. Once we recognize that negative effects are often deferred for many years, it is essential to note that the tragedy of the commons may be extended over time and that Hardin's commons is a temporal location and not just a physical one. Perhaps we should take a lesson on internalizing externalities from the Oneida Nation, in which "[t]radition . . . requires Nation leaders and Members to consider the impact on the next seven generations when making decisions."³¹

28. Hardin, *Tragedy*, *supra* note 1, at 1245-46.

29. *Id.* at 1247.

30. *See, e.g.*, RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 90 (8th ed. 2011). Posner illustrates the concept of externalities by observing:

The damage to the farmer's crops caused by engine sparks is a cost of railroading that the railroad, unless forced by law to do so or unless it is the owner of the farmland, will not take into account in making its decisions; the cost is external to its decisionmaking process.

31. Oneida: The Clans of the Oneida Nation, <http://www.oneidaindiannation.com/about/oin-leadership/> [<https://perma.cc/Y55J-AQQS>].