

Romans, Roads, And Romantic Creators: Traditions of Public Property in The Information Age

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I. Introduction.

Several years ago, I read a paper by the anthropologist Paul Greenough about the relations between people and wildlife of the forest in southern Asia. Greenough observed that whenever he heard romantic descriptions of local peoples as the “keepers of the forest,” he always asked where the wild animals had gone in these stories. By and large, the modern answer is that they are gone, in southern Asia as in England or Italy.¹ Wildlife may seem thrilling and attractive to those who do not have to contend with it, but in nineteenth century colonial Indian subcontinent, the animals of the forest were in constant battle with the villagers. The villagers thrived when the tigers and elephants were at bay, and they were horrified and demoralized when these creatures flourished, trampling crops and devouring the women who carried water home from the well. Indeed, when the wildlife gained sufficient ground, the villagers sometimes abandoned their homes to be reclaimed by the trees and vines and their animal inhabitants.²

I have the very strong impression that people who hold intellectual property rights have much the same attitude about the public domain that South Asian villagers once had about the jungle: like the jungle and its beasts, the public domain threatens to overrun them at every turn. Try as they might to cultivate their little ownings, their patents and copyrights expire, their secrets get found out, their trademarks come into general usage, and all these erstwhile possessions return the wild of the public domain, where the savage creatures indiscriminately gobble up everything. Incidentally, people who have carved out niches in the public lands of the United States seem to have much the same attitude about the more tangible version of the public domain: they are always at risk of being gobbled up by its environmental laws, its threats of increased grazing fees, its newly-declared National Monuments and Roadless Areas.³

But both in such tangible spaces and in the “spaces” of intellectual endeavor, it is intriguing that the raging wildness of the public domain has so many champions, clearly including many scholars present at this Symposium. Is this simply a matter

¹Paul Greenough, *Naturae Ferae: Historical Notes on the Management of Wild Animals in Colonial and Post-colonial South Asia* 1-11 (unpublished paper on file with author, 1991).

² Id at 12-20.

³ For a tempered but sympathetic view of related grievances, see A. Dan Tarlock, *Can Cowboys Become Indians? Protecting Western Communities as Endangered Cultural Remnants*, 31 *Ariz. St. L. J.* 539 (1999).

of ignoring the cultivated spaces of the villagers and leaving them to their fate? Or is there something positive to be said for these wild spaces in their own right?

No doubt one ground for a favorable view of the public domain in what I will call Intellectual Space is simply the point the positive arguments for exclusive property rights are so much thinner here than they are in what I will call Tangible Space. It is widely thought that tangible matters entail two forceful Utilitarian arguments in support of exclusive property. The first is that exclusive property rights prevent wasteful overuse of resources and stave off the familiar Tragedy of the Commons that can follow open access. The second is that exclusive property encourages optimal investment in resource development, since the gains and losses from that investment come back to the owner. But in Intellectual Space, the first of these familiar arguments falls away, since there is no physical resource to be ruined by overuse: books and tapes and words may be copied, inventions may be imitated, pictures may be reproduced, all without the slightest damage to the original. Hence the Utilitarian case for exclusive rights in Intellectual Space rests entirely on the second argument, that the grant of exclusive property encourages appropriate investment in creativity. To be sure, there are non-Utilitarian arguments for intellectual property rights too, particularly claims based on labor or personality, but these are shared to a large degree with property in tangible resources. The long and short of it, then, is that exclusive property rights come up long in Tangible Space but rather shorter in Intellectual Space. This means that although there is still a case for property in the intellectual realm, the commons or the public domain is relatively more thinkable.

In this paper, I am going to leverage this point of the comparative advantage of publicness in Intellectual Space. To do so, I will turn to the other side, to Tangible Space, to ask whether there is a case to be made even here for the public domain. One would think that if the public domain is at all attractive in Tangible Space, where there is such a strong argument to the contrary based on the potential wastage of resources, then the arguments for the public domain should be even more compelling in Intellectual Space, where the counterarguments for exclusivity are, roughly speaking, cut down by half.

By the end, I will conclude that to some degree this surmise is true, but that the examination of “publicness” in Tangible Space reveals a very considerable number of different considerations and limitations, some of which carry over into Intellectual Space. I am going to work through those considerations by reflecting on a very old body of thought, namely the Roman law’s categories of nonexclusive property.⁴ Anything that I say here should be taken, as the Romans said, cum grano

⁴ Some others have also turned to the Roman law in analyzing aspects of intellectual property, though in a somewhat different way. See, e.g., Russ VerSteege,

salis, because I am at best a novice both in Roman law and in matters of intellectual property. All the same, I will suggest that the Roman law's reasons for the "publicness" of some tangible property might carry some weight in the intellectual realm as well—but so do some of the Roman law's limitations and qualifications on the "publicness" of property.

II. Roman Law and Public Property

Unfortunately for the public domain, much of the interest in nonexclusive property began to melt away from Western legal thinking by the seventeenth century, a phenomenon that the legal historian Daniel Coquillette has ascribed to the growing visibility of the enclosure movement.⁵ As Coquillette points out, Grotius cast doubt on whether some older Roman law categories of nonexclusive property could really be called property at all, and two centuries later, the American James Kent could observe that what was called "common property" was rapidly vanishing from American law.⁶

These developments displaced an earlier tradition of legal thought about nonexclusive property in the Roman law, as it was compiled and interpreted through the centuries. To be sure, the surviving sources of the Roman law did not develop the various types of nonexclusive property at any great length.⁷ Moreover, the distinctions in the classical texts themselves seem "rather fluid," as one Roman law scholar delicately put it.⁸ Nevertheless the range of the accepted Roman law categories of nonexclusive property do at least give us a glimpse of a variety of concerns—concerns that are so often blithely lumped together as "the commons" in our own legal and economic thinking.

Because these categories seem "fluid" even to scholars who know much more than I do about these historical matters, I will give a somewhat stylized version of the Roman law classes of nonexclusive property, along with the reasons why that body

The Roman Law Roots of Copyright, 59 Md. L. Rev. 522 (2000) (finding Roman law doctrines implicit in private property of copyright).

⁵Daniel R. Coquillette, Mosses from an Old Manse: Another Look at some Historic Property Cases About the Environment, 64 Corn. L. Rev. 761, 807-809 (1979).

⁶Id. at 807 (citing Grotius); 807 note 223 (citing Kent)

⁷Id. [Coquillette] at 801-803;

⁸W.W. Buckland, A Text-Book of Roman Law from Augustus to Justinian 184 (3d ed, rev'd by Peter Stein, 1963); cf R. W. Lee, The Elements of Roman Law 109 (4th ed. 1956) (remarking of the classical distinctions, "All this is very confused.")

of law treated different classes of property as open to the public. Although the Roman law itself appears to have been quite relentlessly concerned with tangible property and not at all with intellectual property,⁹ I will try to tease out applications and analogies to arguments for the public domain in the intellectual realm.

What follows, then, is a rough typology of nonexclusive property under the Roman law—its applications and limitations in the realm of tangible things, and the analogies and contrasts that might be drawn in the realm of intellectual achievements.

1. First, *res nullius*, things belonging to no one.

Aside from religious objects (of which more later), *res nullius* consists of things that are not by their nature nonexclusive; they have simply not yet been appropriated by anyone.¹⁰ Fish and game animals are frequent examples in the literature, as is abandoned property and, interestingly if horribly, enemy property. With all these resources, the reduction of the “thing” to exclusive property is simply a matter of human desire, time and effort—and nonexclusive property is simply a result of the lack of those qualities with respect to the thing in question.¹¹ In the United States, a much larger example lies in the public lands of the West as they existed up until the closing of the range in 1934.¹² Although these lands officially belonged to the United States, until that time they were effectively open for the taking (aside from often-ignored Indian claims); and by 1934, the areas that people considered the most valuable for mines, agriculture, forestry, water development and other uses had already been appropriated, leaving behind (to what became the vastly overextended Bureau of Land Management) those lands that the settlers considered worthless, or at least more trouble than they were worth—*res nullius*, it seemed, and likely to stay that way.¹³ By the present, of course, attitudes about BLM lands have changed dramatically, and people now want to use these often strikingly austere and beautiful lands for everything from grazing to mining to dune-buggy-ing to white-water rafting. Controversies rage over whether parts or all of these land should be appropriable, and for what. And indeed they would be appropriable for almost anything, if we still considered them *res nullius*, and if we still ignored the prior claims of Native Americans.

⁹VerSteeg, *supra* note —, at 523-24.

¹⁰Buckland, *supra* note --- at 184; William A. Hunter, Introduction to Roman Law 59-60 (9th ed, revised by F. H. Lawson, 1934).

¹¹ Hunter, *supra* note — at 60.

¹² George Cameron Coggins, Charles F. Wilkinson, and John D. Leshy, Federal Public Land and Resources Law 133-34 (4th ed. 2001)

¹³ *Id.* at 133-34, 139, 142-43.

What about ideas and expressions and inventions in their undiscovered or un-created state? Insofar as they are open to the public, might they be res nullius? Given the difficulty of ever “appropriating” intellectual matters in any exclusive sense in the natural world, it is difficult to class them with the appropriable-but-not-yet-unappropriated things of res nullius. Hence one might more easily see these intellectual matters as falling within the next Roman law category, to wit:

2. Second, res communes: things open to all by their nature.

Res communes encapsulates what might be called the Impossibility Argument against private property: the character of some resources makes them incapable of “capture” or any other act of exclusive appropriation.

Before coming to intellectual matters, let us first consider res communes in tangible things, as the Roman lawyers did: the usual Roman law examples of res communes resources were the oceans and the air mantle, since they were impossible for anyone to own.¹⁴ Though the Roman lawyers did not say much about them, modern environmentalists might add the stocks of wild animals and fish—that is, stocks as opposed to individual wild specimens, which of course can be captured. Some wild stocks are indeed small and localized enough to be susceptible to common ownership by fishing communities, as in the well-know lobster fishing grounds around Monhegan Island.¹⁵ But taken as wholes, many wildlife and fishing stocks are like the air or the oceans, in that they seem too large and diffuse for exclusive possession—whale stocks span the oceans, butterflies and hummingbirds cross continents. Like the air and the open waters, however, such large and dispersed stocks are ultimately finite, and their seeming limitlessness only makes them more vulnerable to overhunting, overfishing, or pollution.¹⁶

The English common law, while much influenced by Roman law, may have been more sensitive to the potential congestibility and exhaustibility of running water and fish stocks and air; hence the English did claim a kind of ownership or at least general supervision of such things. To use Blackstone’s language, in order to avoid the “disturbances and quarrels [that] would frequently arise” about such matters, the common law “wisely cut up the root of dissension, by vesting the things themselves

¹⁴ Buckland, *supra* note —, at 182-83; Lawson, *supra* note —, at 65.

¹⁵ See generally James M. Acheson, *The Lobster Gangs of Maine* (1988) (describing island grounds and their governance).

¹⁶ H. Scott Gordon, *The Economic Theory of a Common-Property Resource: The Fishery*, 62 *J. Pol. Econ.* 124 (1954). See also James R. McGoodwin, *Crisis in the World’s Fisheries* 61-64 (1990) (describing heavy decimation of open access fish stocks in modern era).

in the sovereign of the state.”¹⁷ In the twentieth century, some nation-states have followed suit, claiming the resources of the ocean waters at least out to a 200 mile limit.

In the last decade, we have seen a much more dramatic turn in the “propertization” of what might seem to be “un-ownable” diffuse resources or res communes. Since 1990, the United States has treated the air itself as the property, capping the air’s use for certain types of pollution and then granting individually-held Tradeable Environmental Allowances (TEAs) for limited pollution rights. Other countries, notably Australia and New Zealand, have adopted similar programs for limited but tradeable individual rights in portions of certain fish stocks.¹⁸ As with intellectual property rights, the major impact of TEAs appears to be to encourage appropriate levels and directions of investment. When polluters have to buy TEAs, they may think about investing in prevention instead, and fishers who have to buy fishing allotments may think about using their boats for something other than fishing.¹⁹

At the moment, TEAs are in force only in very limited spheres, despite the enormous theoretical interest in them. Putting to one side the political problems, it is still simply too expensive and complicated to work out tradeable rights in most complex ecosystem resources.²⁰ But this does not prevent calls for more. Tradeable rights have been discussed for new types of fisheries, wildlife habitat, and air pollutants (notably greenhouse gases), despite what seem to be thorny questions of fungibility in the benefits that these ecosystem resources provide.

¹⁷ 2 William Blackstone, *Commentaries on the Laws of England* 15 (1779 [1765-69]). Blackstone mentioned here *inter alia* “waste” lands and game animals.

¹⁸ See Carol M. Rose, *Expanding the Choices for the Global Commons: Comparing Newfangled Tradable Allowance Schemes to Old-Fashioned Common Property Regimes*, 10 *Duke Env’tl. L. & Pol’y Forum* 45 (1999) (comparing TEAs to community based property).

¹⁹ *Id.* at 60. Interestingly enough, avoidance of overuse is not so much a part of individually-held TEA, since the holders of TEAs still have incentives to cheat and overuse their individual allotments. The policing of overuse instead generally falls to the governments that enforce and monitor the overall system of rights.

²⁰ Thomas W. Merrill, *Explaining Market Mechanisms*, 2000 *U. Ill. L. Rev.* 275, 285, 296-98 (describing small number of market-based environmental programs, attributing this to combination of cost and political obstacles); James Salzman & J. B. Ruhl, *Currencies and the Commodification of Environmental Law*, 53 *Stan. L. Rev.* 607, 622-27 (2000) (describing difficulties of “nonfungibilities” in ecosystem trades).

These developments suggest that while the “impossibility argument” for res communes still has some force in Tangible Space, innovations in the law are chipping away it. Governmental advances in measurement, record-keeping, and legal enforcement have allowed things once thought incapable of ownership have become ownable after all.

Now, what about Intellectual Space? Even more than air or water or fisheries, intellectual achievements seem closely aligned to the Roman law idea of res communes as things incapable of ownership. Some inventions, of course, may be “owned” through secrecy, but secrecy is often difficult, and secrecy would defeat most artistic expression altogether.²¹ And here too, advances in legal thought and governmental administration undermine the “impossibility argument” that underlies res communes. Preliminarily, one might even say that the function of intellectual property is to turn res communes, things by their nature incapable of ownership, into res nullius, things not yet owned but capable of appropriation.

Indeed, legal regimes go further than this: appropriation via intellectual property presumably adds to social well-being by creating appropriate incentives to invest in creative ideas, but in a development worrisome to many, private parties now use law go beyond the more constrained private rights of intellectual property. Instead, some have deployed contract law to erect more far-reaching property-like barriers on intellectual products, as in the shrink-wrap contracts of software packaging.²²

What about cyberspace? Could the ease of copying on this medium set up a last holdout for res communes? Some scholars argue that it could, because the cyberspace is supposedly too vast and diffuse for its information flows to be susceptible even to government management, much less private ownership.²³ Yet here too, res communes may be somewhat open to doubt: other scholars argue that growing legal and governmental capacities will permit something like ownership in

²¹ Some religious ceremonies and ceremonial art, however, might be undermined by publicity; see Christine Haight Farley, *Protecting Folklore of Indigenous Peoples: Is Intellectual Property the Answer?* 30 *Conn. L. Rev.* 1, 14-15 (1997) (arguing that some indigenous peoples resist publicity for religious art).

²²Mark Lemley, *Beyond Preemption: The Law and Policy of Intellectual Property Licensing* 87 *Calif. L. Rev.* 111 (1999) (attacking current contract law as bypassing public rights that are embedded in intellectual property law).

²³David R. Johnson & David Post, *Law and Borders—The Rise of Law in Cyberspace*, 48 *Stan. L. Rev.* 1367, 1370-78 (1996) (arguing that governments cannot control cyberspace).

many areas.²⁴ Indeed, when some members of the the Clinton administration proposed a number of extensions of intellectual property into cyberspace, the ensuing heated exchange suggested that, whatever the wisdom of the policy of propertization, it is at least possible that patent and copyright law can spread property well into the digital world.²⁵ Subsequent legislation has only made that fact more obvious.²⁶

It should not be any surprise, then, that the arguments for the public domain in Intellectual Space necessarily go beyond the simply naturalistic and become normative as well; the impossibility argument behind res communes cannot be the only support for publicness. Are there analogies to such normative arguments in Tangible Space? Yes, there are, and once again they are reflected in another Roman law category of nonexclusive property:

3. Third, Res publicae: things belonging to the public and open to the public by operation of law.

Here the classic examples for Roman law were roads, harbors, ports, bridges, rivers that flowed year-round, and lands immediately adjacent thereto.²⁷ Apparently this res publicae category was frequently mixed up with res communes,²⁸ just as I believe in more modern times we tend to mix up normative arguments for “publicness” with naturalistic arguments about the impossibility of ownership of certain resources. What is the normative case for holding such properties open to the public? As Richard Epstein has pointed out, the case for holding property open to the public is stronger where there is little danger of overuse and where little investment is required, as in ocean lanes;²⁹ and some examples of res publicae seem to fall into this category, as in the case of some waterways and their shorelines. Nevertheless, other examples of the res publicae clearly are subject to congestion and

²⁴Lawrence Lessig, *The Zones of Cyberspace*, 48 *Stan. L. Rev.* 1403, 1408-09 (1996) (disputing argument that cyberspace cannot be controlled).

²⁵See, e.g. Pamela Samuelson, *The Copyright Grab*, *Wired Magazine*, Jan. 1996, at 134 (opposing copyright extensions in digital communications).

²⁶See Maureen Ryan, *Cyberspace as Public Space: A Public Trust Paradigm for Copyright in a Digital World*, 79 *Or. L.Rev.* 647, 670-74 (2001) (describing recent intellectual property legislation).

²⁷Buckland, *supra* note — at 183; Lawson, *supra* note — at 65-66; Andrew Borkowski, *Textbook on Roman Law* 143 (1994).

²⁸See Borkowski, *supra* note —, at 144 (describing seashores).

²⁹Richard A. Epstein, *On the Optimal Mix of Private and Common Property*, in *Property Rights* 17, 27-28 (Ellen Frankel Paul, Fred D. Miller, Jr. & Jeffrey Paul, eds, 1994).

overuse and clearly do require investment, as in the case of roads, harbors and bridges.

Low levels of congestibility and modest need for investment, then, cannot be the only explanation for res publicae. Moreover, this normative category of inherently public property was not just a quirk of Roman law, but a concept with continuing vitality in Western law. If anything it became most firmly fixed of all in our own United States, this most commercial of all republics, where one would suppose that the arguments for publicness would be most steadfastly rejected. Nevertheless, the normative claims of publicness run like a red thread (yes, that kind of red) through our law, most strikingly in the continuing idea of a “public trust” in resources very closely resembling the major examples of res publicae in Roman law.³⁰ Those resources are overwhelmingly the physical spaces required for mobility: lanes for travel, transportation, navigation, and communication between distant locations.³¹ For the Romans, such spaces were initially developed into res publicae primarily for military reasons,³² but for the Americans, they came to serve as the backbone of commerce itself.

What are the characteristics that call for publicly-protected open access to such spaces? There were several, and at least in the American law of “inherently public” property, they have had to exist in combination. The first characteristic is what the economists would call transactions costs: travel lanes like roads and waterways are typically long and thin,³³ and hence they are vulnerable to many possibilities for obstruction and bottlenecks, where any one of multiple miscreants or opportunistic adjacent owners can effectively take control of the whole length of the road. If the public is to use such ways, they may well require the protection of

³⁰The locus classicus for the public trust concept is Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 Mich. L. Rev. 471 (1970) (describing public trust doctrine in US law); see also Cocquillet, *supra* note —, at 809-820 (same).

³¹Rose, *Comedy of the Commons*, *supra* note ----, at 774; see also Carol M. Rose, *Joseph Sax and the Idea of the Public Trust*, 25 *Ecol. L. Q.* 351, 359-60 (1998) (describing centrality of commerce in public trust idea).

³²See T. W. Potter, *Roman Italy* 130 (1987) (describing Roman road system as having primarily military significance, though noting also commercial uses, as in the *Via Salaria*, an important route in the salt trade).

³³See, e.g. *Lakeside Park Co. v. Porsmark*, 153 A.2d 486, 487 (Pa. 1959) (describing navigable and hence public water as a long, thin “roadway of water” that joins communities).

public officers or judges against these multiple threats of obstruction.³⁴ In a way, the problem of the *res publicae* in Tangible Space is not that it is incapable of appropriation, but that it is all too easy to appropriate.

But why should the public have open access to these otherwise appropriable properties, particularly in light of the ever-lurking threat of congestion, overuse and underinvestment? This brings in the second and really quite critical factor: the presence of wide-ranging synergies, or what are now called network effects. Nineteenth century courts located the center of the “publicness” of travel lanes in suitability for commerce, but commerce itself is endlessly synergistic. Commerce permits and encourages specialization, and in so doing, wider commerce exponentially enhances the value of all parties’ property: one can invest in ones property not only for one’s own use, but for the use of the person in the trading community who most values it. The greater the network of trade, the better for all participants.³⁵ Traders have typically needed physical routes for transportation, and though there may be congestion costs to those physical routes, there are ever-larger offsetting gains. The costs of congestion and overuse increase only arithmetically as lanes of trade are more widely used; and while these costs must indeed be managed (a point to which I will return), the social benefits from the ensuing trade are exponential: on the routes of the *res publicae*, the more the merrier. Communication is similar: the larger the communications network, the more valuable it is for all participants, and the more the cross-fertilization of ideas can lead to still more ideas.

A related synergistic factor has to be teased out of American public trust law, and it stems from the idea that commerce can play an educative and civilizing role.

Republican theory at least as far back as Montesquieu and the Scottish Enlightenment suggested that commerce is “gentle,” softening manners that would be hardened by the aristocratic characteristics of honor and pride. Commerce instead requires that the participants pay attention to the wants and desires of their counterparts, and in learning to do so, they learn to work with others and become interested in and sympathetic to people whom they might otherwise disdain.³⁶ There is indeed a whole panoply of arguments that commerce mixes the social glue of democratic self-governance, e.g. that property and trade are a school for rights-

³⁴ See Rose, *Comedy of the Commons*, supra note —, at 749-50 (noting that potential monopolization was one rationale for public claims to roads and waterways; noting also the similarity to eminent domain rationales).

³⁵ Id [Comedy of the Commons] 769-771 (describing combination of holdout and interactivity as prerequisites for public trust claims, particularly with respect to commercial lanes).

³⁶ Id. at 775-76; Albert Hirschman, *The Passions and the Interests* 49-66 (1977).

consciousness, that commerce deflects people from ideological enmity, that commerce teaches us to operate by consent rather than force.³⁷ Some of these arguments are more convincing, some less so, and some may seem odd when we often hear the worst aristocratic vices—callousness, brutality, grandiosity—associated with business and its robber “barons.” Nevertheless, there is evidence from modern historians and experimental psychologists, among others, that trading relations can indeed turn into philanthropy, mutual aid, and what is now sometimes called social capital.³⁸ If we think of commerce in this light, as contributing to the political synergies of democratic self-governance, then it is not an accident that public claims on property spilled over from the roads of commerce to public squares and to places for public speech and political communication.³⁹ And it is not an accident that the lanes of travel, transportation, communication, and commerce are called res publicae, the very root of the republic. And perhaps it is not an accident that attacks on the transportation system seem to strike the republic at its core.

Two caveats are in order about the res publicae, however. First, the res publicae is far from an untamed place, where “anything goes.” On the contrary, precisely because of the potential problems of congestion and underinvestment, the public in the res publicae must behave in an orderly fashion. Nineteenth century case law gave a clear picture of a public that was subject to customary rules of usage, and today’s users of roads, highways and waterways on the whole continue to vindicate that picture. The expectation was and is that drivers would move to the right to avoid oncoming traffic; that sailors would try to avoid fishermen’s nets; that travelers who had to leave the road to avoid obstructions would take the closest and least damaging route through the adjacent private property.⁴⁰ In short, one was and is expected to behave one’s self in the res publicae. On the whole, however, the relevant customary norms are fairly thin, and they can suffice only at a minimal level of congestion. Greater congestion may require road signs, harbor development,

³⁷ Carol M. Rose, Property as the Keystone Right? 71 Notre Dame L. Rev. 329, 348-51, 354-55 (1996).

³⁸ See Peter Kollock, The Emergence of Exchange Structures: An Experimental Study of Uncertainty, Commitment, and Trust, 100 Am.J. of Sociology 313, 337-39 (1994) (reporting positive mutual attitudes of subjects in successful simulated trade relations); Francis Fukuyama, Trust: The Social Virtues and the Creation of Prosperity (1995) (describing commercial relations in several countries, their influence on social capital).

³⁹ Rose, Comedy of the Commons, supra note —, at 753, 778, and authorities cited therein.

⁴⁰ Rose, Comedy, supra note —, at 744-45.

traffic management, lighthouses, air traffic control, piracy policing—any of which may easily surpass the capacity of a public governed only by informal norms. For that reason, we have to call on organized government to keep the res publicae in order. This was true for the Romans as well; it is no wonder that the Roman law examples of res publicae included a large number of goods supplied and financed by organized governments.⁴¹ The res publicae's vision of the public domain is tame rather than wild, more like a park than a wilderness.

A second caveat: the concept of the res publicae was by no means antagonistic to private property. There are many arenas where synergistic effects give rise to public concern—e.g. in health and education—but where no particular resources have to be held open to the public, because none are subject to problems of holdout or bottleneck. And even where they are, as in railroads or ferry boats or airlines, private entities may own the relevant resources, subject to requirements of reasonable public access. Indeed, if the public is adequately served otherwise, the res publicae may present no obstacle to additional private properties of the same kind—toll roads and the like—without much additional governmental supervision. But the most important point is that the idea of the res publicae works hand in glove with a regime in which most resources are the subject of private property. Indeed, open public access to commercial lanes would make little sense without an underlying regime of private property and trade. The openness of trade routes presumes that the users of these routes have their own incentives to trade, and that those incentives come in large part from private ownership.

Now, let me turn to Intellectual Space, and ask about the counterparts to the res publicae.

Perhaps the closest analogies to the res publicae lie in modern telecommunications, and perhaps especially the Internet. The roads and waterways of the tangible and traditional res publicae allowed goods and information to flow freely, and the Internet does the same; here ideas can cross-fertilize one another in wonderful synergies of creativity.⁴² Indeed, the Internet even has the name “information superhighway,” though that name now sounds slightly dated.

If we look at the Internet as res publicae, however, we have to take up the first of the caveats about the traditional res publicae, namely the question of governance. The res publicae in tangible property is a park and not a wilderness; but what about

⁴¹ See Potter, *supra* note —, at 134 (stating that road maintenance was primarily at public expense); cf *id.*, at 82-83 (describing private finance of municipal baths and theaters by wealthy persons vying for political office and influence).

⁴² See, e.g., Margaret Chon, *New Wine Bursting from Old Bottles: Collaborative Internet Art, Joint Works, and Entrepreneurship*, 75 *Or .L Rev.* 257, 274 (describing Internet's chain art).

the Internet? Clearly the Internet is also not an arena where “anything goes”; it has its protocols, its webmasters, its internal governance to repress vandals and promote orderly flows in information. But need this governance come from formal government, or are informal or customary norms enough? Recall that in the traditional res communes, the need for formal governance comes in large part because there may be physical congestion and physical overuse of resources. On the Internet, problems of physical infrastructure and overcrowding are less apparent, even though one’s In-box can indeed be loaded with spam; and it may be that voluntary efforts and thin norms are enough for whatever governance and investment are required.⁴³ If so, the Internet as res publicae may be rather like the informal roads of the nineteenth century American countryside, where customary practices seemed to be enough to enforce good behavior. Still, that story suggests that with more users, greater congestion, more vandalism and the like, more formal institutions might be required to take over what was formerly a “People’s Park.” And as others have noted, this point raises questions about the democratic character of the governmental institutions that might come to manage the Internet. Many of the ancient Romans may not have had much to say about their government’s management of the res publicae, but we do about ours.

What about the content of materials flowing over the internet? More broadly, what about Intellectual Space as a whole? Might the whole realm of intellectual endeavor be considered res publicae? If one looks to the most important feature of res publicae, the synergies that are fostered by openness to the public, the answer seems obvious: of course there are synergies in the intellectual world. It is widely known that creators develop their ideas in part from perceiving the ideas of others. Our host, Jamie Boyle, is one of several who criticizes intellectual property law for its “romantic” and unrealistic conception of the sole, heroic individual author or inventor.⁴⁴ Where one inventor’s ideas leave off and another’s begin is often

⁴³Johnson & Post, *supra* note ---, at 1388-91 (arguing that cyberspace users can develop internal norms); cf. Llewellyn Joseph Gibbons, No Regulation, Government Regulation, or Self-Regulation: Social Enforcement or Social Contracting of Governance in Cyberspace, 6 *Cornell J. L. & Pub. Pol’y* 475, 520-23 (1997) (noting lack of homogeneity, multi-dimensional contacts that might generate thick norms, but noting other technological and social factors in policing behavior); Margaret Jane Radin, Property Evolving in Cyberspace, 15 *J. Law & Commerce* 509, 516 (1996) (suggesting that thicker norms might have been more characteristic of “early cyberspace” when users were less numerous and more homogeneous).

⁴⁴ James Boyle, *Shamans, Software and Spleens: Law and the Construction of the Information Society* 56-57 (1996); see also Mark Rose, *Authors and Owners: The Invention of Copyright*, 125-28 (1993) (describing and criticizing idea of

impossible to discern; but more than that, the interactions among creators can deliver something that is vastly more than the sum of their individual efforts. Scholars of literature even have a word for this (and one sometimes borrowed by intellectual property scholars): the word is intertextuality, where one literary text “converses” with others, and the conversation itself is more than the sum of the parts.⁴⁵ The same can be said for philosophic texts: witness Kant’s famous reaction to his unsettlement upon reading Hume’s views on causation. Thus the whole of Intellectual Space, in a sense, seems to be a candidate for treatment as res publicae, things open to the public by operation of law, because of the synergies among ideas.

Synergies alone, however, are not enough to make the case for res publicae. The other factor is transaction costs—the possibility of obstructions. If intellectual accomplishments are by their nature nonrivalrous and not easily possessed, there should be no obstruction to their synergistic exchange aside from the ability of creators to keep secrets, generally a doubtful proposition over the long run. Intellectual accomplishments could be safely left a res communes (things incapable of ownership); desirable synergies should occur without the legal protection supplied for res publicae.

But instead, such obstructions as exist seem to come from law itself, sometimes in the direct form of censorship, but much more pervasively in the indirect form of intellectual property law. If intellectual property rights always and ineluctably blocked other intellectual efforts, the answer would seem obvious: call off intellectual property, allow the realm of ideas to return to a happy state in which the synergistic interactions of res publicae are married to the ungoverned res communes—ungoverned, because by their nature ideas and information are freely available to all.

But of course, the mere fact of private ownership does not mean that interactions are blocked. On the contrary, in Tangible Space, it is generally thought that well-defined property rights make interactions more possible, through the vehicle of trade.⁴⁶ At least some of Intellectual Space looks the same. Clearly people buy patent rights and pay copyright royalties all the time, and they have invented a variety

creative genius); Coombe, Rosemary J. Coombe, Left Out on the Information Highway, 75 Or. L. Rev. 237, 246 (1996) (noting contributions in artwork of many unacknowledged persons).

⁴⁵ See George Kamberelis, Genre as Institutionally Informed Social Practice, 6 J. Contemp. Legal Issues 115, 130-32 (1995) (describing literary theories of intertextuality). For internet scholars’ borrowing, see, e.g. Chon, supra note ----, at 264-65 (applying idea of “intertext” to internet).

⁴⁶ Clifford Holderness, A Legal Foundation for Exchange, 14 J. Legal. Stud. 321, 322-26 (1985).

of methods to reduce the transaction costs of doing so.⁴⁷ More important, property rights, taken together with trade, should result in an even greater spread of ideas than would occur if intellectual matters were res communes; in the very standard theory, property rights give people an incentive to create innovations in the first place, and then to offer them freely on the market instead of keeping them secret, since they know that they can take the proceeds from trade.

As in Tangible Space, this argument is subject to qualifications: transactions costs may still arise, a matter very common in Intellectual Space. At the extreme, a proliferation of multiple intellectual property rights can cause an “anticommons,” paralyzing further research or creative endeavors.⁴⁸ For such blockages, res publicae does apply, because here synergies are threatened by private appropriation; the res publicae analogy suggests such doctrines as mandatory licensing or “fair use,” granting limited public access during the term of the intellectual property right.⁴⁹

Nevertheless, it is important to recall the second caveat about res publicae: at least in its traditional domains, this is not a concept that is hostile to private property. Instead, the idea of the res publicae plays Tweedledum to the Tweedledee of private property: it presupposes the private gains that induce people to go out and engage in trade. Intellectual achievements are not necessarily different; sometimes their creation and dissemination may depend on the inducements that property brings. In this area, the primary analogy to res publicae is closer to the lanes and means of communication, rather than to the content of communication.

Having said that, however, it may be that the lanes of communication are not so easily separable from their content in Intellectual Space. This is most obvious with digital communication, where some form of copying is essential to communication itself. But it is true more generally too in Intellectual Space; the intertextuality of creative endeavors means that, in Marshall McLuhan’s famous

⁴⁷ Robert P. Merges, Contracting Into Liability Rules: Intellectual Property Rights and Collective Rights Organizations, 84 Cal. L. Rev. 1293 (1996) (describing patent and copyright pools that lessen trading costs of intellectual property).

⁴⁸ Michael A. Heller & Rebecca S. Eisenberg, Can Patents Deter Innovation? 280 Sci. 698-99 (arguing that excessive patents can cause an “anticommons” blocking research access to genome); Richard Stallman, Reevaluating Copyright: The Public Must Prevail, 75 Or. L. Rev. 291 (1996) (arguing that the public has justifiably acquired the habit of copying); see also Carol M. Rose, The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems, 83 Minn. L. Rev. 129, 154 (describing blockages as a species of “too much property”).

⁴⁹ Wendy J. Gordon, Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and its Predecessors, 82 Colum. L. Rev. 1600 (1982).

phrase, the medium is the message. Here one cannot so easily designate content for private property, and communication lanes for res publicae.

Perhaps this is why, in Intellectual Space, the res publicae has a primarily temporal character rather than a geographic one. One of the most interesting features of intellectual property law is that over the longer run, it does turn all once-propriety intellectual achievements in res publicae. I mentioned earlier that intellectual property functions to turn res communes, things that cannot be owned, into res nullius, things that are unowned but are capable of appropriation. But at the end of the day, when the patent expires and the copyright runs out, the encapsulated creations do not become res nullius again, open for new appropriation under the laws of intellectual property. Instead they become res publicae, wide open to the public forever, by operation of law. They are now “prior art” or “public domain,” never to be appropriated again under intellectual property law. Indeed, for this very reason, some inventors might prefer secrecy to patents. The sometimes-criticized liberality of the U.S. Patent Office might appear different in this light: a patent does assure that after the appointed length of time, inventions do indeed become open to the public for all time.

The underlying idea of this mixed regime, where private property and res publicae are segregated only temporally, seems to be a differential weighting over time of the relative importance of investment on the one hand and synergies on the other. Inducements to invest weigh more heavily at the outset, but the synergies of free availability and free use weigh more heavily later on. Again, from the perspective of an outsider, it seems that this balance between early private property and later res publicae could be the subject of a very central debate in intellectual property law. The balance would mean that the questions of rights-duration are critical to intellectual property law.⁵⁰ It could also mean that private contractual circumventions of the legal time periods for intellectual property rights—the “shrinkwrap” contracts, the “rights management containers,” the statutes that protect such devices—are matters of even more critical importance.⁵¹ If the private property and res publicae components of intellectual property are indeed temporal, then these questions of time are the very fulcrum of the balance between the two.

All this leads to a further question: are private property and the public access the only possibilities? Are there instances in which investment incentives and

⁵⁰ See, e.g. Jonathan Zittrain, *The Un-Microsoft Un-Remedy: Law Can Prevent the Problem That It Can't Patch Later*, 31 *Conn. L. Rev.* 1361, 1373 (1999) (proposing a five or ten year limit on software copyright).

⁵¹ Ryan, *supra* note —, at 667-74 (criticizing extensions of time, rights-management containers, and statutory protections of these limitations on use of digital works).

intertextual synergies might be quite differently organized, coming out somewhere in between the public domain and exclusive private property? A good deal of intellectual property scholarship suggests that this is indeed the case, and that much intellectual effort actually takes place within property regimes that are neither entirely exclusive nor completely open to the public.⁵²

Readers by now should not be surprised to find that there is a Roman law category for such mixed types of property, though the category has certain limitations:

4. Res universitatis, property belonging to a (public) group in its corporate capacity.⁵³

The standard “owner” for the Roman res universitatis was a municipality, and its belongings were such public facilities as theaters and race-courses; but both private and public groups could own property in common, including lands or other income-producing property. The chief limitation on res universitatis in Roman times was that at least in theory, the relevant corporate bodies required the authorization of the state. Nevertheless, in post-Roman times, medieval and early modern central states were weak indeed, and their lacunae were filled with countless groups with their own properties, often enjoying semi-governmental authority. Such corporate bodies included guilds, monasteries, merchant groups, common field communities, and on and on. In a continuation of their practices, a corporation even governed the city of New York in its early days, largely managing the city through judicious use of the corporate body’s property.⁵⁴ Interestingly enough, universitas gave its name to the modern “university,” which in medieval times was a corporate body of students and teachers dedicated to education.⁵⁵

Given the widespread and long-lasting character of group-based, limited common property regimes in Tangible Space, it is all the more interesting that these very important forms of resource management have been so widely overlooked in

⁵² For a summary of some of this scholarship and some of the issues, see Rose, *Several Futures*, supra note ---, at 155-62.

⁵³ Burdick, supra note —, at 280-88.

⁵⁴ For New York, see Hendrik Hartog, *Public Property and Private Power: The Corporation of the City of New York in American Law, 1730-1870*, at 32-68 (1983) (describing New York’s governance through property); for the continuity with early modern European “co-governing” corporate groups, Carol M. Rose, *Public Property, Old and New*, 79 *NwU. L. Rev.* 216, 218-222 (1984) (relating Hartog’s picture of New York to earlier European practice).

⁵⁵ Burdick, supra note —, at 283.

modern economic thinking about the commons, at least until recently. Elinor Ostrom is one of the chief scholars who has changed that pattern, and as she and her colleagues point out, there is no reason to think that the only forms of resource governance must come from individual ownership on the one hand, or from central governmental management on the other. She and others have found numerous examples of informal group property of “common pool resources” far beyond Europe, from irrigating communities in the Philippines, to livestock-raising communities in Japan, to fishing communities in Turkey.⁵⁶ Such communities clearly refute the idea that the commons is necessarily “tragic”; on the contrary, a number of these limited common property regimes have lasted in Tangible Space for centuries at a time.

Such limited common property regimes, as I have said in another context, may be commons on the inside, but they are property on the outside, that is, vis-a-vis non-members.⁵⁷ But why have such regimes at all? They typically exist where a resource is too large for individual ownership, but still sufficiently bounded that its exploitation is amenable to joint management by a limited group. In a sense, res universitatis is a bounded form of res publicae, lending the advantages of interaction and cooperative joint management to a resource that is ultimately finite, as exclusively-held property is. Because such common property regimes are more limited in membership than the public at large, they may generate a quite dense set of norms and customary practices—much more so than on the wide open transport lanes of the res publicae. These customary practices in turn can help to limit overuse of the common resource and prod the members to invest in the common infrastructure—e.g. a fishing community may work out elaborate means of taking turns with nets, or a set of irrigating communities along a river may devise rewards and punishments that induce individual farmers to maintain their shares of the common channels.

Are there analogs to res universitatis in Intellectual Space, where there is little or no need to police resource decimation or to maintain a physical infrastructure? Robert Merges has argued that there are, though he does not use the Roman law name.⁵⁸ He argues that researchers are often quite willing to share information and

⁵⁶ Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* 18-21, 65-69, 82-88 (1990), and sources cited therein.

⁵⁷ Rose, *Several Futures*, supra note —, at 144.

⁵⁸ Robert P. Merges, *Property Rights Theory and the Commons: The Case of Scientific Research*, 13 *Social Philosophy & Policy* 145 (1996); see also Robert P. Merges, *Contracting Into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 *Cal. L. Rev.* 1293-1330, 1355-58 (1996) (using Ostrom’s work to support contractual regimes for common use of intellectual

ideas with others in the same intellectual pursuits, and that they enjoy substantial creative synergies thereby; but he also argues that they are very unwilling to share these same ideas with commercial entrepreneurs or others in the world at large, perhaps in part because of the lack of reciprocity. And scientists are not the only ones: the Internet has generated a considerable amount of collaborative creativity, from story trees to Chain Art.⁵⁹ But these collaborative efforts are not simply wide open; Internet groups have also developed methods for excluding disruptive interlopers.

Might such groups mesh together to turn *res universitatis* into *res publicae*, common spaces open to all who who are interested? Ostrom's work on limited common properties has described the "nesting" of smaller common properties into larger scale non-state governance regimes, e.g. in irrigation;⁶⁰ and her and Charlotte Hess' contribution to this symposium discusses similarly expanding networks for sharing digitized information.⁶¹

One might note, however, that such groups appear to move away from informal norms and instead to adopt self-conscious and detailed governance rules, making them less akin to norm-governed communities and rather more like the trade associations that Lisa Bernstein has so interestingly analyzed.⁶² And indeed, this self-consciousness may be a good thing from the perspective of democratic governance. Tangible Space certainly presents a warning about common regimes governed only by custom and community norms: their norms can be hierarchical, xenophobic, and backward-looking, to the point that some critics say that we need to theorize a more "liberal commons" that is organized under the auspices of more democratic laws.⁶³ Intellectual Space is not immune from these problems: customary norms in the literary community, for example, have been notoriously inhospitable to women, even

properties).

⁵⁹ Chon, *supra* note —.

⁶⁰ Ostrom, *supra* note —, at 101.

⁶¹ Charlotte Hess and Elinor Ostrom, *Artifacts, Facilities, and Content: Information as a Common-pool Resource* (2001)

⁶² See, e.g., Lisa E. Bernstein, *The Questionable Empirical Basis of Article 2's Incorporation Strategy: A Preliminary Study*, 66 *U.Chi. L. Rev.* 710, 717-46 (1999) (analyzing trade rules of National Hay Association, National Feed & Grain Association, textile industry rules, others).

⁶³ Hanoch Dagan and Michael Heller, *The Liberal Commons*, 110 *Yale L. J.* 549, 566 (2001); Carol M. Rose, *Left Brain, Right Brain and History in the New Law and Economics of Property*, 79 *Or. L. Rev.* 479, 485-87 (2000).

well into the twentieth century; and scientific communities too have sometimes been equally and unjustifiably dismissive of outsiders.⁶⁴

However creative communities may be organized, the point remains that in many if not most intellectual and artistic endeavors, creativity may be synergistic less with the world at large than with communities of other artists and creators and contributors. The university itself, whose name springs from the same root as the res universitatis, gives perhaps the quintessential example of the phenomenon: creativity is exponentially enhanced by the free flow of ideas within a scholarly community. Here too there are opportunists, plagiarists and zealots—and to some degree commercial users—who can disrupt the process, and thus universities try to some degree to keep them out of bounds, albeit sometimes very clumsily.

Community-based creative products that emerge from less developed countries—folklore, religious artifacts, agricultural strains—have often been depicted in intellectual property law as unowned things—res nullius, open to appropriation by others—because they were not created by a single “romantic” artist or adventurer. But if this is true, then the same might also be said of the products of the Globe Theater or the Fermi Labs, since so much creative work mixes individual contributions with ideas that are “in the air” of the creative community. Citizens of less developed countries, faced with the argument that their artworks and agricultural products are “the common heritage of mankind,” might instead hear an echo of the Romans’ view that conquered territory was res nullius. Better that we devise ways to think of these endeavors too as res universitatis, so that these communities of creators too can enjoy their fruits.

Res universitatis, then, is a type of property that is non-exclusive but also bounded. From an outsider’s perspective, res universitatis appears to be a category that acknowledges the usefulness of property rights in intellectual accomplishments, but it also suggests a sharper focus, first, on encouraging the group interactions that do so much to foster creativity, and second, policing the boundary of disruptive behavior—and perhaps not much more. Once again from an outsider’s perspective, it appears that this limited community aspect of intellectual property law is rather underdeveloped, as it has been until recently in Tangible Space.

Going back to trace the life cycle of intellectual property, then, we might find that intellectual matters begin as as res communes (things incapable of ownership),

⁶⁴ See Mary Ellman, *Thinking About Women* (1968) (very wittily discussing pattern of dismissiveness & condescension to women authors); Evelyn Fox Keller, *A Feeling for the Organism: The Life and Work of Barbara McClintock* (1983) (describing life of neglected biologist); Dava Sobel, *Longitude: the True Story of a Lone Genius Who Solved the Greatest Scientific Problem of His Time* (1995) (describing impediments to inventor outside scientific establishment).

whereupon intellectual property law turns them into a kind of legal *res nullius* (things open to appropriation); but they may well become *res universitatis* (things belonging to creative communities) on their way to the final wide-open synergies of the legally protected *res publicae*—things open to all by operation of law, the public domain that reigns after property protection expires.

I cannot leave the Romans, however, without mentioning one other type of nonexclusive property:

5. *Res divini juris*: things that unowned by any human being because they are sacred, holy or religious.⁶⁵

The things classed under this rubric—temples, tombs, religious statuary--were considered to belong to no one because they were in the service of the gods, or because an offense to them was offensive to the gods.⁶⁶ Such things were a class of *res nullius* because although they are unowned, they are physically capable of appropriation; the impediment to propertization is not natural but divine.

I must confess that I once thought there were no real analogs to this kind of property in the tangible public property of modern secular countries, but I now think I was mistaken. At least in the United States, the great wilderness parks, deserts and seashores, with their sense of the sublime and the vast, may in some ways fill the role of *res divini juris*. Such places suggest to the visitor the majesty of creation, the vastness of space, the untamed-ness of something outside human capacity to grasp. If there is a role for *res divini juris* as public property in our modern jurisprudence, surely this is one place where it resides.

Of course, it is physically possible to cut down trees in such places or to drill for oil in them or to race around in noisy wide-tire vehicles, but the argument against such behavior is chiefly one that sounds in the quasi-religious terms of travesty and sacrilege: such lands should be open to all, but each visitor should treat them with the appropriate attitude of awe. However, no bolt from heaven strikes down the logger, the oil well-driller, or the dune-buggy driver. The divine wildness of the wide open spaces is in the end metaphoric; the organized public, after all, has to protect them and invest in them if these spaces are to last.⁶⁷

⁶⁵Burdick, *supra* note —, at 308-309; Lawson, *supra* note —, at 66.

⁶⁶ In a somewhat odd wrinkle, this included climbing over the city walls, which was an offence punishable by death; one was supposed to enter and exit the city by the gates; Burdick, *supra* note —, at 309.

⁶⁷ For an appropriately-named commentary, see Joseph Sax, *Helpless Giants: The National Parks and the Regulation of Private Lands*, 75 Mich L. Rev. 239 (1976) (primarily describing external threats to the parks); cf. Alston Chase, *Playing God at Yellowstone: The Destruction of America's First National Park* (1987) (detailing

There is clearly also an analog for the res divini juris in the intellectual world as well. It is the canon, the classics, the ancient works whose long life has contributed to their status as rare, extraordinary—and also a little wild, never quite capable of complete domestication even by the most erudite pedant. Notice that unlike the tangible res divini juris, the canon does not really need much public protection; we can generally rely on its devotees and imitators to keep its works in the public eye unless they grow terminally old and tired. But aside from that there is little that can destroy them, however much they may suffer periodic temporal eclipses. Bach has survived the Swingle Singers and the Moog machine. That is why Bach is Bach. The Mona Lisa survives her cartoon picture on the Chunky Beef Soup can. If anything, she is all the more enigmatic for it. Bach can eat the Swingle Singers for breakfast, the Mona Lisa can eat Chunky Beef Soup for lunch.

Sooner or later, the tigers of the current canon may be replaced by the elephants or lions of another generation's canon, but taken together, these wild beasts will always threaten to eat up anything that stalks them. The canon, in short, is the very wildest of the wild public domain. And hence, divine. To return to the beginning of my story, the residents of the South Asian jungles could see that the animals of the forests embodied not just fierceness but also grace and strength, and they attributed divinity to the very wild beasts that so haunted them.⁶⁸ And so, I expect, does every new generation of authors, inventors, and artists, when looking at the great old wild beasts that occupy the public domain.

mismanagement by the Park Service itself).

⁶⁸ Greenough, *supra* note —, at 22-24.