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# The Legitimacy of Protecting Intellectual Property Rights: The Irrelevance of Two Conceptions of an Information Commons

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## **Abstract**

In this essay, I consider arguments both for and against intellectual property rights that are premised on some conception of a morally significant information commons. In particular, I consider the argument for a morally protected information commons that is grounded in Locke's famous proviso limiting original acquisition of material property to situations that leave enough of the resource to others and Hardin's famous argument that holding material property in common leads to overuse and depletion – a tragedy of the commons. I argue that neither argument is directly applicable to information objects.

## **Keywords**

Intellectual Property Rights, Locke, Commons, Information Commons, Digital Commons, Tragedy of the Commons

Proponents and opponents of legal protection of intellectual property rights both appeal to the idea of an "information commons." Opponents argue that legal protection of intellectual property rights is illegitimate because such protection has the effect of "depleting the information commons." The idea is that intellectual property laws, then, deprive people of something to which all have morally legitimate claims or rights – namely, the information objects in a commons. According to this line of argument, the class of information objects should be regarded as a morally protected resource for all to use – an information commons. Any protection of intellectual property, then, that gives an exclusive right to some person to exclude others from the use of some informative proposition by requiring a fee has the effect of removing something from the information commons and thus has the effect of wrongly depleting it. Thus, the "Commons Argument" concludes, information should be freely available and not subject to intellectual property protection.

Proponents argue that legal protection of intellectual property rights is legitimate as a means of preventing what Garrett Hardin famously termed a "tragedy of a commons." Hardin argued that self-interested agents have an incentive to either overuse or pollute a material commons and will do so until it is overused and depleted because the benefit of overuse or pollution accrues entirely to the individual while the costs are spread over all other users. Resources, Hardin concluded, are best held as private property. Proponents of IP rights argue that such rights are needed to protect against an analogous tragedy of the information commons.

In this essay, I will develop both arguments and show each fails. I will begin with the Commons Argument by developing the origin of the notion of a commons as it first appears in Locke's argument for natural property rights in material objects, illustrating its function in Locke's argument. I will then argue that the Lockean notion is not applicable to information and cannot be used to vitiate the legitimacy of IP protection. I will next develop the Tragedy of the Commons Argument, showing how the violation of one of Lockean provisos creates the problem with which Hardin famously grappled. I will argue that there is no analogous tragedy of the commons because information entities are radically different in character than material objects. I will argue that the notion of the commons as it functions in each of these opposing arguments simply is not applicable to intellectual objects.

## I. THE LOCKEAN ARGUMENT FOR PROPERTY

The idea of natural moral rights (i.e., rights grounded in moral norms and not dependent on the existence of society) is one that is commonly taken for granted among most applied ethical theorists, whose strategy of ethical argument generally presupposes moral objectivism is true.<sup>1</sup> John Locke took this idea for granted, but noticed that if the idea of natural moral rights to life and liberty were comparatively unproblematic, the notion of a natural moral right to property needed epistemic justification in the form of an argument grounded in uncontroversial substantive moral claims.

Here is the difference. Conceived as negative rights that merely require people to refrain from behaviors infringing upon the relevant interests, my rights to life and liberty give me no claim to anything *external* to my person. My natural right to life, as Locke conceives it, protects my interest in continuing existence as an entity that is biologically alive. My natural right to liberty simply affords me a claim to control the movements of my body and execute plans that are internally conceived or adopted. None of this directly concerns something outside myself, though I might use my life and liberty to cause external effects. The right to property, on the other hand, allows me to take an object *external* to me and exclude other people, perhaps with the aid of limited force, from appropriating it without my permission; its direct concern, unlike the rights to life and liberty, is with something outside me and no part of me. Intuitively, it's one thing to claim that I have a right to what is internal to me and external to everyone else; it is another to claim that I have a right to something that lies outside my body.

Locke rightly saw that, thus conceived, the problem of justifying property rights was somewhat more difficult and required more than the rights to life and liberty, which seem considerably more intuitive and less in need of justification, if one accepts the notion of natural moral rights to begin with. Here's how he put the problem:

[I]t is very clear, that God, as king David says, ... has given the earth to the children of men; given it to mankind in common. But this being supposed, it seems to some a very great difficulty, how any one should ever come to have a property in any thing: I will not content myself to answer, that if it be difficult to make out property, upon a supposition that God gave the world to Adam, and his posterity *in common*, it is impossible that any man ... should have any property upon a supposition, that God gave the world to Adam, and his heirs in succession, exclusive of all the rest of his posterity. But I shall endeavour to shew, how men might come to have a property in several parts of that which God gave to mankind in common, and that without any express compact of all the commoners.<sup>2</sup>

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<sup>1</sup> Applied ethicists rarely ground their views in polls, which would be required if some form of moral conventionalism were true, and frequently argue for positions that are inconsistent with the majority view in the relevant community.

<sup>2</sup> John Locke, *Second Treatise of Government*, Chapter 4 (Of Property); available at <http://www.constitution.org/jl/2ndtreat.htm>. Emphasis added.

Stripped of its religious language, the problem is this: how can one person take some thing *T* out of a world that antecedently belongs to no one and claim a moral right to exclude others from appropriating *T*?

Part of the problem was easily solved, of course. If one believes, as Locke did, that persons have a natural moral right to preserve their lives, then they will certainly have a right to appropriate material objects necessary for their survival and perhaps even accumulate a few to save for future emergencies. As Locke puts this crucial point, “Whether we consider natural reason, which tells us, that men, being once born, have a right to their preservation, and consequently to meat and drink, and such other things as nature affords for their subsistence: or revelation, which gives us an account of those grants God made of the world to Adam, and to Noah, and his sons, it is very clear, that God, as king David says, Psal. cxv. 16. has given the earth to the children of men; given it to mankind in common.” The important point here is that the more basic value judgment that human beings have a moral right to preservation of their lives and need to appropriate the material objects of nature to preserve their lives entails that they have some limited right to appropriate the material objects of nature – despite the fact that those objects are in a commons and are external to each individual.

The right to preserve one’s life entails, on Locke’s view, some sort of moral right to property; the issue with which he was concerned was trying to work out the conditions that had to be satisfied in order for a person to be justified in asserting a property right in an object and hence in removing it from the commons for his or her exclusive use. Locke’s famous theory of property is grounded in a story about these conditions, but it is utterly crucial to realize that it does not get off the ground without the assumption that we have a moral right to preserve our lives, which cannot be done without consuming material resources and hence, on Locke’s view, without there being some natural moral right to property.

It is worth noting that, strictly speaking, this first crucial move in the argument cannot, by itself, do the work Locke takes it to do. At most, the right to preservation of one’s life entails a right to appropriate things from the commons *necessary for the preservation of one’s life*, but this does not entail the more expansive property rights associated with the classical liberal view. Traditionally conceived, property rights, unlike a right to self-preservation, will afford protection to all of the \$50 billion that Bill Gates is estimated to be worth; and no one’s needs are such that \$50 billion is required to take care of them even over the longest lifetime.

Indeed, one can probably justify the appropriation of necessities by appeal to the right to liberty and physical integrity: if I am eating an apple, then it would be wrong for you to coercively take it out of my hands because this violates both such rights. The right to self-preservation and the fact that consumption of material resources is necessary to preserve human life entails that one may permissibly use property needed to keep one alive. But this can be protected by the right to liberty and physical integrity. A right to property is not necessary to ensure such protection and affords considerably more expansive protection than is required by the right to self-preservation. The right to self-preservation, then, simply will not do the work that Locke thinks it will do: establish a full-blown right to property that requires fleshing out only by way of explaining what is needed to acquire it in an object.

Locke also saw that the real problem in justifying property rights was what has come to be called “original acquisition” – the acquisition of a property right in some material object that was antecedently owned by no one. Property rights are bundles of claims that include entitlements to transfer or alienate one’s interest in one’s property. Justifying these claims is a trivial matter. As a conceptual matter, if a property right entitles me to control the disposition of an object by excluding others from appropriating it without my permission, then it surely entitles me to decide under what conditions I will consent to the appropriation by others of that object: I can lend, give, or sell that object to someone else – or even simply alienate my claim against the whole world by throwing it in the garbage. The problem is explaining how we can take some material entity *T* that does not belong to anyone and acquire this expansive bundle of claims in *T*. This has come to be called the problem of original acquisition.

Locke argues that one can acquire through the expenditure of one's labor a property right in material objects that are otherwise unowned:

Though the earth and all inferior creatures be common to all men, yet every man has a property in his own person; this nobody has any right to but himself. The labor of his body and the work of his hands we may say are properly his. Whatsoever, then, he removes out of the state that nature hath provided and left it in, he hath mixed his labor with, and joined to it something that is his own and thereby makes it his property. It being by him removed from the common state nature placed it in, it hath by this labor something annexed to it that excludes the common right of other men (Locke 1690, Chapter V).

There are two provisos, according to Locke, that restrict original acquisition from the commons: (1) there must be enough of the material object for everyone else to appropriate; and (2) no one may acquire a material object to spoil or destroy it.

In any event, one acquires a property right in unowned material objects by investing one's property into the object in the form of one's labor. There are a couple of possible explanations for how laboring on an object might give rise to a property right. First, it might be that one has mixed one's labor – hence one's property – into the object such that it cannot be retrieved; on this view, putting my property into an object to which no one has any prior property interests creates in me a property right to that object. Second, it might be that one has, by one's labor, improved that material object thereby creating value that did not previously exist in the world; on this view, it is only fair that I have the value that I have created by investing my property into an object.

Either way, what is important for our purposes are the two ways in which the notion of a commons figures into Locke's argument. The first is that Locke conceives of the original pre-social status of the material world external to persons as consisting in a commons that has some moral significance. No one has any antecedent claim to anything outside his person in the state of nature; God, after all, gave the world to all in common, on Locke's view. It is the very character of the world as a commons, along with our material dependence on material objects that can be consumed only by removing them from the commons, that creates the problem of having to argue for natural property rights to begin with. The second is that the Lockean proviso limits the right to original acquisition by creating a morally protected commons. The morally protected commons is defined as consisting, for any resource X, of the set of X that is just large enough and of sufficiently high quality to satisfy all desires that other people might have for it. The first commons is morally significant (in the sense of giving rise to the moral problem of justification) but can be taken from; the second is morally protected in the sense that morality forbids the acquisition of objects in this set.

Although the proviso that requires leaving as much of a similar quality of the resource taken to others has been interpreted by Adam Moore as being something like a Pareto optimality principle,<sup>3</sup> this interpretation is too weak, strictly speaking, to capture the work being done by the Lockean proviso in his argument, properly interpreted. The concern is not just to avoid leaving people worse off in any way; the concern that limits the appropriation from the commons is that *over-appropriation puts lives at risk* – and violates the very right to self-preservation that makes the idea that we have property rights to things in the commons plausible. Without that foundational idea, the rest of Locke's argument never gets off the ground – something Locke clearly realizes. It is the Lockean proviso that defines limits to asserting property rights in things from the commons that explicitly reconciles his views about how one acquires property rights in original acquisition with the view that it is the right to self-preservation that makes plausible the idea that we can assert exclusive rights over things outside us to which no one has antecedent property rights.

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<sup>3</sup> Adam Moore, "Intellectual Property and Information Control: Philosophic Foundations and Contemporary Issues" (Transaction Press, 2004).

Locke's argument for moral property rights is perhaps the most influential in the classical liberal tradition, and has been embraced most ardently by political conservatives, like Robert Nozick, who believe it shows the distribution of material resources in nations like ours is justified in the sense that people are generally entitled to the things to which they take themselves to have property rights. Nozick adopts a historical theory of distributive justice: X has an entitlement to a thing *t* if and only if the original acquisition of *t* was morally justified (on Lockean grounds) and each successive transfer of *t*, including the final transfer that results in X's putative claim to *t*, satisfies the principles of justice in transfer, which includes the right to voluntarily alienate a property right in a thing by selling or giving it away. Nozick, like other conservatives who embrace the historical approach, believe that it shows that the distribution of material benefits and burdens in the U.S. is generally, though not perfectly, just.

This, however, turns out to be wrong for a variety of reasons. First, the moral rules that govern transfer of property rights have been violated to a significant extent in the U.S. Much of the wealth of the pre-industrial economy was built on the strength of forced labor that was never compensated. Larry O'Neal argues that the 1983 value (i.e., adjusted to provide a reasonable rate of interest income each year) of forced labor taken from slaves from 1620 to 1865, depending on the interest rate chosen, ranges from \$1 trillion to \$97 trillion. In comparison, it is worth noting that the estimated US GDP (total value of all goods and services produced in the US) in 2003 is \$10.99 trillion.<sup>4</sup> Clearly, there is much wealth being held by people who are not entitled to it – and this is why the issue of whether African-Americans are owed reparations is now a contentious issue in our society – although white people have not taken it anywhere near as seriously as it deserves.

Second, there are serious moral questions about how we came to acquire land in the U.S. to begin with. Although many Native American tribes lacked a concept of property and may not have labored on land in the Lockean sense, we took the land generally by coercion. We might have subsequently labored on it in a Lockean sense, mixing our labor with it, but we took it out of the commons and excluded Native Americans from appropriating it by force. While this might not be relevant in Locke's argument, strictly construed, it is surely a morally significant fact that bears on the justice of our property claims to the land falling within the boundaries of the U.S. Only the institution of slavery rivals the continuing injustice of our treatment of Native Americans. Our treatment of blacks during slavery and Native Americans at the beginning of our history as a nation has not been properly atoned for and remains, to say the least, a national embarrassment of the highest order.

More relevantly for our purposes, the morally protected commons has been utterly raided. There is not one acre of land or one material object not owned by some public or private entity in this country. While one might be tempted to think of publicly owned land (like a park) as forming a commons in some sense, the relevant sense is not Lockean: one is not free, for example, to farm parkland to provide for one's survival. A child born into the U.S. can, strictly speaking, count on having access to no other property than her own labor, which she can exchange for other property or, more commonly, sell. To say that the U.S. distribution of property egregiously violates the Lockean proviso that defines a morally protected commons is an understatement of the worst kind – a profound irony given the reliance of conservative property rights advocates on Lockean-style arguments. The idea that Locke's argument, properly construed, can ground a conservative claim that the U.S. satisfies principles of economic justice is, upon reflection, so transparently absurd that it is hard to believe that laypersons, much less theorists of Nozick's genius, could have ever bought this idea.

## II. THE COMMONS ARGUMENT AGAINST INTELLECTUAL PROPERTY RIGHTS

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<sup>4</sup> Joe R. Feagin, "Documenting the Costs of Slavery, Segregation, and Contemporary Discrimination: Are African Americans Owed Reparations," available at <http://www.millionsforreparations.com/feagin.html>.

Many theorists believe that a Lockean argument is applicable to establishing limits on the extent to which persons can come to acquire property rights in intellectual objects taken from an “information commons.” Herman Tavani argues that the Lockean proviso applies when (1) “a particular law or policy diminish[es] the information commons by unfairly fencing off intellectual objects (92)”<sup>5</sup>; and (2) “ordinary individuals [are] made worse off as a result of that law or policy when they can no longer access information that had previously been [freely] available to them (92).”<sup>5</sup> This, he believes, shows that from a Lockean foundation we can infer the existence of a morally protected commons of information objects.

Tavani considers and rejects two potential objections to his view. First, while one might argue that information objects are distinct from material objects in that they cannot be depleted, he points out that the diminution of the scope of the information commons has the effect of reducing access to intellectual objects – and this is, from the standpoint of Lockean reasoning, just as bad as depletion (though we will see such an argument will not work in the case of Hardin’s “Tragedy of the Commons” argument). Second, in response to a point I will make below and have made earlier,<sup>6</sup> he points out even if the information commons, unlike the material commons, does not come ready-made stocked with objects to be appropriated, once formed an information commons can be eroded in the sense that access to objects in the information commons can be diminished.

Accordingly, Tavani believes that Locke’s proviso entails the existence of a morally protected information commons that protects against laws and policies that “unfairly fenc[e] off intellectual objects” in the commons and thereby make individuals “worse off” in some unspecified sense.

### III. EVALUATING THE COMMONS ARGUMENT

The concept-term “commons” is ambiguous as between a number of uses, but it is clear from the debate that the concept grounding this line of argument ultimately derives from the Lockean argument for original acquisition of property. As we have seen, Locke realized that the existence of a moral right to property depends critically on the idea that persons can acquire a property right in objects to which no one else has a prior moral claim or entitlement (i.e., objects which are not the property of anyone else). He makes this idea plausible by pointing out that, *qua* persons, we have a moral right (even in the state of nature) to preserve our lives. Since this cannot be done without appropriating material objects, it follows that we have some moral right to property. He then goes on to explain *how* we come to have property rights in original acquisition: we do so, on Locke’s view, by mixing something in which we antecedently have a property right (i.e., our bodies and our labor) into something in which no one has a property right. As long as we leave enough and as good for everyone else, we are entitled to assert exclusive control over the object.

The argument that there are moral limits to intellectual property rights that can be legitimately protected by law because they deplete an information commons is a digital version of the Lockean proviso. Intellectual property protection is illegitimate to the effect that it allows the depletion of the information commons to an extent that there is not enough and as good left for others. As Tavani (2005) expresses the idea, information objects might not be capable of depletion, but intellectual property protection can reduce access to information objects that were otherwise freely available thereby leaving people worse off. Accordingly, the Commons Argument, as defended by Tavani (2005), starts from a classically Lockean foundation and attempts to derive the existence of a morally protected information commons that limits the scope of legal protection of intellectual property protection.

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<sup>5</sup> Herman Tavani, “Locke, Intellectual Property Rights, and the Information Commons,” *Ethics and Information Technology*, vol. 7, no. 2 (2005).

<sup>6</sup> See Kenneth Einar Himma, “Information and Intellectual Property Protection: Evaluating the Claim that Information Should be Free,” *APA Newsletter on Philosophy and Law*, vol. 4, no. 2 (Spring 2005).

Things are not as straightforward as Tavani seems to believe. The Lockean justification for the claim that some class of resources is a morally protected commons presupposes a number of theoretically significant claims. First, it presupposes that people have a morally significant interest in the relevant class of resources; land, for example, is of great importance to human well-being. Second, it presupposes that the resource can be appropriated in such a way as to reduce its supply and cause its *depletion*. Third, it presupposes that the relevant resource can also be consumed by members of the group in another way that does not reduce its supply. Fourth, it presupposes that the relevant resources can be readily appropriated (in the protected way) by anyone with access to them; the vistas of a park can be viewed, for example, by anyone who happens to be there. Finally, it presupposes that no one has a prior claim to exclude the others from appropriating the relevant resources (in the protected way); the original humans, for example, had no claim whatsoever to any of the land that forms part of a land-commons.

Tavani's Commons Argument fails, however, because the first, fourth, and fifth conditions are not clearly satisfied. As to the first, it is certainly clear we have a morally significant interest in information objects: intellectual content of all kinds is needed to satisfy desires; some may be necessary for human beings to flourish intellectually in all the ways that, as a matter of moral development, they ought to flourish. But neither of those conditions is strong enough, starting from a classically Lockean foundation, to justify an information commons. It is not just that material resources conduce in some way to well being that, on Locke's argument, justifies limits to material appropriation; acquiring more property than others have conduces to well being by increasing one's social status, but that clearly is not what Locke has in mind in getting his argument off the ground. What gets his argument off the ground is a *necessary* truth about human beings: it is *nomologically necessary* that human beings must appropriate certain material objects in order to survive (i.e., there is no possible world that has the same laws of physics, chemistry, and biology as ours in which human beings can survive without appropriating material objects, like food, water, and shelter). The Lockean proviso, as he saw it, is not just a no-harm-no-foul principle; nor is it a weak principle of Pareto optimality of the sort suggested by Adam Moore (2004); the Lockean proviso, as he saw it, is needed to save lives and is thus a logical consequence of every human's right of self-preservation. Accordingly, the relevant sense in which an appropriation is illegitimate on the Lockean proviso is *if it risks placing people's lives at risk*.

This is not necessarily true of access to information. It is not a nomological truth about us that we need information objects to survive. One might be tempted to think that it is not nomologically possible for us to find, access, and use the material objects we need without having adequate information, but this is simply false. It is nomologically possible for a human being *without language* to survive even in today's world, despite the fact that such a human being cannot process propositional objects like information because this requires linguistic skills. Animals are commonly thought to lack the capacity for propositional attitudes like beliefs etc., precisely because they do not have the linguistic abilities to process propositional objects; if, as is commonly thought, it is a conceptual truth that a being X believes *p* if and only if X assents to *p*, or would assent to *p* if aware of its content, then dogs cannot have beliefs because they are incapable of assenting to propositional content, which means they cannot process information in the relevant sense; yet even strays have no problem surviving in our material world. And it is surely true that early humans or pre-humans lacked language and hence lacked the relevant linguistic skills, but nonetheless survived and reproduced. Accordingly, it is in no sense a nomological truth about us that we need information to survive and hence an information commons, unlike a material commons, cannot be derived from the right to self-preservation on any plausible construction of Locke's argument as he intended that argument.

Of course, the prospects of a human life without access to information are rather bleak once we get beyond the possibility of bare survival. There is simply no question that, from a moral standpoint, the good or meaningful life requires more than bare survival and that does require access to information for a variety of reasons. The more information one has, the more material stuff one is likely to accumulate, but that does not work in Locke's argument, properly construed. The more



information one has the richer one's intellectual life will be; but that is irrelevant from the standpoint of Locke's original argument.

It might be that in a global economy some information is necessary for survival – although I doubt even this much (after all, the homeless in the U.S., who tend to be poorly educated, drug-addicted, and mentally ill, manage to survive despite very limited access to information of the relevant sort). Even if it is not nomologically necessary, one might think it is socially necessary because of the social structures and institutions that we have, as a nomologically contingent matter, set up.

I am willing to concede that one might be able to derive a morally protected commons for such information on strict Lockean grounds, but that buys very little: it might require the modification of some patent laws, but it won't require the modification of either trademark or copyright laws. At most, access to factual information will be necessary for survival; access to trademarks, music, film, and fiction is not. While trademarks, music, film, and fiction are covered by intellectual property law, facts and ideas are not. The Lockean argument, even on the somewhat generous assumption that access to information is needed for survival, buys very little by way of reform of intellectual property law. It certainly, *contra* Tavani, doesn't buy much by way of rewriting the Digital Millennium Copyright Act, which is largely intended to protect the *entertainment* industry's control over its products – and is the content that copyright infringers want and steal most.

As to the fourth condition, it is not true that all propositional objects exist in a form that can be readily appropriated by anyone who happens to be exploring them. The proof of Fermat's Last Theorem, for example, did not become available for consumption, despite the intense labors of mathematicians for hundreds of years, until Andrew Wiles produced it several years ago. *A Tale of Two Cities* did not become available for consumption until Charles Dickens produced it. While it might be true that someone else would have eventually found a proof for Fermat's Last Theorem, it is not true that someone else would have written *A Tale of Two Cities* had Dickens not done so.

Of course, these propositional objects might have already existed as abstract objects in logical space prior to their "discovery," but the important, interesting, non-obvious propositional objects cannot be readily consumed by people until someone, through the expenditure of her labor, makes them available to other people. The intellectual commons, unlike the land commons, is not a resource already there waiting to be appropriated by anyone who happens to be there; it is stocked by and only by the activity of human beings. People cannot make land, but they can (and do) make novels, music, proofs, theories, etc.; and if someone does not make a particular novel, it is not available for human consumption – even if it exists somewhere out there in logical space.

It is true, as Tavani argues, that a commons of any kind, once established, can be eroded in the sense that access to the objects in that commons can be diminished, but that is simply not relevant if one attempts to rely on a classical Lockean framework. Locke's point is that there is a material world out there readily accessible to anyone for the satisfaction of basic needs to which no one has any antecedent claim; some access to this pre-packaged world is justified by the right to self-preservation. The information commons is not part of a pre-packaged world that would constitute a commons in the precise sense in which Locke intends it. Insofar as a commons presupposes entities that are readily available, the world of information is not a commons in the relevant sense: people create and stock it by their labor; God, as Locke might put it, does not.

Finally, the fifth condition is not obviously satisfied. Locke's argument, as he intends it, begins from the assumption that no one has any antecedent claims to the material resources provided in commons for the preservation of human lives. Tavani's Commons Argument overlooks the very plausible possibility that people have an antecedent claim to exclude others from the information objects they make available to the world through the expenditure of their time and energy, the chief resources any person has available for creating a meaningful human life. Given that the information objects to which we have access, unlike the material world, come to us through the efforts of people who expend their valuable resources and is not, again unlike the material world, made available in pre-packaged form prior to any human creative activity, it is simply not obviously true of the information

world, as it is of the material world, that no one has any antecedent property claims to the objects of this world. Since no human being made land available to us by making it, no human being can claim a pre-social moral property right to any piece of land. But this is simply not true of information: information is made available to us only through the labor and efforts of human beings that, one can plausibly argue, give rise to presumptive ownership claims in it.<sup>7</sup>

This should not be taken to deny that one might be able to modify the Lockean arguments to attempt to justify the existence of a morally protected commons. Locke's attempt to justify even *material* property rights has largely been judged unsuccessful – even by politically conservative, libertarian theorists, like Robert Nozick, *who presuppose that very framework*. As Nozick puts one of the objections discussed above:

Why isn't mixing what I own a way of losing what I own rather than a way of gaining what I don't? If I own a can of tomato juice and spill it into the sea ... do I thereby come to own the sea or have I foolishly dissipated my tomato juice?<sup>8</sup>

Despite this, Nozick simply assumes the Lockean framework as part of his Entitlement Theory of Distributive Justice.

Many property theorists, including Moore (2004), focus their efforts on modifying the original version of Locke's theory by tinkering with its structure and the content of its central claims. It might be that one of these arguments will be successful in justifying a morally protected information commons. But this much should be clear: some fairly significant tinkering will be needed to do so. Properly construed, Locke's theory lacks the resources to justify protecting an information commons; it is thus agnostic with respect to the existence of a morally protected information commons.

#### IV. HARDIN'S "TRAGEDY OF THE COMMONS" ARGUMENT FOR MATERIAL PROPERTY RIGHTS

Something similar can be said with respect to the application of Garrett Hardin's famous "tragedy of the commons" argument for material property rights to intellectual objects. Hardin is famous for arguing that holding material property in common inevitably leads to its depletion. The "tragedy of the commons" is that property held in common will ultimately be overused to the point of depletion because each user has an incentive to increase use of the property because the benefits of doing so will accrue exclusively to her while the costs will be spread over all other users of the commons.

Hardin's example is that of a pasture being held in common by cattle-owners who are all allowed to let their cattle graze the land:

The tragedy of the commons develops in this way. Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons.... As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks, "What is the utility *to me* of adding one more animal to my herd?"... Since the herdsman receives all the proceeds from the sale of the additional animal, the positive utility is *nearly +1*.... Since, however, the effects of overgrazing are shared by all the herdsmen, the negative utility for any particular decision-making herdsman is *only a fraction of -1*.... [T]he rational herdsman concludes that the only sensible course for him to

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<sup>7</sup> For an extended discussion and defense of this claim, see Kenneth Einar Himma, "Justifying Intellectual Property Protection: Why the Interests of Content-Creators Usually Wins Over Everyone Else's" in Emma Rooksby and John Weckert (eds.), *Information Technology and Social Justice* (Idea Group, 2006)

<sup>8</sup> Robert Nozick, *Anarchy, State, and Utopia* (NY: Basic Books, 1978), 174-5.

pursue is to add another animal to his heard. And another; and another.... But this is the conclusion reached by each and every rational herdsman sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit – in a world that is limited.... Freedom in a commons brings ruin to all.<sup>9</sup>

If we assume that the land can support only so many cattle and that the cattle-owners have more cattle than it can support (a condition of relative scarcity), each cattle-owner will try to allow more cows to graze the land than she would be allowed if each cattle-owner shared the pasture equally and in a way that would preserve the existing capacity of the pasture. The result is that the land will be overgrazed, depleted, and hence become useless to all.

The same sort of argument can be made for pollution of a commons. A rational factory-owner will rationally choose to pollute a commons if it results in benefit to him or her (and it will because controlling pollution is costly). As before, this is because the benefits of any owner's adding pollution to the commons accrues entirely to him or her while the costs are spread over all other users of the resource. Since every factory-owner will reach this decision, the result will be that eventually the amount of pollution will deplete the utility of the resource, effectively ruining it for any other use.

It is worth making a couple of observations here. First, Hardin's argument is supposed to show, among other things, that holding resources in a commons is economically inefficient and that the value of resources will be maximized if persons are allowed to hold property individually.

Second, if this is supposed to be an argument for natural property rights that is compatible with Locke's, it fails for a simple reason: to put it simplistically, two wrongs cannot make a right here. The so-called "tragedy of the commons" is a problem that can arise only once the morally protected commons defined by the Lockean proviso has been violated because the violation of the proviso creates the very condition of scarcity that the proviso is intended to prevent. Now, it might be that the tragedy of the commons might count as a reason for private ownership, but not if it relies on the Lockean argument as a foundation for original acquisition, which entails that the solution advocated is morally wrong. But if it abandons the Lockean foundation, however, the proponent has no theory that would enable him to justify allowing one cattle-owner control over a parcel of land to the exclusion of the others.

## V. IS THERE A "TRAGEDY OF THE INFORMATION COMMONS?"

Although there have been a number of papers claiming some sort of tragedy of the information or digital commons that is analogous to the problem described by Hardin in his influential argument, strictly speaking, none of them presents such a problem. Hardin's argument, properly understood, cannot be adapted to justify ownership in intellectual objects without abandoning what is utterly central to Hardin's argument and radically changing the character of the argument. This is not to suggest, as we will see, that there are not problems associated with holding information in commons, but they are not at all the same problem that would justify ownership on an argument logically related to Hardin's. In other words, the problems cited by persons concerned with preventing a tragedy of the information commons are just not analogous to the problem described by Hardin.

The reason for this is quite simple and frequently noticed by commentators. Material resources held in common, according to Hardin, will inevitably be *depleted* by overuse; the consequence of overusing a pasture intended to support cattle is that it *cannot* be used again to support cattle – at least not without being replenished. Material resources are scarce and will be "used up" or depleted if not carefully managed. It is this fact that plays the central role in the criticism of any material commons in Hardin's argument.

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<sup>9</sup> Garrett Hardin, "Tragedy of the Commons," *Science*, vol. 62, pp. 1243-1248.

The problem is that it is not logically possible to use up or deplete intellectual objects. Intellectual objects, strictly speaking, are abstract objects that, by definition, are not subject to depletion; one cannot, for example, use up a propositional object conveying information anymore than one could use up the object referred to by the symbol “2.” Consumption of any intellectual object, as is so well known as to constitute a “truism,” is non-exclusive in the sense that more than one person can consume it and non-rivalrous in the sense that consumption by one person does not reduce the amount of the object available for consumption by others.

The reason for this is simple: as a conceptual matter, material beings cannot causally interact with abstract objects.<sup>10</sup> I cannot deplete the abstract object referred to by the symbol “2” because I cannot causally interact with the referent of “2” in any way; this is an uncontroversial claim about the content of the very concept of an abstract object. It is a necessary condition (though not obviously a sufficient condition) for X’s being an abstract object that material beings cannot causally interact with X. I can, of course, think about and represent to myself the content of abstract objects (like a recipe for guacamole), but it is a standardly accepted conceptual truth that, for all X, if I can causally interact with X, then it is not an abstract object. And if I cannot causally interact with abstract objects, then there is nothing I can do to deplete them. Since information objects are abstract objects, they simply cannot be depleted.

But one need not ground the impossibility of depleting information objects in conceptual claims about abstract objects. The metaphysically necessary truths that consumption of intellectual objects are non-rivalrous and non-exclusive (and these are, it should be noted, metaphysically necessary) entail another metaphysically necessary truth: it is necessarily true that, for every information object X, every person can, in principle, simultaneously consume X without reducing its supply. This logically entails that it is metaphysically *impossible* to deplete the supply of any information object.

Of course, one might concede all of this, including the idea that intellectual objects are abstract objects, but argue that they are available to us only through some physical medium that *can be depleted* – whether it is the printed pages of a book or the digital entities accessed by a computer from the World Wide Web. Like any other material resource, these entities *are* subject to the limits of scarcity, although those limits seem to constrain consumption of material entities and consumption of digital entities differently. Although we can use up all the trees for producing paper, leaving us without trees for a significant period of time, it is not entirely clear that digital entities can be used up. Too much consumption of digitized content might slow everyone’s access to that content because broadband width is limited, it is not obvious that broadband width can be depleted for a significant amount of time (although this might in the end turn out to be true).

But this is a problem having to do with a *physical* commons – and not an information commons. If there is just one paper copy of *Moby Dick* left in the world and no other way to access the content except by reading the copy, it is clear that allowing everyone to freely read that copy will eventually destroy it and deplete the physical copy of *Moby Dick*. This might, of course, have the effect of eliminating access to that content, but the tragedy here is caused by allowing a *physical object* to be held in common. This is an argument for allowing one person to own the last copy of *Moby Dick*, but not for allowing ownership over the content. Indeed, the sensible thing to do is to try to make copies so that the physical objects conveying that content are not depleted. In any event, this is the standard tragedy that arises with holding physical objects in common – and is not a tragedy of an information commons as Hardin would describe that notion. The tragedy Hardin describes might indirectly apply to information, but not directly: it directly applies only to the physical objects that convey information.

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<sup>10</sup> See Gideon Rosen, “Abstract Objects,” *Stanford Encyclopedia of Philosophy*; available at: <http://plato.stanford.edu/entries/abstract-objects/>.

For this reason, it will, at most, justify private ownership of the physical objects conveying information content; it will not justify ownership over the content itself. In particular, it might require me to ask the owner of the last copy of the book *Moby Dick* for permission to borrow the book to access the content, but it will not require me to ask permission to make a copy – or even to make multiple copies on physical objects I own and sell them to other people. Thus, although information is conveyed through physical media that represent abstract symbols that we interpret to glean content and these physical media are themselves scarce, this fact will not justify intellectual property rights in content.

There is one more difference between information and material objects that is relevant with respect to Hardin's argument. Depletion of a material object is problematic because our continued existence as living beings depends on our consumption of material objects: if we do not have access to adequate food, water, and shelter, we will die. This is not, of course, a metaphysical truth about human beings; surely, there is some metaphysically possible world in which humans have no material needs despite being material beings. But it is a nomological truth (i.e., true in every possible world resembling ours in the sense that it is subject to the same laws of physics, chemistry, and biology) – and this is surely part of why it makes sense to think of the situation described by Hardin as a *tragedy*.

But, as we have seen, it is not a nomological truth about us that we need information objects to survive. One might be tempted to think that it is not nomologically possible for us to find, access, and use the material objects we need without having adequate information, but this is simply false. It is nomologically possible for a human being without language to survive even in today's world, despite the fact that such a human being cannot process propositional objects like information because this requires linguistic skills. As noted above, animals survive despite lacking the capacity for propositional attitudes like beliefs etc., precisely because they do not have the linguistic abilities to process propositional objects. And, as noted above, many human beings seem to survive despite being comparatively impoverished with respect to the amount of information to which they have access and can understand. Indeed, it is obviously true that early humans or pre-humans survived despite lacking language and hence the relevant linguistic skills to process information in the right kind of way.

In any event, the fact that material objects are, while information objects are not, subject to depletion entails that there is no "tragedy of the information commons" in the precise sense that is central to driving Hardin's argument. The papers that attempt to rely on Hardin's argument to justify ownership of information entities or require some other strategy for managing their use than an information commons are, strictly speaking, non-starters. Hardin's argument strategy does not apply to information objects because they are not subject to depletion – and that is a metaphysical truth about such objects.

This is not to deny that we live in an economy in which material well-being increasingly depends on access to information, but that is a contingent fact about the character of the social world we have constructed for ourselves – and is not a nomologically necessary truth about human beings. Given the laws of physics, chemistry, and biology that obtain in this world, we *cannot* survive without material objects, but *can* without information objects. Survival without information objects might have a low probability, but it is still a non-zero probability; survival without material objects has a probability of zero. That we are, by nature, material beings needing material objects to survive surely plays an important role in Hardin's characterization of the material commons situation as a "tragedy" and makes it plausible to think, as it did in the case of Locke, that we have some limited right to exclude others from appropriating certain objects – though this does not, by itself, get us the full-blown system of private property proponents of such arguments might believe it does.

This is also not to deny that there are many problems that might arise with respect to an information commons – though these problems differ in both their character and what might be required as an adequate solution. Harlan Onsrud argues that certain states are selling what was once free public geographic information and are thereby reducing the amount of what ought to remain

public information in a commons where it is freely available to all.<sup>11</sup> He also worries that the trend towards digitizing information, rather than keeping it in hard form in a public library, might have the effect of creating a divide between those who are rich and can afford information communication technologies (ICTs) and those who cannot, in effect, reducing what is in the commons for the latter.

Both of these trends clearly involve something fairly characterized as an information commons and a trend that is undesirable from a moral point of view, but neither is, *contra* Onsrud, a “tragedy of the commons” as Hardin defines that situation. First, the reduction of information in the commons is not, strictly speaking, a depletion. That information is still available for anyone to use; the difference is that new costs are imposed for its use. Second, the reduction is not caused by overuse, unlike the depletion of the pasture that is the classic example of a tragedy of the commons. The reduction occurs because certain decisions are being made to charge for some information or to make it available only online.

Building on Hardin’s famous argument, Floridi and Greco worry that attempts to bridge the digital divide will have the effect of creating a “tragedy of the digital commons.”<sup>12</sup> The concern here is that increasing access of the global poor to ICTs and the online world “is tantamount to enlarging the population of the Infosphere” and will increase “bandwidth saturation” and information pollution in the form of spam and other unwanted content.

While these concerns are certainly legitimate, they have nothing to do with Hardin’s model. First, bandwidth is not held in common; bandwidth is bought and sold by private companies and is hence not any part of a commons. For this reason, while bandwidth saturation might be a problematic consequence of overusing bandwidth, it is not a “tragedy of the commons” problem as Hardin defines this notion. Second, the increase in information pollution does not result in the depletion of information. It creates an overload problem: it culminates in the production of more information than is wanted, and this has the effect of making it more difficult to sort through all information to find information that is wanted. Polluting a river and killing off all life, in contrast, depletes a variety of natural resources; it doesn’t just make them harder to find in that river. Again, this is not to deny the legitimacy of the concerns; it is only to assert that the arguments are not properly grounded in Hardin’s famous argument.

Finally, Posner and Landes argue that an information commons will encourage overuse of information resources thereby reducing their economic value.<sup>13</sup> For example, overexposure of a celebrity’s image might result in decreased demand for the celebrity and hence in the celebrity’s economic value; celebrities, according to this reasoning, ought to have property rights in their image that enable them to control dissemination of their image so as to prevent the resulting reduction in its value. Similarly, trademark law is needed, on this line of reasoning, to prevent the overuse of famous marks and the resulting reduction of its value.

Certainly, there are good reasons to try to structure law so that it maximizes economic value – although Posner and Landes are incorrect in thinking that this should be regarded as the ultimate law-guiding value<sup>14</sup>; however, reduction of a resource’s economic value is an analytically distinct matter from the depletion of a resource. While it is clearly true that depletion of any resource such as a river

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<sup>11</sup> Harlan Onsrud, “The Tragedy of the Information Commons,” *Policy Issues in Modern Cartography* (Elsevier Science), 1998, 141-158.

<sup>12</sup> Luciano Floridi and G.M. Greco, “The Tragedy of the Digital Commons” Information Ethics Group Research Report; available at: [web.comlab.ox.ac.uk/oucl/research/areas/ieg/research\\_reports/ieg\\_rr141003.pdf](http://web.comlab.ox.ac.uk/oucl/research/areas/ieg/research_reports/ieg_rr141003.pdf).

<sup>13</sup> William M. Landes and Richard A. Posner, “Indefinitely Renewable Copyright, 70 *University of Chicago Law Review* 471 (2003).

<sup>14</sup> Posner believes that the legitimizing function of the law is simply to maximize economic efficiency. See Posner, *Economic Analysis of Law* (NY: Little Brown and Company, 1992).

necessarily entails its reduction in economic value, the converse is false. The value of some item might fall for any variety of reasons that have nothing to do with its being depleted. Clothing designs lose value over time as they go out of style and people choose other designs; what accounts for the loss in value is decreased consumer demand as a result of a change in taste that might well result from overexposure, but there is nothing here that has been depleted.

Indeed, the value of some item might fall because there is too much of it. When oversupply occurs in the sense that the supply of the item exceeds the demand for the item, the price of the item falls from the price that it has at economic equilibrium, where supply and demand are equal, until sufficient new demand for the product is created to result in a new equilibrium that reflects a reduction in price. Hardin's argument simply has no application to the situation described by Posner and Landes.

It is easy to see why these theorists are so tempted to try to ground their concerns in Hardin's argument. The tragedy of the commons, as Hardin describes it, provides a compelling reason for private ownership of the relevant resource. Given the importance of the resource to our well being, it is clearly preferable from a moral standpoint, other things being equal, to restrict its use and thereby preserve it than have it ultimately overused and depleted for morally significant periods of time. If one can show an *analogous* tragedy of some intellectual, information, or digital commons, then that is a compelling reason for restricting the use of the relevant information object through by, for example, allowing intellectual property rights. Restriction of use that preserves a resource needed for well being over the long term is clearly morally preferable to overuse of that resource that leads to depletion in the short term.

But mischaracterizing an information problem as a "tragedy of the commons" problem is not merely unhelpful; it is counterproductive. The tendency of an alert reader will be to reflect on the problematic characterization of the situation and disanalogy, rather than to reflect on the true character of the problem. The effect is not just that the reader is left unpersuaded by the argument; it is also that the reader is likely to overlook the real problem and fail to consider what appropriate solutions might be. For we philosophers to contribute to solving practical problems, we have to be clear about what the real problems are and why they are problems.

## VI. CONCLUSION: THE IRRELEVANCE OF LOCKE AND HARDIN IN SHOWING AN INFORMATION COMMONS

In this essay, I have shown that the notion of a commons as it is developed in Locke's argument for preservation of a morally protected commons and Hardin's argument for the superiority of private ownership over ownership in common as a means for preserving resources has no application in the dispute over whether legal protection of intellectual property rights is morally legitimate.

The Lockean proviso, which purports to establish a morally protected material commons, rests on the truism that human beings have a right to self-preservation and cannot preserve themselves without consuming resources; for this reason, a material commons must be preserved in fairness to all other persons, present and future. Nothing like this can be said of information objects because human beings can survive and thereby exercise their right to self-preservation without having information. We know this because other animals can survive despite lacking linguistic abilities and hence the relevant information processing skills and because early humans survived for many years until they developed the relevant skills. These days, bare survival without information would not result in a meaningful or flourishing life, of course; but the point is the modal one: it is nomologically possible for us to survive without access to information, but not without access to material objects.

Hardin's "tragedy of the commons" argument does not apply to information objects because information objects are abstract objects that cannot causally interact with material objects, including material beings like us. It is logically impossible for a material being to deplete a resource with which it cannot causally interact. Although the physical objects containing information can be depleted, this

is a different matter that has nothing to do with awarding intellectual property rights; it is a metaphysically necessary truth that every human being can, in principle, simultaneously consume an information object without reducing its supply. It logically follows that it is a metaphysical truth that information objects cannot be depleted through overuse. The notions of a commons, as developed in Hardin's and Locke's arguments, are both agnostic with respect to the moral legitimacy of legal protection of intellectual property rights.