

5

## Toward a Lockean Theory of Intellectual Property

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Nor was this appropriation of any parcel of land by improving it any prejudice to any other man, since there was still enough and as good left, and more than the yet unprovided could use. So that, in effect, there was never the less left for others because of his enclosure for himself; for he that leaves as much as another can make use of does as good as take nothing at all.

— John Locke, *The Second Treatise of Government*

### Introduction

Most of us would recoil at the thought of shoplifting a ballpoint pen from the campus bookstore and yet many do not hesitate to copy software worth thousands of research dollars without paying for it.<sup>1</sup> When challenged, replies like "I wouldn't have purchased the software anyway" or "they still have their copy" are given to try to quell the sinking feeling that something ethically wrong has occurred. Moreover, with the arrival of the information age, where digital formats make copying simple and virtually costless, this asymmetry in attitudes is troubling to those who would defend Anglo-American institutions of property protection.

One way of understanding these replies is to take them to suggest a real difference between intellectual property and physical or tangible property. As noted by Hettinger in chapter 2, my use of your intellectual property does not interfere with your use of it, whereas this is not the case for most tangible goods. Justifying intellectual property in light of this feature raises deep questions and has led many to abandon the romantic image of "Lockean labor mixing" in favor of incentives-based rule-utilitarian justifications. Labor-mixing theories of acquisition may work well when the objects of property can be used and consumed by only one person at a time, but they seem to lose force when the objects of property can be used and consumed by many individuals concurrently.

In what follows, a Lockean theory of intellectual property rights will be explained and defended. In part, I will argue that the non-rivalrous nature of intellectual property, mentioned above, does not pose an insurmountable problem for the Lockean. The first part will consist of a protracted argument, grounded in the Lockean proviso, that seeks to justify individual acts of intellectual property appropriation. In the second part, I will examine

how an institution or system of intellectual property might be justified, rather than justifying individual instances of intellectual property acquisition directly.<sup>2</sup> Finally, if successful, my theory will support the original intuition that something ethically wrong has occurred when computer software, music, or other intellectual works are pirated.

#### Lockean Intellectual Property

Anglo-American systems of intellectual property are typically justified on rule-utilitarian grounds. Rights are granted to authors and inventors of intellectual property "to promote the progress of science and the useful arts."<sup>3</sup> Society seeks to maximize utility in the form of scientific and cultural progress by granting limited rights to authors and inventors as an incentive toward such progress. This approach is, in a way, paradoxical. In order to enlarge the public domain permanently society protects certain private domains temporarily. In general, patents, copyrights, and trade secrets are devices created by statute to prevent the diffusion of information before the author or inventor has recovered profit adequate to induce such investment. The justification typically given for Anglo-American systems of intellectual property "is that by slowing down the diffusion of information these systems ensure that there will be more progress to diffuse."<sup>4</sup>

Many Lockeans, including myself, would like to provide a more solid foundation for intellectual property. Defenders of robust rights to property, be it tangible or intangible property, argue that something has gone awry with rule-utilitarian justifications. Rights, they claim, stand athwart considerations of utility-maximization or promoting the social good.<sup>5</sup> Thus, in generating rights to intellectual property on utilitarian grounds, we are left with something decidedly less than what we typically mean when we say someone has a right.<sup>6</sup> In fact, it may be argued that what has been justified is not a right but something less, something dependent solely on considerations of the overall social good. Alas, if conditions change it may be the case that granting control to authors and inventors over what they produce diminishes overall social utility, and thus, on utilitarian grounds, society should eliminate systems of intellectual property.<sup>7</sup>

Before proceeding toward a Lockean theory of intellectual property, I would like to discuss two important differences between intellectual property and physical property. As noted in the opening, intellectual property is non-rivalrous in the sense that it can be possessed and used by many individuals concurrently. Unlike my car or computer, which can only be used by one person at a time, my recipe for spicy Chinese noodles can be used by many individuals simultaneously. A second major difference between physical and intellectual property is the characterization of their respective pools of appropriatable items. While all matter, owned or unowned, already exists, the same is not true of intellectual property.

Putting aside Platonic models, the set of unowned intellectual works is both practically infinite and nonactual. But this commons of intellectual property does not include privately owned intellectual works, and outside of limitations on independent creation (patent law), the same intellectual work may be created and owned by two or more individuals. Thus, in determining what can be legitimately acquired, we must include the set of privately owned intellectual works along with the practically infinite set of nonactual ideas or collections of ideas. Only the set of publicly owned ideas or those ideas that are a part of the common culture are not available for acquisition and exclusion. I take this latter set to be akin to a public park—that is, a commons created and maintained by statute or convention.<sup>8</sup>

#### Original Acquisition

It is generally the case that individuals acquire property rights via a transfer from previous owners. When assessing the moral status of a property transfer, it is necessary to examine the justification of the previous owner's rights to the object. Ultimately, all current rights to property rest on the acquisition of formerly unowned objects. But under what conditions can removing objects from an unowned state be justified? This is known as the problem of original acquisition.

A common response to this problem is given by John Locke. "For this labor being the unquestionable property of the laborer, no man but he can have a right to what that is once joined to, at least where there is *enough and as good left for others*."<sup>9</sup> Moreover, Locke claims that so long as the proviso that enough and as good is left for others is satisfied, an acquisition is of "prejudice to no man."<sup>10</sup> The proviso is generally interpreted as a necessary condition for legitimate acquisition, but I would like to examine it as a sufficient condition.<sup>11</sup> If the appropriation of an unowned object leaves enough and as good for others, then the acquisition and exclusion is justified. Suppose that mixing one's labor with an unowned object creates a prima facie claim against others not to interfere that can only be overridden by a comparable claim. The role of the proviso is to stipulate one possible set of conditions where the prima facie claim remains undefeated. This view is summed up nicely by Clark Wolf:

On the most plausible interpretation of Locke's theory, labor is neither necessary nor sufficient for legitimate appropriation. Mixing labor with an object merely supports a presumptive claim to appropriate. The proviso functions to stipulate conditions in which this presumptive claim will be undefeated, or overriding, and will therefore impose duties of noninterference on others.<sup>12</sup>

Whether or not Wolf has interpreted Locke correctly, this view has strong intuitive appeal. Individuals in a pre-property state are at liberty to

Eve's appropriation may actually benefit her fellows and the benefit may serve to cancel the worsening that occurs from restricted use. Moreover, compensation can occur at both the level of the act and at the level of the practice. This is to say that Eve herself may compensate or that the system in which specific property relations are determined may compensate.

This leads to a related point. Some have argued that there are serious doubts whether a Pareto based proviso on acquisition can ever be satisfied in a world of scarcity. Given that resources are finite and that acquisitions will almost always exclude, your gain is my loss (or someone's loss). On this model, property relations are a zero-sum game.<sup>17</sup> If this were an accurate description, then no Pareto superior moves could be made and no acquisitions justified on Paretian grounds. But this model is mistaken. An acquisition by another may worsen your position in some respects but it may also better your position in other respects. Minimally, if the bettering and worsening cancel each other out, a Pareto-superior move may be made and an acquisition justified. Locke recognizes this possibility when he writes,

Let me add, that he who appropriates land to himself by his labour, does not lessen, but increase the common stock of mankind: for the provisions serving to the support of human life, produced by one acre of enclosed and cultivated land, are ten times more than those which are yielded by an acre of land of equal richness lying waste in common.<sup>18</sup>

Furthermore, it is even more of a stretch to model *intellectual* property as zero-sum. Given that intellectual works are non-rivalrous — they can be used by many individuals concurrently and cannot be destroyed — my possession and use of an intellectual work does not preclude your possession and use of it. This is just to say that the original acquisition of intellectual or physical property does not necessitate a loss for others. In fact, if Locke is correct, such acquisitions benefit everyone.

Before continuing, I will briefly consider the plausibility of a Paretian based proviso as a moral principle.<sup>19</sup> First, to adopt a less-than-weak Pareto principle would permit individuals, in bettering themselves, to worsen others. Such provisos on acquisition are troubling because at worst they may open the door to predatory activity and at best they give anti-property theorists the ammunition to combat the weak presumptive claims that labor and possession may generate. Part of the intuitive force of a Paretian based proviso is that it provides little or no grounds for rational complaint. Moreover, if we can justify intellectual property rights with a more stringent principle, a principle that is harder to satisfy, then we have done something more robust, and more difficult to attack, when we reach the desired result.

use and possess objects. Outside of life or death cases, it is plausible to maintain that laboring on an object creates a weak presumptive possession and use claim against others. Minimal respect for individual sovereignty and autonomy would seem to support this claim. The proviso merely indicates the conditions under which presumptive claims created by labor, and perhaps possession, are not overridden by the competing claims of others. Another way of stating this position is that the proviso in addition to X, where X is labor or first occupancy or some other weak claim generating activity, provides a sufficient condition for original appropriation.

Suppose Fred appropriates a grain of sand from an endless beach and paints a lovely, albeit small, picture on the surface. Ginger, who has excellent eyesight, likes Fred's grain of sand and snatches it away from him. On this interpretation of Locke's theory, Ginger has violated Fred's weak presumptive claim to the grain of sand. We may ask, what legitimate reason could Ginger have for taking Fred's grain of sand rather than picking up her own grain of sand? If Ginger has no comparable claim, then Fred's *prima facie* claim remains undefeated. An undefeated *prima facie* claim can be understood as a right.<sup>13</sup>

#### A Pareto Based Proviso

The underlying rationale of Locke's proviso is that if no one's situation is worsened, then no one can complain about another individual appropriating part of the commons. Put another way, an objection to appropriation, which is a unilateral changing of the moral landscape, would focus on the impact of the appropriation on others. But if this unilateral changing of the moral landscape makes no one worse off, there is no room for rational criticism.

The proviso permits individuals to better themselves so long as no one is worsened (weak Pareto-superiority). The base-level intuition of a Pareto improvement is what lies behind the notion of the proviso.<sup>14</sup> If no one is harmed by an acquisition and one person is bettered, then the acquisition ought to be permitted. In fact, it is precisely because no one is harmed that it seems unreasonable to object to a Pareto-superior move. Thus, the proviso can be understood as a version of a "no harm, no foul" principle.

It is important to note that compensation is typically built into the proviso and the overall account of bettering and worsening.<sup>15</sup> Gauthier echoes this point in the following case:

In acquiring a plot of land, even the best land on the island, Eve may initiate the possibility of more diversified activities in the community as a whole, and more specialized activities for particular individuals with ever-increasing benefits to all.<sup>16</sup>

bettering and worsening and should be taken as an assumption. Moreover, aside from being intuitive in its general outlines, the theory fits well with the moral individualism that grounds both a Paretian based proviso and the view that liberty rights entail weak presumptive claims to objects.

Human well-being or flourishing is the sole standard of intrinsic value. There are at least two reasons to accept this view: first, happiness or flourishing is what is generally aimed at by everyone; and second, it seems absurd to ask what someone wants happiness or well-being for. Although the fact that everyone aims at well-being or flourishing does not establish it as the sole standard of intrinsic value, it does lend credibility to the claim that flourishing is valuable. Moreover, given that well-being is not merely an instrumental good, it is plausible to maintain that it is intrinsically good.<sup>25</sup> Finally, well-being or flourishing is general in scope, meaning that it can accommodate much of what seems intuitively correct about other candidates for intrinsic value (e.g., pleasure, love, friendship).

Human persons are rational project pursuers, and well-being or flourishing is attained through the setting, pursuing, and completion of life goals and projects. Both of these claims are empirical in nature. Humans just are the sort of beings that set, pursue, and complete life goals and projects. Project pursuit is one of many distinguishing characteristics of humans compared to nonhumans — this is to say that normal adult humans are by nature, rational project pursuers. The second empirical claim is that only through rational project pursuit can humans flourish — a necessary condition for well-being is rational project pursuit where both the process of attaining the goal is rational and the goal itself is rational. Certainly this view is plausible. A person who does not set, pursue, or complete any life goals or projects cannot be said to flourish in the sense of leading a good life — in much the same way that plants are said not to flourish when they are unhealthy or when they do not get enough sunlight or nourishment.<sup>26</sup> Finally, whatever life project or goal is chosen, within certain constraints, individuals will need to use physical and intellectual objects.<sup>27</sup> This should not be taken as an argument for private property, but rather as a claim that material relations and opportunities to better oneself in terms of material relations are objectively, though instrumentally, valuable. So far, the scope and form of the material relations and opportunities are left open.

Any adequate account of bettering and worsening will include an individual's level of material well-being and opportunity costs as part of the measure.<sup>28</sup> Consider the following case. Suppose Fred appropriates all of the land on an island and offers Ginger a job at slightly higher earnings than she was able to achieve by living off of the commons. Although Ginger is worse off in terms of liberties to freely use, she has secured other benefits that may serve to cancel out *this* worsening. So far so good. But now suppose in a few months Ginger would have independently discovered a new gathering technique that would have augmented her earnings

To require individuals, in bettering themselves, to better others is to require them to give others free rides. In the absence of social interaction, what reason can be given for forcing one person, if she is to benefit herself, to benefit others?<sup>20</sup> If, absent social interaction, no benefit is required, then why is such benefit required within society? Moreover, those who are required to give free rides can rationally complain about being forced to do so, while those who are left (all things considered) unaffected have no room for rational complaint. The crucial distinction that underlies this position is between worsening someone's situation and failing to better it,<sup>21</sup> and I take this intuition to be central to a kind of deep moral individualism.<sup>22</sup> Moreover, the intuition that grounds a Paretian based proviso fits well with the view that labor and possibly the mere possession of unowned objects creates a prima facie claim to those objects. Individuals are worthy of a deep moral respect and this fact grounds a liberty to use and possess unowned objects. Liberty rights to use and possess unowned objects, unmolested, can be understood as weak presumptive claims to objects.

I am well aware that what has been said so far does not constitute a conclusive argument. Rather, I have attempted to show that a Paretian based proviso is a plausible moral principle. Minimally, those who agree that there is something deeply wrong with requiring some individuals, in bettering themselves, to better others (anything more than weak Pareto-superiority) should find no problem with a Paretian based proviso on original acquisition. If you do not share my intuitions on this matter, then take the plausibility of the proviso as an assumption.

#### Bettering, Worsening, and the Baseline Problem

Assuming a just initial position and that Pareto superior moves are legitimate, there are two questions to consider when examining a Paretian based proviso.<sup>23</sup> (1) What are the terms of being worsened? This is a question of scale, measurement, or value. An individual could be worsened in terms of subjective preference satisfaction, wealth, happiness, freedoms, opportunities, and so on. Which of these count in determining bettering and worsening (or do they all)? (2) Once the terms of being worsened have been resolved, which two situations are we going to compare to determine if someone has been worsened? Is the question one of how others are now, after my appropriation, compared to how they would have been were I absent, or if I had not appropriated, or some other state? This is known as the baseline problem.

In principle, the Lockean theory of intellectual property rights being developed is consistent with a wide range of value theories.<sup>24</sup> So long as the preferred theory has the resources to determine bettering and worsening with reference to acquisitions, then Pareto-superior moves can be made and acquisitions justified on Lockean grounds. The following sketch of a theory of value is offered as a plausible contender for the correct account of

fivefold. Having achieved this success, she would have gone on to discover even better techniques ultimately ending in a fully satiated life in the commons. Instead, Ginger spends her life working in quiet drudgery and Fred becomes fully satiated.<sup>29</sup> If Fred does not offer Ginger compensation in the form of a wage most would think that she has been worsened by Fred's appropriation. As it stands, though, Fred has left her at the same level of material well-being but has failed to compensate her for lost opportunities to better herself. It would seem then, that both one's material advantages and opportunities to better oneself should be included in any account of bettering and worsening.<sup>30</sup>

Opportunity costs are, for the economist, simply the benefits of alternative actions that are forgone when some action is performed, where the outcomes are known with certainty. If Ginger chooses B, then she loses the opportunity to do C and the benefits C would have given her. If she chooses C, then she loses the opportunity to do B and the benefits B would have given her.<sup>31</sup> This is an odd result because if both B and C yield the same outcome (suppose the outcome for both is  $n$ ) and are mutually exclusive, what is lost? The outcomes are the same, so if B is chosen it seems the only thing that is lost is the bare opportunity to do C. But given the exclusivity of B and C, we cannot even claim to have lost a bare opportunity, because we never had the opportunity to do both. Minimally, and less controversially, we might claim that B (assuming our original example where the payoff of C was  $n+1$  and the payoff of B was  $n$ ) has an opportunity cost for Ginger of  $+1$ .

In addressing opportunity costs, it could be argued that the value of an opportunity is a function of the probability and the value of the payoff. The value of an opportunity is a probabilistically weighted value of the various outcomes — this will include the probability that the action in question will produce the outcome, but also the probability that the action in question is available. If it is certain that the outcome of opportunity B is  $n$ , then the value or worth of opportunity B is the value of  $n$  (assuming that the opportunity is certain). If there is a .5 chance that a noncontingent opportunity B will yield  $n$ , then the value of B is half of the value of  $n$ .<sup>32</sup> There is a monotonic relationship between the probability of an opportunity (and its results) and the value of the opportunity. This is to say as the probability goes up so does the value and vice versa. In a world of uncertain opportunities (and uncertain results), opportunities are not worth their results; they are worth something less. Compensation for lost opportunities may cost less than it would otherwise appear.<sup>33</sup>

While it is probably the case that there is more to bettering and worsening than an individual's level of material well-being including opportunity costs, I will not pursue this matter further at present. Needless to say, a full-blown account of value will explicate all the ways in which individuals can be bettered and worsened with reference to acquisition.



### The Baseline of Comparison

Lockeans as well as others who seek to ground rights to property in the proviso, generally set the baseline of comparison as the state of nature. The commons or the state of nature is characterized as that state where the moral landscape has yet to be changed by formal property relations. Indeed, it would be odd to assume that individuals come into the world with complex property relations already intact — that individuals or groups have property rights to the universe or parts of the universe. *Prima facie*, the assumption that the world is initially devoid of such property relations seems much more plausible.<sup>34</sup> The moral landscape is barren of such relations until some process occurs. It is not assumed that the process for changing the moral landscape that the Lockean would advocate is the only justified means to this end.<sup>35</sup>

For now, assume a state of nature situation where no injustice has occurred and where there are no property relations in terms of use, possession, or rights. All anyone has in this initial state are opportunities to increase her material standing because it is assumed that there are no current property relations of any sort. Each individual in this state has a specific level of well-being based on legitimate opportunities to increase her standing. Suppose Fred creates an intellectual work and does not worsen his fellows — alas, all they had were contingent opportunities and Fred's creation and exclusion adequately benefits them in other ways. After the acquisition, Fred's level of well-being has changed. Now he has a possession that he holds legitimately, as well as all of his previous opportunities.<sup>36</sup> Along comes Ginger who creates her own intellectual work and considers whether her exclusion of it will worsen Fred. But what two situations should Ginger compare? Should the acquisitive case (Ginger's acquisition) be compared to Fred's initial state (where he had not yet legitimately acquired anything) or to Fred's situation immediately before Ginger's taking? It seems clear that because an individual's level of well-being changes, the baseline must also change. If bettering and worsening are to be cashed out in terms of an individual's level of well-being with opportunity costs, and this measure changes over time, then the baseline of comparison must also change. In the current case we compare Fred's level of material well-being when Ginger possesses and excludes an intellectual work to Fred's level of well-being immediately before Ginger's acquisition.<sup>37</sup>

The result of this lengthy discussion of material well-being, opportunity costs, and the baseline problem is the following proviso on original acquisition:

If an acquisition makes no one worse-off in terms of her level of well-being (including opportunity costs) compared to how

she was immediately before the acquisition, then the taking is permitted.<sup>38</sup>

If correct, this account justifies rights to intellectual property. When an individual creates an original intellectual work and fixes it in some fashion, then labor and possession create a prima facie claim to the work. Moreover, if the proviso is satisfied, the prima facie claim remains undefeated and rights are generated.

Suppose Ginger, who is living off of the commons, creates, through a painstaking process, a new gathering technique that allows her to live better with less work. The set of ideas that she has created can be understood as an intellectual work. Given that Ginger has labored to create this new gathering technique, it has been argued that she has a weak presumptive claim to the work. Moreover, it looks as if the proviso has been satisfied given that her fellows are left, all things considered, unaffected by her acquisition. This is to say that they are free to create, through their own efforts, a more efficient gathering system, or even one that is exactly the same as Ginger's.

So far I have been pursuing a kind of top-down strategy in explicating certain moral principles and then arguing that rights to intellectual works can be justified in reference to these principles. In the next section I will pursue a bottom-up strategy by presenting certain cases and then examining how the proposed theory fits with these cases and our intuitions about them.

#### Test Cases

Suppose Fred, in a fit of culinary brilliance, scribbles down a new recipe for spicy Chinese noodles and then forgets the essential ingredients. Ginger, who loves spicy Chinese food, sees Fred's note and snatches it away from him. On this interpretation of Locke's theory, the proviso has been satisfied and Ginger has violated Fred's right to control the collection of ideas that comprise the recipe. We may ask, what legitimate reason could Ginger have for taking Fred's recipe rather than creating her own? If Ginger has no comparable claim, then Fred's prima facie claim remains undefeated.

We can complicate this case by imagining that Fred has perfect memory and so Ginger's theft does not leave Fred deprived of that which he created. It could be argued that what is wrong with the first version of this case is that Fred lost something that he created and may not be able to recreate. Ginger still betters herself, without justification, at the expense of Fred. In the second version of the case, Fred has not lost and Ginger has gained and so there is nothing wrong with her actions. But from a moral standpoint, the accuracy of Fred's memory is not relevant to his rights to control the recipe and so this case poses no threat to the proposed theory. That intellectual property rights are hard to protect has no bearing on the

existence of the rights themselves. Similarly, that it is almost impossible to prevent a trespasser from walking on your land has no bearing on your rights to control, although such concerns will have relevance when determining legal issues. In creating the recipe and not worsening Ginger, compared to the baseline, Fred's presumptive claim is undefeated and thus creates a duty of noninterference on others. One salient feature of rights is that they protect the control of value and the value of control. As noted in the introduction to this anthology, a major difference between rights to intellectual property and rights to physical property is that the former, but not the latter, are rights to types. Having intellectual property rights yields control of the type and any concrete embodiments or tokens, assuming that no one else has independently created the same set of ideas.

Rather than creating a recipe, suppose Fred writes a computer program and Ginger simultaneously creates a program that is, in large part, a duplicate of Fred's. To complicate things further, imagine that each will produce and distribute his or her software with the hopes of capturing the market and that Fred has signed a distribution contract that will enable him to swamp the market and keep Ginger from selling her product. If opportunities to better oneself are included in the account of bettering and worsening, then it could be argued that Fred violates the proviso because in controlling and marketing the software he effectively eliminates Ginger's potential profits. The problem this case highlights is that what individuals do with their possessions can affect the opportunities of others in a negative way. If so, then worsening has occurred and no duties of noninterference have been created. In cases of competition, it seems that the proviso may yield the wrong result.

This is just to say that the proviso is set too high or that it is overly stringent. In some cases where we think that rights to property should be justified, it turns out, on the theory being presented, that they are not. But surely this is no deep problem for the theory. In the worst light it has not been shown that the proviso is not sufficient but only that it is overly stringent.<sup>39</sup> And given what is at stake (the means to survive, flourish, and pursue lifelong goals and projects), stringency may be a good thing. Nevertheless, the competition problem represents a type of objection that poses a significant threat to the theory being developed. If opportunities are valuable, then any single act of acquisition may extinguish one or a number of opportunities of one's fellows. Obviously this need not be the case every time, but if this worsening occurs on a regular basis, then the proposed theory will leave unjustified a large set of acquisitions that we intuitively think should be justified.

Even so, it has been argued that in certain circumstances individual acts of original acquisition can be justified. Protection at this level could proceed along the lines of contracts and licensing agreements between specific individuals. But I think that when pushed, systems or institutions

of intellectual property protection will have to be adopted, both to explicate what can be protected legally and to solve competition problems and the like. As was noted early in this chapter, compensation for worsening could proceed at two levels. In acquiring some object, Ginger, herself, could better Fred's position, or the system that they both operate within could provide compensation. This is just to say that it does not matter whether the individual compensates or the system compensates, the agent in question is not worsened.

#### Justifying an Institution

It has been argued that in determining what it means to be better off and worse off, an "all things considered" notion of well-being should be used, that includes both compensation at the level of the act (micro level) and at the level of the system or practice (macro level). When an individual creates an intellectual work, she may, herself, bring about greater opportunities and wealth for her fellows that serve to compensate them for lost opportunities. But as systems or institutions of property relations arise, the systems themselves may confer benefits that serve to cancel out apparent worsenings. Institutions of property relations may arise that augment everyone's wealth while initiating new opportunities to increase well-being. An example of macro compensation is the possibility of diversified activities that systems of property relations provide for everyone. If macro compensation can and does occur, the question becomes what justifies institutions or systems of property relations.

Rather than trying to justify every particular appropriation by appealing to a Paretian based version of the proviso, we might try to justify an institution or system. This is similar to the account given by many rule utilitarians where actions are justified by appealing to rules and rules are justified by appealing to the principle of utility. Consider the following macro proviso (MP) on systems or institutions of property relations.

MP: If a system of property relations does not worsen any individual in terms of her level of well-being (including opportunity costs), then the system is permitted.

Bettering and worsening are, as before, cashed out in terms of an individual's level of well-being with opportunity costs. At some point in a culture's advancement, a legal system will be developed in part to uphold and defend a system of property relations.<sup>40</sup> Within the Anglo-American tradition the regimes of patent, copyright, and trade secret each serve to protect and maintain private property relations in intellectual works. By adopting a specific institution of property relations, an individual may suffer instances of worsenings that are compensated by the benefits and increased opportunities provided by the system as a whole. This is to say that where micro-compensation fails, macro-compensation may succeed.

The context of the baseline is the chosen system (or the system arrived at by convention) compared to the state-of-nature situation where there is no system of property relations. Since the comparison situation (the state-of-nature situation) includes opportunity costs, we must consider how individuals may have been under alternative systems of property relations.

Problems with assigning probabilities to opportunities in the macro case are more acute than before. The question is, what are the chances that some individual would have been better off under some justified alternative system of property relations? Imagine Ginger's opportunities and level of well-being under a system of property relations where use is based on need compared to her actual situation where she is middle class and living in Ohio.<sup>41</sup> In assigning probabilities to Ginger's chances for wealth under some justified alternative system of property relations, we use our best empirical information about the alternative system, its average level of material well-being, how it handles tragedy of the commons problems, and so on. If the probabilities cannot be determined because of lack of information, then until such information arises and worsening is determined, the system is permitted. In cases of uncertainty, the shadow of the proviso will hang over both rights to particular items and the system itself.

Suppose there is some alternative system of property relations, *Z*, that yields Ginger, *n+1* benefit where the system she finds herself engaged in, *R*, only nets her *n* benefit. *R* would then seemingly violate MP (a macro proviso). If *n+1* is certain for Ginger, meaning that if *Z* had been adopted she would have obtained *n+1*, then *R* is illegitimate unless compensation is paid. But as we have seen, it is more likely the case that Ginger would have only had a chance to obtain *n+1* —she would have had an opportunity to achieve a certain level of well-being under an alternative system of property relations. If opportunities are worth less than the results they promise, then compensation will be some percentage of the *+1* benefit *Z* would have produced over *R* for Ginger.

This is a welcome result. The system of property relations that produces the highest level of well-being and opportunities for each individual will satisfy MP. Suppose some system of property relations, *R*, provides more opportunities and well-being than any competing system. Moreover, suppose *R* manages, what we might generally call, tragedy of the commons problems as well as or better than other systems. A tragedy of the commons occurs when unrestricted access and scarcity lead to the destruction of some common resource. In this case *R* will provide benefits and opportunities over and above its competitors and will most likely satisfy MP. Individual acquisitions may worsen one's fellows so long as the institution provides compensation in the form of opportunities and benefits. This, in a way, solves the competition problem and similar problems (outside of providing compensation) mentioned earlier. The opportunities that Ginger loses when Fred markets his software are dependent on the institution of

property relations that they both operate within. It would be illicit for Ginger to complain about lost opportunities that were themselves dependent on competition and private ownership.

It could be argued that there can be no tragedy of the commons in relation to intellectual property. Given that intellectual property cannot be destroyed and can be concurrently used by many individuals, there can be no ruin of the commons.<sup>42</sup> And since there can be no tragedy of the intangible-commons, it is illegitimate to appeal to the benefits that institutions of intellectual property protection would provide on this score.

First, I would like to note that even if this is true it does not undermine the Paretian case for intellectual property institutions. It can still be argued that in providing spiraling opportunities and wealth, systems of intellectual property protection are Pareto-superior when compared to alternative systems. This is just to say that, outside of managing tragedy of the commons problems, systems of intellectual property are still better than competing property arrangements.

Furthermore, upon closer examination I think there can be a tragedy of the commons with respect to intellectual property. To begin, we may ask "What is the tragedy?" Generally it is the destruction of some land or other object, and the cause of the destruction is scarcity and common access. But the tragedy cannot be the destruction of land or some physical object because, as we all well know, matter is neither created nor destroyed. The tragedy is the loss of value, potential value, or opportunities. Where there was once a green field capable of supporting life for years to come, there is now a plot of mud, a barren wasteland, or a polluted stream. It is claimed that if access is not restricted to valuable and scarce resources the tragedy will keep occurring. A prime example is the Tongan coral reefs that are currently being destroyed by unsavory fishing practices.<sup>43</sup> It seems that the quickest and cheapest way to catch the most fish along the reef is to pour bleach into the water, bringing the fish to the surface and choking the reef.

The tragedy in such cases is not only the loss of current value but of future value. Unless access is restricted in such a way that promotes the preservation or augmentation of value, a tragedy will likely result. Now suppose that intellectual works were not protected — that if they "got out" anyone could profit from them. In such cases, individuals and companies seek to protect their intellectual efforts by keeping them secret. Secrecy was the predominant form of protection used by guilds in the Middle Ages and the result can be described as a tragedy or a loss of potential value. If authors and inventors can be assured that their intellectual efforts will be protected, then the information can be disseminated and licenses granted so that others may build

upon the information and create new intellectual works. The tragedy of a complete intellectual commons is secrecy, restricted markets, and lost opportunities.

We are now in a position to examine a seemingly serious objection raised by G. A. Cohen in "Self-Ownership, World-Ownership, and Equality" concerning the baseline. Cohen argues, "When assessing A's appropriation we should consider not only what would have happened had B appropriated, but also what would have happened had A and B cooperated under a socialist economic constitution."<sup>44</sup> B may be better off in a socialistic system of property relations than in a system of private property. And since we are building in opportunity costs, this alternative system would be reflected in B's baseline. So A's appropriation would be unjustified even though he has bettered her situation in relation to a baseline grounded in the commons. Moreover Cohen claims,

And since a defensibly strong Lockean proviso on the formulation and retention of economic systems will rule that no one should be worse off in the given economic system than he would have been under some unignorable alternative, it most certainly follows that not only capitalism but every economic system will fail to satisfy a defensibly strong Lockean proviso, and that one must therefore abandon the Lockean way of testing the legitimacy of economic systems.<sup>45</sup>

If Cohen is correct, any proviso that includes opportunity costs will be set too high to justify property rights — that is, any system of appropriation will make someone worse off.

Cohen's general attack on the context of the baseline will be examined first. His conclusion, "it almost certainly follows that not only capitalism but every economic system will fail to satisfy a defensibly strong Lockean proviso, and that one must therefore abandon the Lockean way of testing economic systems" is mere speculation.<sup>46</sup> Moreover, our discussion of the Lockean proviso has centered around what justifies individual acts of appropriation and systems of property relations not what legitimates economic systems. Cohen writes as if there is a necessary connection between a system of private property and capitalism. This is clearly false. A system of private property is compatible with many economic arrangements that would not be considered capitalistic (individuals can do what they want with their property and this includes giving it to the collective). That B is better off in some other economic arrangement is not necessarily an indictment against private property, although it may be an indictment against an economic system.

In challenging the context or baseline of any proviso, Cohen might have argued that we must compare alternative systems of property relations (not economic arrangements). Maybe B would be better off under a system

of property where need determined use rights and important needs were determined by committee. Only when such a theory is worked out can it be compared to a system of private property, along with tragedy of the commons considerations, which include incentive and efficiency arguments. And even if such an alternative system of property relations yields an individual better prospects, it cannot be concluded that she has been worsened, so long as compensation is allowed.

Institutions of private property are generally beneficial because the internalization of costs discourages value-decreasing behavior. Moreover, by internalizing benefits,

property rights encourage the search for, the discovery of, and the performance of "social" efficient activities. Private property rights greatly increase people's incentives to engage in cost-efficient conservation, exploration, extraction, invention, entrepreneurial alertness, and the development of personal and extra-personal resources suitable for all these activities. . . . These rights engender a vast increase in human-made items, the value and usefulness of which tend, on the whole, more and more to exceed the value and usefulness of the natural materials employed in their production.<sup>47</sup>

If this is true, the upshot of this discussion is that the Paretian has the resources to argue for specific institutions of property relations. We have good reason to conclude that the institution of private property can be justified on Paretian grounds. It is likely, especially in light of tragedy of the commons problems and the like, that the institution of private property yields individuals better prospects than any competing institution of property relations.<sup>48</sup> The general strategy has been to argue that institutions of private property are strongly Pareto-superior when compared to their competitors. If this conclusion is probable, and since strong Pareto-superiority greatly overdetermines and entails weak Pareto-superiority, we have good reason to think that the weaker test has been satisfied (see note 14 below).

### Conclusion

While the preceding discussion has been sketchy, I think that important steps have been taken toward a Lockean theory of intellectual property. If no one is worsened by an acquisition, then there seems to be little room for rational complaint. The individual who takes a good long drink from a river does as much as to take nothing at all. The same may said of those who acquire intellectual property. Given allowances for independent creation and that the frontier of intellectual property is practically infinite, the case for Locke's water-drinker and the author or inventor are quite alike. What is objectionable with the theft and pirating of computer software, musical



CD's, and other forms of digital information is that in most cases a right to the control of value or the value of control has been violated without justification. Although the force of this normative claim is easily clouded by replies like "but they still have their copy" or "I wouldn't have purchased the information anyway," it does not alter the fact that a kind of theft has occurred. Authors and inventors who better our lives by creating intellectual works have rights to control what they produce. We owe a creative debt to individuals like Aristotle, Joyce, Jefferson, Tolkien, Edison, and Jimi Hendrix.

#### Notes

1. Adapted from a case in David Carey's *The Ethics of Software Ownership* (Ph.D. Dissertation 1989, Pittsburgh). Two examples come from Lotus and Apple Computers. Lotus claims to lose approximately \$160 million a year (over half of the program's potential sales) due to piracy and casual copying of 1-2-3. Apple Computer claims similar losses for MacPaint and MacWrite (see John Gurnsey, *Copyright Theft* [London: The Association For Information Management, 1995], 111-21).

2. My goal in this chapter is not to defend current property holdings or Anglo-American systems of intellectual property as they now stand. As noted by Eric Mack in "Self-Ownership and the Right of Property" (*The Monist* 73 [1990]: 539, n2), "One should expect that any philosophical account of the justice of private holdings will undercut rather than sustain certain actual current holdings. Those whose holdings are engorged through impermissible interference with others' free exercise of their property rights have not just claim on their gains."

3. U.S. Constitution, sec. 8, para. 8.

4. Joan Robinson, *Science as Intellectual Property* (New York: Macmillan, 1984), 15.

5. There is a kind of global inconsistency to utilitarian justifications of rights within the Anglo-American tradition. Why should my rights to physical property be somehow less subject to concerns of social utility than my rights to intellectual property? Within the Anglo-American tradition, "rights" (to physical property, life, the pursuit of happiness) are typically deontic in nature.

6. For exegetical reasons I will continue to talk of utilitarian justified "rights" even though what is being justified is, in a deep sense, decidedly different from traditional deontic conceptions of rights.

7. Furthermore, over the past three decades rule-utilitarian moral theory, as well as utilitarian based justifications for systems of intellectual property, have come under a sustained and seemingly decisive attack. See J. J. C. Smart's "Extreme and Restricted Utilitarianism," in *Theories of Ethics*, edited by Philippa Foot (London: Oxford University Press, 1967); David Lyons, *Forms and Limits of Utilitarianism* (Oxford: Oxford Univer-

sity Press, 1965); R. B. Brandt, *Ethical Theory* (Englewood Cliffs, N.J.: Prentice Hall, 1959), 396-400; "Toward a Credible Form of Utilitarianism," in *Morality and the Language of Conduct*, edited by H. Castaneda (Detroit: Wayne State University Press, 1963), 107-40; E. Hettinger, "Justifying Intellectual Property," chapter 2 in this volume; and Fritz Machlup, *Production and Distribution of Knowledge in the United States* (Princeton: Princeton University Press, 1962).

8. Although I have claimed that the set of publicly owned ideas or collections of ideas cannot be acquired and held as private property, it could be argued that this need not be so. If an author or inventor *independently* reinvents the wheel and satisfies some rights-generating process, then it may be argued that she has private property rights to her creation. The trouble is, given that the set of ideas that comprise "the wheel" is public property, each of us has current rights to use and possess those ideas. Thus, the inventor in this case may indeed have moral rights to exclude others and to control his idea, but given that we all have similar rights to the very same collection of ideas, such control and exclusion are meaningless.

9. John Locke, *The Second Treatise of Government*, edited by Thomas P. Peardon (Indianapolis: The Bobbs-Merrill company, 1952), sec. 27 (italics mine).

10. Locke, *Second Treatise*, sec. 33, 34, 36, 39.

11. Both Jeremy Waldron, "Enough and as Good Left for Others," *Philosophical Quarterly* 29 (1979): 319-28, and Clark Wolf, "Contemporary Property Rights, Lockean Provisos, and the Interests of Future Generation," *Ethics* 105 (July 1995): 791-818, maintain that Locke thought of the proviso as a sufficient condition and not a necessary condition for legitimate acquisition.

12. Wolf, "Contemporary Property Rights," 791-818.

13. For a defense of this view of rights see G. Rainbolt, "Rights as Normative Constraints," *Philosophy and Phenomenological Research* 53 (1993): 93-111; and Joel Feinberg, *Freedom and Fulfillment: Philosophical Essays* (Princeton N.J.: Princeton University Press, 1986).

14. One state of the world,  $S_1$ , is Pareto-superior to another,  $S_2$ , if and only if no one is worse off in  $S_1$  than in  $S_2$ , and at least one person is better off in  $S_1$  than in  $S_2$ .  $S_1$  is *strongly* Pareto-superior to  $S_2$  if everyone is better off in  $S_1$  than in  $S_2$ , and *weakly* Pareto-superior if at least one person is better off and no one is worse off. State  $S_1$  is Pareto optimal if no state is Pareto-superior to  $S_1$ : it is *strongly* Pareto-optimal if no state is *weakly* Pareto-superior to it, and *weakly* Pareto-optimal if no state is *strongly* Pareto-superior to it. Throughout this chapter, I will use Pareto-superiority to stand for *weak* Pareto-superiority (adapted from G. A. Cohen's "The Pareto Argument for Inequality," in *Social Philosophy & Policy* 12 [winter

1995]: 160). The term "Pareto" comes from the Italian economist Vilfredo Pareto, see *Manual of Political Economy*, trans. by M. Kelley (New York: John Wiley and Sons, 1966), and William Jaffé's "Pareto Translated: A Review Article," *Journal of Economic Literature* (December 1972).

15. Consider the case where Ginger is better off — all things considered, if Fred appropriates everything — than she would have been had she appropriated everything (maybe Fred is a great manager of resources). Although Ginger has been worsened in some respects, she has been compensated for her losses in other respects.

16. Gauthier, *Morals By Agreement* (Oxford: Oxford University Press, 1986), 280.

17. For a more precise analysis of the zero-sum model of property, see James Child's article, "The Moral Foundations of Intangible Property," chapter 4 in this volume.

18. Locke, *Second Treatise*, sec. 37.

19. This minimal defense rests on an underlying moral theory that includes a theory of value and a view of persons as ends in themselves — topics that will concern us later.

20. I have in mind Nozick's Robinson Crusoe case in *Anarchy, State, and Utopia* (New York: Basic Books, 1974), 185.

21. The distinction between worsening someone's position and failing to better it is a hotly contested moral issue. See Gauthier, *Morals by Agreement*, 204; Shelly Kagan, *The Limits of Morality* (Oxford: Oxford University Press, 1989), chap. 3; John Harris, "The Marxist Conception of Violence," *Philosophy & Public Affairs* 3 (1973-74): 192-220; John Kleinig, "Good Samaritanism," *Philosophy & Public Affairs* 5 (1975-76): 382-407; and Eric Mack's two articles, "Bad Samaritanism and the Causation of Harm," *Philosophy & Public Affairs* 9 (1979-80): 230-59, and "Causing and Failing To Prevent Harm," *Southwestern Journal of Philosophy* 7 (1976): 83-90. This distinction is even further blurred by my account of opportunity costs.

22. This view is summed up nicely by A. Fressola. "Yet, what is distinctive about persons is not merely that they are agents, but more that they are rational planners—that they are capable of engaging in complex projects of long duration, acting in the present to secure consequences in the future, or ordering their diverse actions into programs of activity, and ultimately, into plans of life" (Anthony Fressola, "Liberty and Property," *American Philosophical Quarterly* [October 1981]: 320).

23. One problem with a Pareto condition is that it says nothing about the initial position from which deviations may occur. If the initial position is unfair, then our Pareto condition allows that those who are unjustly better off remain better off. This is why the problem of original acquisition is traditionally set in the state of nature or the commons. The state of nature supposedly captures a fair initial starting point for Pareto improvements.

24. It has been argued that subjective preference satisfaction theories fail to give an adequate account of bettering and worsening. See D. Hubin and M. Lambeth's "Providing for Rights" *Dialogue* 27 (1989): 489-502.

25. Mill's proof in *Utilitarianism*, chap. 4, considered to be very contentious, is supposed to establish this claim.

26. For similar views see Rawls, *A Theory of Justice* (Cambridge: Harvard University Press, 1971), chap. VII; Aristotle, *Nicomachean Ethics*, bks. 1 and 10 (New York: Bobbs-Merrill Company, Inc., 1962); Kant, *The Fundamental Principles of the Metaphysics of Morals* (New York: Bobbs-Merrill Company, Inc., 1965); Sidgwick, *Methods of Ethics*, 7th ed. (London: Macmillan, 1907); R. B. Perry, *General Theory of Value* (New York: Longmans, Green, 1926); and Loren Lomasky, *Persons, Rights, and the Moral Community* (New York: Oxford University Press, 1987).

27. A life of both intellectual and physical activity is necessary for human flourishing. Minimally, the claim is that the individual who does not develop her intellectual capacities or engage in an active intellectual life cannot be said to flourish. Similarly, the individual who does not develop her physical capacities or engage in a robust life of physical activity (including material relations) cannot be said to flourish. Life projects that do not accommodate these general facts are irrational. A complete picture of what counts as a rational lifelong project will depend on the underlying moral theory and a refined theory of human nature.

28. Crudely, it is not how you fare *vis-à-vis* some particular object that determines your legitimate wealth, income, and opportunities to obtain wealth. Imagine someone protesting your acquisition of a grain of sand from an endless beach, claiming that she can now no longer use *that* grain of sand and has thereby been worsened. What is needed is an "all things considered view" of material well-being or wealth, income, and opportunities to acquire wealth.

29. Another case similar to the exploited worker case is where Ginger, because she is temporarily sick, has limited capacities to use things. Fred appropriates everything and compensates Ginger for her "sickly capacities" to use rather than her "healthy capacities" to use.

30. At a specific time each individual has a certain set of things she can freely use and other things she owns, but she also has certain opportunities to use and appropriate things. This complex set of opportunities along with what she can now freely use or has rights over constitutes her position materially — this set constitutes her level of material well-being.

31. See Heinz Kohler, *Scarcity And Freedom* (Lexington, Mass.: Heath and Company, 1977), or H. G. Heymann and Robert Bloom, *Opportunity Cost In Finance And Accounting* (New York: Quorum Books, 1990).

32. As a fall back position, we can claim that it is plausible to discount potential benefits if the opportunity or result in question is contingent. It may be sufficient to show that opportunities that have probabilities at-

tached, to either the result or the opportunity itself, are worth less than noncontingent opportunities with results that are certain.

33. The assumption is that, if it were the case that *A* then it might be that *B*. When determining, epistemically, what some probability would be, it is proposed that we proceed as we normally do when assigning probabilities. Historical facts, previous analogous situations, physical laws, and the like should be used in assigning the probability of the consequent of a "might" conditional.

34. One plausible exception is body rights, which are similar to, if not the same as, many of the rights that surround property.

35. There may be many others such as consent theories, consequentialist theories, social contract theories, theories of convention, and so on.

36. Minus the opportunity to acquire the object he just acquired. But then again, his acquisition and exclusion of some object may create other opportunities as well.

37. The case compared to the acquisitive case is assumed to be a situation where no injustice has occurred.

38. The proviso permits the use, exclusion, and augmentation of an object. Although this does not give us a complete theory of property relations, it begins the process. I would argue that the proviso, whatever other forms of property relations it might allow, permits private property relations.

39. In its present state it will be fairly hard to find a problem with sufficiency because of the sketchy status of the account of bettering and worsening presented.

40. I take a virtue of this theory to be that the system adopted will be chosen on empirical grounds. The system that provides the most opportunities and benefits for each will likely satisfy MP in terms of compensation — in providing spiraling opportunities and benefits a system will compensate those individuals who had the opportunity to be better off in an alternative system. Note: we are not justifying distributions of property within a system, we are justifying the systems or relations themselves.

41. It may be the case that Ginger would not have existed if another system of property relations had been in place. Maybe her parents would have never met if an alternative system had developed. For now, assume that Ginger would have existed in this alternative system of property relations.

42. While intellectual works cannot be destroyed, they may be lost or forgotten — for example, consider the number of Greek or Mayan intellectual works that were lost.

43. The example comes from D. Schmidtz, "When Is Original Acquisition Required," in *The Monist* 73 (October 1990): 513.

44. G. A. Cohen, "Self-Ownership, World-Ownership, and Equality," in *Justice and Equality Here and Now*, edited by F. Lucash (Ithaca, N.Y.: Cornell University Press, 1986), 132.

45. Cohen, "Self-Ownership," 133.

46. Cohen, "Self-Ownership," 133.

47. Eric Mack, "The Self-Ownership Proviso: A New and Improved Lockean Proviso," *Social Philosophy & Policy* 12 (winter 1995): 207-8.

48. Harold Demsetz in "Toward a Theory of Property Rights," *American Economic Review* 47 (1967): 347-59, argues that an institution of property rights is the answer to the negative externalities that befall the commons. For general discussions, outside of Demsetz, of externalities, see Garrett Harden, "The Tragedy of the Commons," *Science* 162 (1968): 1243-48; Anderson and Hill, "The Evolution of Property Rights: A Study of the American West," *Journal of Law and Economics* 18 (1975): 163-79; N. Scott Arnold, "Economists and Philosophers As Critics of the Free Enterprise System" *The Monist* 73 (October, 1990): 621-639; and Allen Buchanan, "Efficiency Arguments For and Against the Market," in *Justice and Economic Distribution*, edited by John Arthur and William Shaw (Englewood Cliffs, N.J.: Prentice Hall, 1991).