Locke, Stock, and Peril: Natural Property Rights, Pollution, and Risk*

Peter Railton

INTRODUCTION

Lockean natural rights theories have long been associated with laissez-faire policies on the part of the government, in large measure because of the sanctity they accord to individual rights, especially private property rights. However, I will argue that if one attempts to apply such theories to moral questions about pollution, they present a different face, one set so firmly against laissez-faire -- or laissez-polluer -- as to countenance serious restriction of what Lockeans have traditionally taken to be the proper sphere of individual freedom.

Curiously, Lockean theories also face a challenge from the opposite direction. They may be inadequately restrictive concerning the imposition upon others of unwanted risks that do not eventuate in actual property damage. As we will see, this challenge should be especially troubling for those who hold that Lockeanism gives expression to the Kantian idea of respect for persons.

I will consider various ways in which one might attempt to modify classical Lockeanism to avoid these difficulties, but it will emerge that these modifications generally raise more problems than they solve for the Lockean and result in views that lack much of the intuitive appeal of more orthodox Lockeanism.

In short, I will argue that Lockeanism, classical or revisionist, may be incapable of striking an appropriate balance between restrictiveness and permissiveness in matters involving pollution and risk. This failure raises doubts about the adequacy of a Lockean framework to our moral universe.

A simple, appealing picture of morality informs much contemporary thought and action. On this view, individuals have certain natural rights that give them freedom to act in certain ways and oblige others not to interfere. The archetype of such a right is the right of private property. If Harlan has exclusive ownership of a pumpkin, it is his to do with as he pleases, and no one may rightfully take it from him or hinder him in his enjoyment of it. His right entitles him to exclude others from making any use of his pumpkin to which he does not consent. Of course, Harlan's property right is limited by similar rights of others. He cannot, without permission, rightfully lob his pumpkin onto another's porch. He is free to transfer his pumpkin to another, or to give him use of it, and although such contracts or gifts, once made, bring with them new obligations to carry out promises rendered, these further limits are self-imposed.

In the classic, Lockean form of this view, individuals have some property rights wholly independent of civil law: property in one's own body and its capacities, and a right to appropriate common property for one's own use by mixing one's own labor with it, so long as one does not waste and "enough and as good" is left in common for others.2 These initial, "natural" property rights form the basis for whatever further property rights individuals may acquire by harvesting the fruits of nature or exchanging goods or labor with others. In the fullness of time, some individuals may acquire more extensive property entitlements than others and may transfer this wealth to whomever they please, but all retain an equal, natural right not to be harmed in person or (other) property.3

From this Lockean view emerges an image of moral space akin to a map at a registrar of deeds. Individual entitlements or rights determine a patchwork of boundaries within which people are free to live as they choose so long as they respect the boundaries of others.4 To learn one's moral obligations one need only consult the map. Would a given act involve crossing another's boundary?5 If so, it is prohibited; if not,

permitted.6 This Lockean view is often called antipaternalistic because it holds that individuals are entitled to final say over what happens within their own boundaries. It is also often called libertarian, since it is so centrally concerned with preserving a field of individual freedom of choice. It is not, however, equivalent to the view that we should maximize individual freedom of choice: that is an aggregative, social goal, foreign to the Lockean picture. If the choices individuals make within their boundaries, and the mutual arrangements they make across their boundaries, do not result in a social scheme with maximum individual freedom, that is perfectly acceptable. Individual entitlements and decisions define the limits within which any social goal or policy may legitimately be pursued, including the policy of promoting freedom.

This Lockean view is opposed to balancing as well as aggregation. If I violate a boundary but in the process bring about some valuable result, this does not count as offsetting the original harm. For example, if the industrious Smith were to seize the laggard Jones's land, he might produce much more food, lowering food prices locally and making possible an improvement in local diet. But this improvement in efficiency would not undo the original violation of Jones's property right, even if Jones himself were ultimately made better off as a result. For it is up to Jones what becomes of Jones's land, and Smith would have acted without Jones's leave. Moreover, whether a given act violates one's property right is not a matter of whether one experiences unpleasant consequences from it. If I take an old pair of socks from your wardrobe without asking, I have violated your property right in them even if you had little use for them or fail ever to notice the theft. Of course, the fact that the object stolen is of little value may lead you to refrain from bringing the law down upon me, or may lead the law to be lenient about punishment. But I cannot plead that I have done nothing wrong if I have contrived to take another's property without ill effects. In this, as well as in its opposition to aggregation and balancing, Lockeanism is anticonsequentialist.

As I have said, this is an appealing picture. Some have argued that its opposition to aggregation and balancing of consequences gives expression to the moral separateness and uniqueness of individuals, while its opposition to paternalism expresses the moral autonomy of individuals. Indeed, this view may be seen as an attempt to capture the Kantian idea that individuals are the ultimate bearers of moral value, and that we should always treat individuals as ends, not as means alone.! If the view at first seems callous because it emphasizes obligations not to interfere with one another rather than obligations to assist one another, it must be remembered that the complement of my not being under an obligation to help another is that the other is not under an obligation to help me: we both enjoy a realm of free choice, within which we are at liberty to devote as much or as little of ourselves or our resources to others as we choose.

A strong historical connection exists between this Lockean view and the tree market of classical capitalist theory. Individuals command property, which they may exchange by mutual agreement, and the standard of fair exchange is simply that the trade receives their free consent (in the absence of fraud). What is produced and how, how the fruits of production are distributed, and similar matters are left up to individuals and to their particular decisions about work, consumption, and investment. Social principles of "just distribution," overall efficiency, or utility maximization are not to be imposed upon this process, although proponents of classical capitalism have argued that in a properly functioning market, the result of individual decisions will tend to be the efficient use of resources, the maximization of total wealth, a distribution of wealth that largely accords with marginal contribution to its production, and many other social goods besides.

This Lockean picture has, I think, impressed itself upon the consciousness of virtually all Americans, even those who would reject it. It is therefore important to ask what happens when a Lockean view confronts problems of pollution and risk.

POLLUTION AND BOUNDARY CROSSING

Lockean natural rights theories ought to be unequivocal about the moral impermissibility of many pollution-caused injuries. If I spray my lettuce with an insecticide that drifts onto your property, where you breathe it

and develop a nervous disorder, I have crossed a boundary wrongfully.8 I may not have intended this result, and it may not even have been something I could have foreseen (I did not know the stuff was dangerous to humans, perhaps), but these facts do not alter the fundamental one: I violated a boundary without permission or provocation. Unintended or unforeseeable violations may deserve different punishment from intentional, foreseeable ones, but on a Lockean view we have an objective obligation not to cross a boundary, intentionally or otherwise.9 If I take your Buick thinking it mine, I am not a thief, but my possession of it is wrongful, and it must be given back intact. If I should damage it in the process, I would be obliged to repair it (as I would not be obliged to repair damage that happened to occur to my own car). Arguably, I may also owe you something to compensate you for any inconvenience my illegitimate taking caused you (as I would not be obliged to compensate you for inconveniences I cause you by the legitimate exercise of my rights). Violations of rights may not always warrant punishment, but we cannot "read backward" from the inappropriateness of punishment to the nonviolation of a right, any more than we can "read backward" from a judge's suspension of a criminal sentence to the nonviolation of a law. Precisely because Lockean views are so clear about the wrongfulness of crossing
boundaries unless permitted or provoked, they are (in theory at least) quite strict about pollution-caused injuries to persons or property, very much restricting the kinds of polluting activity that might legitimately go on.

For a polluting activity to be permissible, it would have to be shown to involve no wrongful boundary crossing, even of the slightest extent. There is no room in a Lockean view for regarding minor injuries inflicted across boundaries as morally permissible, since, as we saw, whether a boundary is crossed does not depend upon the magnitude of the effect, or the value of what was affected. Petty theft is still theft. Moreover, it is quite irrelevant that a pollution-caused injury may be temporary, for example, that one may recover from exposure to an airborne toxin and be good as new. Knife wounds, too, often mend nicely.

Nor should it matter whether the victim makes, or fails to make, a special effort to avoid a pollution-caused injury. The burden is plainly upon others not to act in such a way that one can escape harm from them while on one's own property or on common property only by making special efforts. If Gale throws a knife across my lawn, and it strikes me on the leg as I go about my business, it is no exculpation (on a Lockean view, at least) for him to claim that I could have escaped injury had I been wearing chain mail or had I earlier sold my property and moved out of his throwing range. A steel-mill owner cannot escape blame by saying that those who do not like his sulfur emissions are free to sell their homes and move elsewhere. His responsibility is to stay within his own boundaries; if his mill produces gases that corrode the lungs of those who own property in the vicinity, or who happen to be on nearby common property, he has done wrong. This is so even if the mill has been around longer than the current residents or passersby. Someone who voluntarily moves into a high-crime (or high-grime) neighborhood may have acted unwisely, but he has not laid down his rights, and those who invade his person or property violate these rights. We may have less sympathy for someone who does not take certain precautions to avoid wrongful harm at the hands of others and may feel less inclined to come to his assistance, but the duty to mind borders is in no way diminished by some people's incaution.

The question of when we can legitimately interpret an action (or inaction) as waiving a right is an entangling one, as is the related question of what it is we may interpret such an action as permitting. Does someone who knowingly and voluntarily accepts a risky job thereby give consent to whatever harm may befall him in the workplace? Presumably not; there is still the possibility that the employer acts negligently or maliciously. If I accept a position with someone well known for cheating his employees, it will still be wrong for him to do such a thing to me. On a Lockean view I am free to sign a contract laying down a number of my rights, that is, giving another permission to cross certain boundaries that would otherwise separate me from him. Moreover, some Lockean views permit my failure to object to the actions of another, or to quit his property when I am free to leave, to be interpreted as tacit consent to what is going on. Locke himself believed that by living in a country from which one is free to emigrate one gives tacit consent to its system of laws and governance - a claim Hume would later ridicule10 - but he presumably would not say that living in a risky neighborhood gives

tacit consent to the crimes that might befall one, or that crossing the street at a busy intersection rather than walking four blocks to a quieter one makes one fair game for motorists. Lockean tacit consent to the state does not make it legitimate for the state to violate my inalienable right to self-preservation or to appropriate my private property. These individual rights constrain what a state may legitimately do even when it is founded on the express consent of its people. (It is something else if the people also consent to give the state free access to their property.) Similarly, my rights in my person and property constrain what people may legitimately do to me even if I choose to live dangerously. (It is something else if I also declare my property to be anyone's for the taking.) Some Lockeans, including Locke, have argued that there are some natural rights that no apparent act of consent - tacit or express - could actually waive.11

Consent is a natural place to look for room within a Lockean scheme to provide greater freedom of action with regard to pollution, but I would like to postpone further consideration of this possibility in order to continue exploring the question of when, in cases where neither express nor tacit consent is present, a polluting activity constitutes a boundary crossing.

DISPOSITIONAL HARMS AND RISK

Among the effects of pollution are not only certain manifest injuries--property loss, illness, disability, death - but also increases in the probability individuals will suffer such injuries. How restrictive Lockean views are with regard to pollution will depend upon whether this latter sort of effect is also counted as a boundary crossing. A Lockean may urge a fundamental distinction among ways of increasing the probability individuals will suffer harm: I may change the probability you will suffer a manifest injury by having an actual, causal effect on your person or property, or alternatively, by doing something potentially harmful that could causally impinge upon you. In the latter case, you and your property may emerge from the encounter with heightened risk wholly untouched, in the same condition you both would have been had the risky activity not taken place. In the former case, some actual physical change has been wrought by me in your person or property--for example, the sidestream smoke from my cigarette has clogged your alveoli, making you more likely to succumb to a respiratory infection. As it happens, you may in the end not contract any such infection, but you have suffered a physical change as the result of my actions that renders you less resilient, more vulnerable than before. This change may be difficult to detect and may make itself known in the population only by aggregate statistics. However, for many pollutants, such as tobacco smoke, statistics do not indicate the existence of a threshold of exposure below which there is no effect on the probability of infection. So we may suppose without being too unrealistic that each time I send some of my tobacco smoke your way you suffer some small physical change, not for the better. It seems to me that if exposure to a pollutant reduces your ability to resist infections, take vigorous exercise, perceive the environment (owing to impairment of the senses), and so on, then it has damaged your health, even if you do not in fact happen to contract an infection, seek vigorous exercise, or make fine perceptual discriminations. That is, health is a dispositional as well as manifest state, and if your capacities have been reduced by my polluting activities, then I have not merely raised the probability you will suffer harm, I have also harmed you. I have caused an actual, though perhaps not readily detectable, harm to you that has the additional (and sometimes more disturbing) effect of raising your probability of suffering further, more evident harm.

On the other hand, if your neighbor carries out an activity wholly on his own property, which raises the probability you will suffer harm--for example, operating an unsafe miniature fission reactor - and yet no actual harm results (the reactor does not malfunction) it would seem that no boundary has been crossed.12 Let us call cases of this sort, where there is no actual physical change produced in a person or his property by an activity that nonetheless raises the probability he will suffer wrongful harm, the imposition of pure risk. In the purest cases of pure risk, the person whose probability of injury has been increased is wholly unaware of this circumstance, so that his life proceeds exactly as it would have had the risk-imposing activity never occurred. For example: you do not know of your neighbor's reactor and suspect nothing unusual. Things get more complicated when we allow awareness (or other sorts of indirect effects) of the risk-imposing activity, but let's avoid complication for the moment.

Most of the cases of pollution that have awakened interest are cases in which some actual harms are caused within the exposed population in addition to any pure risk imposed.13 If it is impermissible to cause actual harms, then these polluting activities are impermissible whether or not the imposition of pure risk is itself a harm. As a practical matter, then, what a Lockean should say about the permissibility of most polluting activities will not be much influenced by questions about pure risk. Moreover, his strictness about border crossings should suffice to rule out a much broader range of such activities than we currently prohibit. However, at least some polluting activities may result in nothing more than the imposition of pure risk, and some activities that are of concern with regard to air pollution are worrisome more because of their riskiness than because of the actual harm they are now causing, for example, the generation of power by nuclear fission. Further, pollution aside, many of the things we do impose upon others pure risk but only infrequently lead to actual harm, and it is of interest to ask what a Lockean might say about such activities in general.

COMMON PROPERTY

Again, we need a distinction. The fellow who operates an unsafe nuclear reactor entirely on his own property seems to cross no boundaries. What of the fellow who introduces some toxic substances into the atmosphere which, as it happens, no one ever inhales, although some are at risk of doing so? He has crossed no boundaries of private property, perhaps, but in the Lockean scheme the atmosphere is property, too: common property. By rendering a portion of the atmosphere toxic, he has in effect appropriated it from the commons, making it impossible for anyone else to use it without injury. For vividness, imagine that the toxins take the form of a cloud that floats intact around the earth's atmosphere. Locke permits such appropriation only under special conditions: one must mix one's labor with the property taken from the commons, one must not use it wastefully, and one must leave "enough and as good" in common for others. Let us suppose that the act involved mixing his labor and was not simply wasteful: the toxic substance is an unavoidable by-product of a process he was using to make a living.14 Does he leave enough and as good in common for others?

The bare fact that no one happens to breathe that part of the atmosphere he has appropriated suggests that he left enough to go around. To be sure of this, we would have to be sure that no one had to make special efforts to avoid breathing the spoiled air. Assume that we do know this. Did he leave the air "as good" as before? We do not know exactly what Locke meant by this phrase, but let us suppose it to mean that the amount remaining in common after the appropriation is of the same quality as that which was originally appropriated. Here we may find that our polluter has transgressed even though no one breathed his toxins. If--for example, the bit of air he appropriated was cleaner than the atmospheric average at the time, he has violated the Lockean condition. Or suppose there is a general worsening of the air. He has (let us say) taken some air of 1982 quality and removed it from the commons. By 2050, there may not be enough air of 1982 quality to go around. That would not be entirely our friend's doing, of course, but Locke's condition could be interpreted in such a way that this should not matter; at least part of the scarcity of 1982-quality air is his doing.

The polluter could complain that it is unrealistic to imagine his toxins floating around as a cloud of quasi-private property; surely they would simply dissipate into the atmosphere, and surely it would be an exaggeration to say that he has privately appropriated all of the air into which these pollutants make their way. It is, in fact, unclear what a Lockean should say about this sort of case,15 but let us grant that his original utilization of common property need not have the effect of appropriating for him all of the atmosphere subsequently tinged by this pollution. Thus, it would not be illegitimate for others to make use of this tinged air. It might, however, be harmful for them to do so, especially if the pollutants involved have no threshold of zero effect. By his initial use of common property in 1982, he will have had the effect that air regarded as common property in 2050 is less good. If there is not enough 1982-quality air available in 2050, then his original utilization seems impermissible on Lockean grounds.

Now our polluter may protest that eventually his toxins will, in effect, disappear, leaving the commons as good as before. If by this he means that they will settle out of the atmosphere, he does not strengthen his case, for then they may leave 2050 common land less good than 1982 common land. They might even fall on private property, an outright border crossing at any level of effect. If instead he means that they will become harmless with time, that of course depends upon the nature of the pollutants; some pollutants become worse health threats after undergoing chemical change or combination in the atmosphere. Moreover, even if a breakdown to harmless substances does occur, it will take time, so that there may be a period during which enough and as good has not been left in common. Most likely, what the polluter has in mind is the rather old-fashioned view that nature is so vast that his particular effect upon it is negligible, of trifling consequence.

This view is old-fashioned in at least two ways. First, no one today can fail to be impressed with the finitude of that part of nature we actually inhabit. Second, we now know that small causes needn't always have small effects. "There is evidence that cancers start from single cells and it is believed that a single molecule may be enough to start a cancer."16 Even if one's polluting activities emit no more than one part per billion of a carcinogen, at this concentration there would be trillions of potentially cancer-causing molecules in a room-sized volume of air. Modern medicine aside, the polluter needs to be reminded that Lockean views do not say that whether a border is wrongfully crossed depends upon the magnitude of the effect. Taking from the commons, even ever so slightly, is taking the property of others.

Still, suppose that nature really were boundless. And suppose, too, as Locke did, that the provision against wastage drops out once an imperishable medium of exchange has been introduced. Would it even then be trivial that the requirement of leaving enough and as good be met? Nature may be infinite without all portions of it being equally accessible or equally worth having. It would hardly count as leaving “enough and as good" for future generations if they have to go to the ends of the universe or great effort to obtain it. If someone were to appropriate a bit of handily located and readily used common property, like the earth's atmosphere, leaving others plenty of good atmosphere frozen on the surface of a planet circling Alpha-Centauri, he would have violated the Lockean conditions.

There is, however, a more interesting point to be made. Suppose nature to exceed in extent what we could ever actually appropriate, and even to be equally valuable and equally accessible in its parts. Might we then take from the commons at will? If your private property exceeded in extent what you would ever actually use, I still would not be entitled to take a portion of it even though you were left enough and as good afterward. On the classical Lockean view, I would not be entitled to take part of your property even if I substituted for it something of equal value, unless I had your permission to do so. It emerges that Locke's justification of private appropriation from the commons rests upon an assumption that common property need not be accorded the same respect as private property, even that we need not accord others the same respect as (part) owners of common property that we owe them as owners (sometimes, part owners) of private property.17

What is the justification for this asymmetry? For Locke, the argument involves religious and practical considerations. He believes that God gave man the world in common in order that he might use it for his survival. He notes that as a practical matter, however, we cannot survive without appropriating from the commons: anything I take from nature and consume to sustain my own existence is for that reason no longer available to others. Further, as a practical matter, I cannot get the consent of all owners of common property - all mankind - before appropriating from it. So if we are to survive and flourish, which Locke believes to be both God's will and a law of reason, some nonconsensual way of legitimating private appropriation is needed.

Even if we leave God out of it, this is a plausible argument. But how can it be the basis for a Lockean property right that entitles an individual to exclude others from his private property even under those circumstances in which, by taking from it, they might enhance their chance of survival while still leaving him enough and as good? So long as there is enough and as good available to him either in common or in his

remaining private holdings, or in the two together, the argument seems incapable of generating a right of exclusion. What of the fact that mixed in with his private holdings is his labor, something by nature belonging to him? Well, in his initial appropriation from the commons he, too, took something by nature belonging to other people.18

All along, Lockeans have taken common property - and our rights in it _ less seriously than private property. If I besmirch part of your estate, this is a boundary crossing even if that besmirching never affects you materially. What I do reduces the capacities of your estate by effecting a physical change in it, and this, we say, is a wrongful harm even if you never attempt to use these capacities. For example, if I bespoil an out-of-the-way corner of your land and thereby lower its market value, I have wrongfully deprived you of property even if you never notice the spoilation or the loss in value. Why isn't a polluting act that reduces the capacities of common property (perhaps lowering its market value, too, were it to be sold), a violation of the property rights we all have in the commons, even if no one is ever materially affected by this act? Consistency would seem to demand that we put the two sorts of property on the same footing, at least in this regard.19 But we have two choices of footing: we may promote common property to the status of private property, or we may demote private property to the status of common property.20

If we seize on the first alternative, then we must regard acts that introduce pollutants into common property without the permission of all mankind as boundary crossings, even if no individuals ever happen to have their own private holdings infringed. It would be irrelevant whether a polluter's effect were small, or whether enough and as good were left in common; just as it is irrelevant to whether I may rightfully take your private property that what I take is of little value, or that you have enough and as good private property left over. Most of the polluting acts we have heretofore called impositions of pure risk would become boundary crossings because they would involve violating property rights in the commons, and therefore would be morally impermissible harms. The result would be an extremely restrictive position on pollution. Indeed, there would not be much room for pollution left: one could befoul one's own, private nest, but only if nothing seeps over a border with common or private property. Even the idea of a private nest would become problematic, for appropriation of any property beyond one's mere self would require universal consent from mankind, including future generations. To make this first alternative workable, it would be necessary to develop a powerful doctrine of tacit or hypothetical consent. That may seem to be clutching at straws, given the difficulties of these notions, but they must be grasped at, for one cannot sensibly embrace the conclusion that there is no justified private appropriation from the commons. We must breathe, after all.

The second alternative, of demoting private property to the status of common property, fits better with the original Lockean argument and has less chokingly restrictive implications. (It should be kept in mind that we are talking here of natural property rights. There may be good pragmatic reasons for according different treatment to private and common property in civil law. On a Lockean view, however, civil law must respect natural rights. So unless citizens were to contract into some special arrangement, a civil code would have to accord property rights in the commons at least as much respect as they are due in a state of nature.) On this alternative, one may acquire private property from the commons by meeting the Lockean conditions - mixing one's labor, not wasting, leaving enough and as good for others - but this private property may in turn be appropriated by another if he mixes his labor with it, doesn't waste it, and leaves the original owner with enough and as good (in private or in readily accessible common property). Private property would no longer be inviolable, and this may make the second alternative unattractive to many. But if one believes in natural property rights, has doubts about tacit or hypothetical consent, and wants to be able to draw a breath without asking permission, this may be the best one can do.

Pollution of private or common property, so long as it leaves enough and as good remaining, may be permissible on this alternative, and so it is less restrictive about pollution than any version of Lockeanism thus far discussed. Even so, it would prohibit the imposition of pure risk in those cases where this involves lowering the quality of common property. That is a more restrictive policy on risk than many who think

themselves Lockeans would accept, especially if we understand the criterion 'as good' broadly, to include not only the capacity of common property to support life, but also its aesthetic qualities: the clarity of the air, the naturalness of the landscape, and so on. Locke's view was that man was given the earth to enjoy, not merely to subsist on. Certainly, if someone physically changes another's private property in a way that reduces its aesthetic value, this is ordinarily regarded as a harm. If common property deserves equal respect, then ruining the aesthetic qualities of common property would be permissible only if the same were permitted of private property; since private property includes our bodies, I doubt many would accept the notion that aesthetic damage may be ignored as without moral significance. Similar remarks apply to, for example, the economic value of common property. Thus, if my factory's smokestack emits a noxious substance, which as it happens no one actually breathes, I may still have crossed boundaries impermissibly by reducing the value or capacity of common property as a sustainer of life, a source of aesthetic enjoyment, or an economic asset.

The phrase 'enough and as good' is sufficiently vague to leave it indeterminate just how much of a reduction in restrictiveness the second alternative would effect. The phrase may even be ambiguous: must what is left be as good in total as what was before, or (more weakly) must only that which is "enough" be as good as what was before? A very loose reading of the phrase - or of the other conditions of nonwastage and "mixing one's labor" - would leave private as well as public property quite open for use without the owner's consent.21 However, one would be able to gain freedom in appropriating from common property only to the extent that one grants others similar liberties with one's own private property. This trade-off is only reasonable, for in both cases one is taking something owned by others.

RISK AND RESPONSIBILITY

Although advocates of Locke an natural rights theories have favored laissez-faire government and free-market solutions to a wide range of social problems, we have seen that such theories in fact furnish the basis for very tight governmental regulations on pollution. The reason is straightforward: the function of a Lockean state is to enforce property rights by prohibiting and policing unconsented-to boundary crossings, and pollution violates such rights. Since natural rights constrain civil rights, it would be impermissible for the state ever to permit crossings of natural boundaries for the sake of economic efficiency, social utility, or the like, unless all members of civil society consented to such an arrangement. On the classical view, it would be usurpation for the state to permit crossings of an individual's boundaries without his consent, even if this individual would be a net gainer in the end. Paternalism is simply an especially insidious form of usurpation.

We have seen that the restrictiveness of Lockean theories applies to dispositional as well as manifest harms, as long as the dispositional harm is due to actual physical effects of the polluting act. We have also seen that even when a polluting act merely increases the probability of manifest or dispositional harm, without having an actual physical effect on others, it may yet be impermissible on a Lockean view. Exactly which polluting acts are impermissible will depend upon how one resolves the asymmetry of private versus common property, or whether one finds a way of salvaging the classical, asymmetrical view. But on all plausible readings of these various forms of Lockeanism, the state should be much more vigorous in prohibiting and policing pollution than is now the case. A call for a return to Lockean property rights as the foundation of social justice is a call for greater, rather than lesser, governmental restriction on polluting activities. What else should we expect from a view that erects absolute boundaries around individuals and their possessions and makes individuals sovereign within these boundaries?

Yet in what remains of this chapter, I will try to argue that Lockean views, even in their most restrictive forms, may in some ways not be restrictive enough. A plausible moral theory, by my lights, would be less restrictive overall, but more restrictive in certain areas, in particular, with respect to the imposition of pure risk. Previously we considered a person who imposes risks but seems to cross no boundaries of either common or private property, the man who operates an unsafe nuclear reactor next door. As long as the reactor functions normally, he keeps within the boundaries separating his private domain from all others. On Lockean views, his should be a morally neutral act.22

The Lockean accepts the deontological notion that some acts - for example, the violation of a natural right - are intrinsically wrong, even when they happen to have good consequences.23 Let us accept this idea for now. If any act is intrinsically wrong, it would seem intrinsically wrong intentionally to raise the probability innocents will suffer harm. This is just a probabilistic form of the familiar principle that it is intrinsically wrong to bring deliberate harm to innocents. Is intent essential? If we hold the description of an act, A, constant, then it would be odd to say both (1) it is intrinsically wrong to do A with intent to do A, and (2) A itself is morally neutral. It seems more reasonable to say that there must be something wrong with A in the first place, which explains why intending to do A is intrinsically wrong. In the case where A is "acting so as to harm innocents," this is readily granted by most deontologists. Should it not also be granted when A is "acting so as to raise the probability of harm to innocents"? If this is so, then operating (what one does not realize is) an unsafe reactor in one's basement is not morally indifferent after all, for we would certainly want to say that doing so with intent to imperil others by operating an unsafe reactor is wrong. The contrary urge we have, to say that there is nothing wrong with operating an unsafe reactor so long as one is intending only to operate a safe reactor, is the urge to displace attention from the evaluation of acts to the evaluation of agents. If the agent has reason to believe the reactor is no threat, he is doing nothing contrary to his subjective duty: his duty relative to what he believes (or has reason to believe) is the case. But there is also the question whether what he is doing is something he would be obliged not to do if he had full knowledge of the facts, that is, whether he is failing to do his objective duty. In practice, we often take subjective duty as the best approximation of objective duty, but recognize that the two may fail to coincide when we are mistaken about the facts. Is the man operating an unsafe reactor doing his objective duty? Of course not. One is objectively obliged not to maintain an unsafe condition that threatens innocents (other things equal), even if this is being done without evil intent.

Can we explain what is morally wrong with such an act in terms of the crossing of boundaries or the violation of property rights? What territorial right is violated if someone acts within his private domain in such a way as to increase the probability another will suffer wrongful harm, yet no such harm actuallv results?

It seems that the Lockean must recognize there to be something wrong with acts that raise the probability others will suffer wrongful harm. One motivation for the Lockean scheme draws upon the idea of respecting others and their rights. It certainly would raise a question about the extent to which I respect your rights if I thought it permissible to expose them to arbitrarily high increases in the probability they would be violated, so long as these probabilities did not chance to be realized. (In many cases, even if I deliberately set out to harm you I could do no more than to raise the probability you will be injured: I may take a shot at you, but my aim is imperfect.) To avoid entanglement in questions about intent, let us say in a hypothetical mode that if I were to know that an act of mine would increase the probability another would suffer wrongful harm, then, other things equal, respect for that person would be a reason for not performing it. Respect for others is not simply a matter of not happening to violate their rights, but of taking some care that my actions not happen to do so. If I treat your belongings carelessly when they are on loan to me, you may legitimately feel that I showed inadequate respect for your property even if no actual damage happened to occur. Moreover, it seems incompatible with the Kantian dictum of treating others as ends, not as means alone, to think there is nothing wrong in pursuing one's own interests even when this involves exposing others to arbitrarily high levels of risk, so long as no boundaries actually are crossed. "A miss is as good as a mile" seems too expedient an attitude to be consistent with respecting others as ends in themselves.

However, acceptance of this argument would precipitate an important change in the simplest version of the Lockean picture, for it would mean that the rights of others are not simply side constraints determining an arena within which I am free to go about my business as I please.24 Rather, I am under other-regarding obligations even on my own turf. My freedom to swing my arm does not stop at your nose, but at some point where I begin to show inadequate respect for you by putting your nose at too much risk. Lockeans face something of a dilemma here. On the one hand, if they do not take risk into account except when it involves

the crossing of a boundary of common or private property, then although they preserve the simple, territorial picture of morality that attracts many to Lockeanism, they will fail to take into account all that we mean when we talk of respect for others or their rights. On the other hand, if they take risk into account, then they will face some large difficulties: either they must redefine the moral boundaries to make them more restrictive, or they must admit that there is more to morality than staying within one's
boundaries. This last admission would open the way for a more thorough rethinking of the Lockean picture. Let us call an act that raises the probability another will suffer wrongful harm as a causal outcome of one's own behavior, where we leave it open whether this harmful outcome actually obtains, an endangering act. We may ask whether risk presents Lockeans with a genuine dilemma by considering several ways in which a Lockean might attempt to treat endangerment within the original spirit of his view.

REVISIONIST LOCKEANISM

Self-Defense

For a certain range of cases, Locke himself has developed a doctrine for dealing with risk prior to actual border crossing, for he wrote that an individual who

"Declarer[s] by word or action, not a passionate and hasty but a sedate, settled design upon another's life, puts him[self] in a state of war with him against whom he has declared such an intention, and so has exposed his life to the other's power. . . it being reasonable and just I should have a right to destroy that which threatens me with destruction."25

Someone who deliberately puts me at risk has, then, violated the side constraints even before any actual injury is inflicted, and I would be entitled to use force or otherwise violate his territory if this were necessary to stop him. The motivation for such a principle is clear enough: were I to have to wait until actual injury has occurred, I would be defenseless against many serious harms. The classical Lockean, then, may claim to have a doctrine to deal with the imposition of risk, even when the risk remains pure.

However, we have already seen that it is plausible to say that endangerment morally ought not to happen, other things equal, even when it is not intended as such, and so does not involve any sort of settled design or declaration of War. One may endanger innocently if one's acts pose a threat to the rights of others but one is not at fault for failing to realize this; one may endanger negligently if one's failure to realize the threat one's acts pose is culpable in some way (e.g., is the result of a history of carelessness or inattention); and one may endanger deliberately if one actually intends that one's acts imperil others. (There are other categories as well.) Locke's doctrine applies only to the last case and so gives us no basis for constraining the innocent or negligent endangerer. Of course, we ordinarily judge the character of the deliberate endangerer more severely than that of the negligent endangerer, and we may have nothing bad to say about the character of the innocent endangerer. But in all cases we may judge the endangering act as one that, other things equal, ought not to be done (assuming that a nonendangering alternative is available to the agent). What is needed, then, is a development of Locke's theory to cover all sorts of endangerment.

This development must perform two tasks. First, it must answer such questions as when endangerment is wrong, what counteractions are justified against it, and so on. Second, it must tell us what it is about (say) innocent endangerment that makes it wrong, since such endangerment may not involve any actual boundary crossings and does not involve evil intent. We will consider two proposals, focusing initially on how they would accomplish the second task.

(1) If we cannot locate the wrongness of innocent endangerment in the psychology of the endangerer, we may yet look to the psychology of those endangered. If it is a harm to step on someone's toes, should it not be a harm to cause the often more severe and lasting discomfort that fear of harm may cause? Fear may be as debilitating as physical injury and may even bring about a number of physical disorders. Why draw

boundary lines so as to include trivial physical damage and exclude grave mental damage? Is this any more than a fetishism of the tangible?

These strike me as important questions for the Lockean to ask himself, but Lockeans may be suspicious of the notion of psychological harm. One may, after all, be concerned to distinguish "real harms," such as damage to property, from "imagined harms," such as the offense others might take at one's ideas or habits. If it were morally required that we avoid innocently causing certain psychological responses in others, it would be difficult to imagine what a Lockean system of boundaries might look like. Psychological effects flow across existing boundaries in a marvelous variety of ways, some of which depend much more heavily upon how others regard us than upon what we actually do. A natural right that no one else act in such a way as to cause one psychological distress would radically change the character of a Lockean scheme of things.

This is not of itself a conclusive argument against such a right. Moreover, one certainly cannot argue that damage to property is in general more troubling to individuals, or more a sign of disrespect for them, or more likely to involve treating them as a mere means, than the psychological distress they may suffer at the hands of others. If anything, the opposite seems true. It is therefore something of a mystery why psychological effects play so small a role in Lockean views. After all, such views usually do incorporate a prohibition against fraud, which essentially involves a psychological effect.

I suspect that a number of long-standing convictions are at work: ideas and feelings may be viewed as simply unreal in a way that land or limbs are not; individuals are thought to have more control over their mental states and how these are affected by the acts of others than they do over their physical states, so it is more likely that they could contrive to manufacture mental harms;27 physical harm is more publicly observable than psychological harm, so its authenticity, origin, and extent are more reliably assessable. In some cases, however, psychological damage is real, nonmanufactured, and observable enough.

It seems implausible to claim that my natural rights are violated by an otherwise innocent act of another that causes me fear if the fear is an irrational reaction to the act or if the fear, while rational, has as its object no piece of potential wrongdoing on the part of the other - for example, if you inform me by word or deed that my neighbor is coming after me with a hayfork, thereby exciting in me considerable rational fear of wrongdoing, but not on your part. (Is there anything intrinsically wrong with causing the anxiety that fear involves if the fear would be rational in the circumstances? Does it matter whether the object of fear is human wrongdoing or some natural calamity? Of course, it seems wrong to torment people with fear - rational or irrational - but the wrongness here could be laid to one's intention to disturb or to one's negligence in attending to how one's behavior affects others.)

Let us consider only the simplest case: Should a Lockean admit a natural right that others not act so as to cause one rational fear that one will suffer wrongful harm from them? Someone might argue that this right would do more to restrict our behavior than it would to enhance the quality of our lives or our freedom of action. But this is not a Lockean argument, for it uses aggregative, balancing considerations about consequences to test whether a right exists. A Lockean might try a different sort of argument, seemingly popular today: we cannot live in a no-risk society, so we must learn to live with a degree of rational fear rather than obsessively try to eliminate it from our lives. However, a Lockean presumably would reject the comparable argument that since we cannot live in a crime-free society, we must accept some criminal activity as permissible. Natural rights forbid all violations of them; nor is the impossibility of eliminating all violations a reason not to seek to minimize violation.

I know of no convincing argument that a Lockean, concerned that individuals be respected as ends, could use to refute the claim that we have a natural right that others not act in such a way as to cause us rational fear of suffering wrongful harm at their hands.28 Yet even admitting such a right would not wholly solve the

Lockean's problem of capturing the wrongness of endangerment. For endangerment seems wrong even when it arouses no fear in those at risk, for example, when they simply are unaware of their peril. We might reformulate the right as a right that no one act in a way that would awaken rational fear of wrongful harm from him were his actions to be known and their possible consequences grasped. But is that all that is wrong with endangerment? Would it make any difference to the wrongness of my playing Russian roulette on my sleeping roommate that he is someone who constitutionally feels no fear? In such a case, is the wrongness attributable to the fact that someone else, less fearless, would feel fear if he knew he were being exposed to such endangerment? Kantians, at least, would presumably deny this. They have held that the wrong done to an individual by (for example) fraud or coercion is not just a matter of the discomfort such an act, if known, would cause him (or an average person). Rather, Kantians have argued that such acts fail to show adequate respect for the individual as an autonomous being, discomfort apart. Therefore Lockeans who would employ a Kantian interpretation of the notion of respect for persons and rights must affirm that what makes endangering acts wrong is not merely the uncomfortable psychological states they may cause in others. This would also fit with the Lockean treatment of actual - as opposed to potential - property crimes, for there it was not essential that the property loss was accompanied by any psychological distress.

2) Let us, then, consider a second proposal, one that makes no essential reference to psychological states, either on the part of the endangerer or the endangered. Intent and fear alike are displaced from the center of the ethical analysis of endangerment, and a new natural right is recognized: as long as one remains within the bounds of one's own property or common property, one has a right against being exposed by the actions of others even when they, too, remain on their own or common property - to an increase in the probability one will suffer wrongful harm.29 This seems a natural extension of the Lockean natural right not to suffer wrongful harm to the case where violation is merely probable. If you like, it recognizes one's safety, or freedom from risk of wrongful harm, as part of one's property.

However, such a natural right would impose heavy restrictions upon the free action of others. Do you have a natural right that I not read Crime and Punishment if this would cause a smallish increase in the probability that I might one day rob and bludgeon you? Even inaction on my part may add something to the probability you will suffer wrongful harm, for example, if I fail to speak sternly to a surly youth, perhaps encouraging him down the road to delinquency. Holders of a Lockean view would no doubt object strongly to such a right, pointing out that it would intrude grossly into an individual's proper sphere of action. Yet on Lockean views an individual's proper sphere of action is not an independent concept. It is defined as the area left open by the exercise of natural rights (one's own and others'), and so cannot be used to determine those rights.30 Now, I am perfectly sympathetic with the claim that to recognize a right against endangerment would be to restrict individual freedom excessively, but Lockeans should be wary of such arguments: they suggest the possibility of trading off individual territorial rights for some other good, namely, freedom. If natural rights are not set as prior constraints upon the pursuit of any good, even freedom, then all rights in the Lockean canon should be subject to reevaluation. The cautious Lockean will retain the priority of natural rights and look for some nonconsequentialist reason for rejecting or qualifying an extremely restrictive right against endangerment. Several possibilities suggest themselves: one might exclude reciprocal risk, or set a threshold of acceptable risk, or introduce a notion of proximate causation; one might make use of quasi-contractual notions such as tacit or hypothetical consent; or one might pursue a strategy using elements of both these suggestions. In what follows, I will review some of these possibilities.

Reciprocal Risk

Special principles regarding endangerment might not be needed within a Lockean scheme if there were a mutual imposition of risk throughout civil society and states of nature. If this were the case, then all wrongdoing involved in endangerment would in effect cancel out, and it might be possible to avoid the problem of redefining boundaries altogether. This would not be a satisfactory resolution from a theoretical standpoint (are we to limit application of Lockean theory to those societies and those times when the

imposition of risk is nearly reciproca1?), but it would as a practical matter eliminate the risk-based problem of finding a middle course between extremes of permissiveness and restrictiveness. Unfortunately, however, the imposition of risk is manifestly not reciprocal. Not only do some face risks owing to the actions of others upon whom they themselves impose no risks, but imbalance in the magnitude of risks imposed is at least as common as balance. This is especially clear in the three cases with which this chapter is concerned: ambient air pollution, pollution in the workplace, and side-stream tobacco smoke.

The Lockean might admit that the imposition of risk is not in fact reciprocal, but then say that it should obey a principle of reciprocity. This would allow individuals substantial freedom of action as long as they do not impose risks upon others greater than those imposed upon them. Such a principle would offer an explanation of what is wrong with smoking in public places or the emission of high levels of pollutants by certain industries: the risk imposed upon others is out of balance with the risk experienced at the hands of others. A normative appeal to reciprocity, however, gives rise to problems absent from its descriptive use. It is barely conceivable that one could keep track of all the risk one experiences and regulate the risk one creates so as to apportion it accordingly, matching both agents and magnitudes. Moreover, the principle has the consequence that it would be impermissible to impose any risks upon future generations, powerless as they are to impose risks upon us. Since virtually any course of action we are likely to pursue will impose risks upon future generations, this principle would hardly enable us to avoid excesses of restrictiveness.

Acceptable Risk and Tacit Consent

Complexities of reciprocal apportionment of risk and quandaries about future generations could be avoided if a threshold level of acceptable risk could be established. Let us suppose that we can identify a level of risk that people in general find tolerable. We might then posit a natural right not to be exposed by the actions of others to increases above this threshold in one's risk of wrongful harm. This approach would return some of the neatness of the original Lockean view: so long as one stays below the threshold, one is free to act as one pleases without regard to possible effects on others. Moreover, there is a plausible associated notion of respect for persons: to respect a person involves (among other things) refraining from exposing him to unusual ("unacceptable") levels of risk. Since reciprocity is not presupposed, such a principle could apply across generations.

How might a threshold of acceptable risk be fixed? One could simply observe what levels of risk people do in fact accept in their daily lives without taking special precautions or demanding special compensation, and then infer that this level must not be intolerable. In effect, one is assuming something like tacit consent to this risk level.

It might be objected that people notoriously vary in their willingness to accept risks and that we have no business assuming tacit consent to average levels of risk on the part of those who are atypically risk averse. But let us not quarrel about this, for the whole proposal is deeply confused.

The fact that I daily tolerate a level of risk r in no way shows that I am indifferent about whether an additional risk of magnitude r is imposed upon me, yet the right at issue concerns increments of risk. Moreover, if rational individuals accept a level of risk r, we may be sure that is because they feel they gain something in return, if only convenience. Whether such individuals would find objectionable the imposition upon them of some further risk, even if very much less than r, will depend upon whether they receive something worth the risk in return. It makes no more sense to ask for a level of "acceptable risk" in general than for an "acceptable price" in general. Is five dollars an acceptable price? Well, what is it the price of? Something I want? Is the same thing or a good substitute available to me elsewhere at lesser cost? What are the total resources available to me at the time, and what other spending options exist? It would not be rational for me to accept a one-in-a-million chance of harm if it brought with it no possible benefits, or if other alternatives offered lower risk or greater benefits without greater cost. By looking at the choice behavior of rational individuals, then, we

do not discern anything like a threshold of significance with regard to risk; risks are accepted relative to a particular range of options, with an eye to possible benefits.31

Suppose, however, that sense could be made of the idea of taking a certain degree of endangerment as a threshold of significance. Would the Lockean's problems be solved? Let us call risk or increments of risk below this threshold level trivial. For simplicity, let us ignore questions about benefits, and imagine that the Lockean arrives at the following principle: one has a natural right that others not cause a nontrivial increase in the probability that one will suffer wrongful harm as a consequence of their actions.32 Like other Lockean rights, this one would be quite restrictive regarding polluting activity; just how restrictive depends upon what counts as a trivial degree of risk. Yet it is not clear how such a right would be deployed within a Lockean scheme, for Lockean rights characteristically apply between individuals.
Consider the following sort of case. A polluting act by one individual spreads a toxic substance over a large area. Each of the individuals in that area suffers only a trivial increase in the probability of suffering a wrongful harm as a result, so no individual rights against endangerment are violated. But the probability that someone in the area will be wrongfully harmed may be nontrivial--indeed, it may be arbitrarily close to one--suggesting that the act should be impermissible even though it violates no individual's Lockean rights. In another sort of case, a number of people act separately in ways that each causes a trivial increase in the probability I will suffer wrongful harm. But the result is a nontrivial increase in the probability I will suffer wrongful harm from someone (though not from anyone person in particular). Again, no individual violates another individual's rights, but nontrivial risk - indeed, arbitrarily great risk - has been imposed. In an extreme case of this kind, two independent acts, each imposing trivial risk on its own, together produce almost certain harm, as when two pollutants, individually not very toxic but in combination lethal, are independently released in my neighborhood.

Other things equal, a rational person would be just as disturbed at the prospect of suffering wrongful harm at the hands of two independent agents as two acting in conspiracy, or at the hands of someone (he knows not whom) as at the hands of a particular individual. When we apply the Lockean framework to questions of social policy as well as individual conduct, it becomes still more obscure why it should matter whether a nontrivial increase in risk is due to the act of one individual or two, or whether an effect will be borne by individuals as a group rather than singly. The image of individuals holding rights against individuals, and of individual trespass as the paradigm of impermissible action, ceases to be illuminating. It would seem appropriate to depart from classical Lockeanism enough to take into account aggregative effects of endangering behavior, but there is no obvious extension of individualist natural rights theory to cover such cases. (We encountered similar difficulties handling aggregative effects in discussing Lockean views about appropriation from the commons.)

The very use of a notion of acceptable risk has already called for a significant departure from classical Lockeanism, for the notion of a threshold of "significant effect" has no answer in traditional Lockean property rights. The consistent Lockean must explain why it is morally impermissible for me to commit trivial theft, but permissible for me to endanger others to a small degree. Of course, he may say that deliberate or negligent endangerment is always wrong, regardless of degree - the threshold applies only to innocent endangerment. However, in the case of private property, Lockeans have held that it is (objectively) wrong for me to take something belonging to another even if I do so innocently. This disparity in the treatment of innocent endangerment versus innocent misappropriation could not be justified by a Lockean on the grounds that it is socially efficient to enforce laws against theft rigorously while permitting some latitude when it comes to endangerment. This may indeed be an efficient arrangement, but we are here concerned not with civil codes but with natural rights, which cannot be overridden or abridged - on a Lockean view - for the sake of efficiency. Nor can a Lockean justify the disparity by pointing to our general social tolerance of low levels of risk; we also tolerate low levels of theft.

The notion of an acceptable level of risk thus proves both dubious in itself and difficult to render consistent with a Lockean natural rights theory. There may be some hope for a natural right based upon a threshold of risk, but only if some imposing problems can be solved in a Lockean spirit, and I see no such solutions in the offing.

Causal Proximity and Complexity

I burn some coal to heat my house; sulfur compounds released in combustion enter the atmosphere; in time, these compounds are picked up by water droplets in the clouds, forming dilute sulfuric acid; these acid droplets then rain down on the surface of the earth, slightly blighting your health and home. A Lockean might note that tort law embodies criteria of proximate causation that lessen or remove liability for certain highly mediated outcomes of one's acts. By emphasizing the indirect character of many pollution-caused harms or risks, a Lockean might be able to find elbow room within his scheme. One would be obliged only to refrain from those acts that would proximately cause (or threaten to proximately cause) wrongful harm.

Intuitively, there is great appeal to such a suggestion, but I suspect that much of the appeal comes from what has by now become a familiar confusion: mistaking the question "How much responsibility should we assign to an individual for a given harm?" for the question "Other things equal, is it right or wrong in an objective sense to initiate a chain of events resulting in harm to an innocent?" In the former case, but not the latter, length and complexity of causal chains seem potentially relevant; yet it is the latter that concerns us. Suppose that, to scare a crow away from the soup pot at our campsite, I pitch a rock at him, which ricochets off the pot, strikes a tree branch, rolls down the side of a tent, and drops squarely into the mouth of a sleeping fellow camper, chipping his expensive bridgework. Clearly, if I could have foreseen the whole sequence, I would have been obliged not to toss the stone, that is, I objectively ought not to have performed the act. Would this judgment be altered in the least if a few more steps had occurred between my act and his harm? One may of course think I deserve less punishment than someone who deliberately took aim at his dozing friend, but even here intent matters more than directness: if I had been aiming at my friend, but my arm was unreliable, the stone might have ricocheted off the pot, struck a branch, . . . and I would be as culpable as if I had had a more accurate arm. Length and complexity of causal chain have much to do with foreseeability, and therefore with assessments of intent or negligence, but long and involved causal chains that terminate in wrongful harm are not more objectively permissible than short, straightforward ones, other things equal.33

Consent, Hypothetical Consent, and Compensation

Perhaps it is time to stop casting about for an appropriate way of avoiding or weakening a Lockean natural right against endangerment. After all, the Lockean has at his disposal a device for achieving great flexibility in restriction and permission even if the right is absolute: consent. Individuals are entitled to exchange, sell, or give away their rights against endangerment. Through the arrangements made among individuals, the Lockean scheme makes a place for trade-offs of rights against benefits. To carry justificatory force, such consent would have to be free and undeceived (at least, the deception could not have come from the other parties to the agreement). Must the consent also be informed? (How informed?) Rather than take up these issues, let us suppose that the Lockean has devised an acceptable account of the criteria of legitimate consent. Arguably, there are cases in which free and informed consent has been given, yet one ought not to perform the consented-to act. For example, if the agreed-upon terms of a contract prove quite onerous, it may be that I should release the other party (perhaps in return for some compensation) even though I have much to gain by holding him to it. Agreements have a way of becoming onerous even when entered into with what was at the time good information and reasonable care; one can simply be exceptionally unlucky with what was a rational, calculated risk. When this occurs, it may be unconscionable to hold someone to a conscionable contract. In another kind of case, a smoker may find it rare for anyone to refuse his request for permission to light, yet it may still be wrong in some such cases for the smoker to exploit this reticence. It is hardly a new idea that there may be obligations to others not based upon rights. I may, for example, be morally obliged to help you if you are in need and the necessary aid would not be burdensome to me, but not

because you have a right to my assistance. Mightn't there also be humanitarian obligations not to cross voluntarily opened borders in some circumstances? Such speculations may not be very libertarian in spirit, but a reasonable notion of respect for persons as ends would seem to involve some humanitarian obligations of this kind. Thus, a Lockean scheme seeking to express such a notion may be unable to treat consent--even when free and informed--as an unproblematic source of justification for the imposition of harm or risk. Let us ignore such problems, and accept for now the view that individual sovereignty includes the sovereignty of consent. Certainly, it is part of the attractive antipaternalism of Lockeanism that individuals are treated as the ultimate judges and guardians of their own interests.

Even so, it may not be feasible to make widespread use of explicit consent to gain flexibility regarding endangerment. Someone contemplating an activity that involves releasing harmful substances into the air seldom is able to confine the risk thereby imposed to those individuals he has been able to consult fully in advance. And a single individual, even though only marginally affected, would be entitled to veto any such activity, however much it may benefit others, by exercising his right against endangerment. Moreover, some of those put at risk may yet be unborn, and no existing individual can bargain for the claims of future individuals.

If it is in practice often impossible to obtain explicit consent to endangerment, a Lockean may propose as an alternative a scheme of after-the-fact compensation to those exposed to harm or risk.34 If a polluting activity harms an individual, the compensation required would be such that the victim would have been indifferent before the fact between not suffering the harm at all and suffering the harm but receiving the compensation given. If a local factory blackens my house, and the factory pays to have it repainted and provides me with a small sum to cover inconvenience, I may end up as pleased with this outcome as I would have been had the blackening not occurred. If an individual is simply put at risk, the appropriate level of compensation would be the premium one would have had to pay prior to the exposure to make him indifferent between being exposed to the risk (and receiving the premium) and not. The premium need not be a sure thing; individuals may prefer a state of affairs in which probability of receiving some benefit. When this standard of compensation for harm or risk is used, one is in a sense obtaining hypothetical consent to a package of harm or risk plus compensation: the package would have been acceptable if offered. Such a scheme has some practical advantages over requiring explicit consent before the fact. First, future generations cannot be consulted, but they can be compensated (if, e.g., this generation leaves behind substantial benefits to offset the risks we bequeath to others). Second, one gains flexibility, for in some circumstances it may be more manageable to provide compensation after the fact than to seek to obtain consent beforehand. Whenever compensation would cost less than the amount to be gained by the endangering act, this flexibility would permit a gain in overall efficiency, for once compensation has been made, no one will be worse off, and at least some will be better off, than otherwise would have been the case.

There are, to be sure, limits upon compensability. If an individual dies or loses something irreplaceable, no after-the-fact benefit could compensate him for the harm done. Since many of the injuries we must consider in discussing pollution - whether as actual harms or as things at risk - are of this sort, the scope for avoiding restrictive prohibitions through a system of compensation is much reduced.

Moreover, it may in many cases be no more practical to determine and distribute required levels of compensation to a diverse--and often future--population than to seek their consent. It might be possible to fix on some sort of average level of compensation for broad classes of polluting activities and broad categories of affected populations. But where in the Lockean scheme is there room for the idea that undercompensation to an individual, or obliging an individual to overcompensate, is permissible if it would be inefficient to determine the actual level of compensation needed? Yet polluters, even small-scale polluters such as smokers, generally cannot keep track of everyone they have harmed or put at risk, of the magnitude of harm or risk in each case, and so on. Is one to imagine a smoker passing out nickels to those who ride with him five floors in an elevator, dimes to those riding ten floors, and so forth, with double pay for those with weak

hearts? Would it really be a lessening of restrictiveness if individuals were required to bear such a burden of monitoring effects, determining compensations, securing compensation from those who resist paying, and so on? More sensible would be (for example) a scheme of taxation on tobacco, with benefits paid out to nonsmokers. Such a scheme would lead to much over- and undercompensation, but probably not more than individual efforts.
A more fundamental difficulty with any scheme for compensation is that it runs afoul of a fundamental motivation of Lockean views: their antipaternalism. Even if reimburse you after the fact for damages I cause to your person or property, I have failed to respect your right to have the last say over what becomes of both. Nor is this problem removed if I compensate you as well for any damage to your self-esteem. Any attempt to use a notion akin to hypothetical consent within a Lockean framework must confront the fact that even though someone might have consented to an arrangement C were he rational, well informed, and so on, we are not letting him decide if we do not actually ask his leave and simply impose C upon him. How can it be said that C is "imposed" upon the individual if he is able to say what would count as compensation? In any practicable scheme of compensation, the injured individual could not be allowed final say in determining the appropriate level of compensation, for this would permit exorbitant after-the-fact demands. Instead, some interpersonal means must be found to determine appropriate levels, one consequence of which would be that individuals - if they are to be compensated at all - may have to accept levels of compensation they would not agree to.

It would seem to be a clear case of using someone - not necessarily misusing him, but using him - in were to harm or endanger him in order to pursue my own interests, but then made sure to provide after-the-fact compensation at a level he would have to take or leave. Why is this something less than treating him as a Kantian end-in-himself? Several elements seem to be involved. First, there is a preemption of his actual will and of his sovereignty, his entitlement to decide certain matters himself. Second, such preemption reflects an attitude according to which what matters is that people receive certain outcomes, even if they did not participate in bringing the outcomes about through an exercise of autonomous choice. Third, in the simplest sorts of cases, compensation really is nothing but a price attached to the pursuit of one's own ends, a toll one must pay in order to get on with it, a fee that frees one from the obligation of consulting others. Nothing in the compensation mechanism itself prevents one from taking this instrumental view of others, and much encourages it. Finally, ability to compensate will vary with ability to pay, so that those with greater resources will gain greater release from restriction than those with less. If in a Kantian "kingdom of ends" we are all equal and the ends of others are equally our ends, then we seem a long way from such a kingdom in a world in which the better-off are able to preempt the wills of the less well-off through the mechanism of compensation, but not conversely. A rich man may be able to ride his hounds over a peasant’s 1and and then make this up to the peasant monetarily, but in so doing does he show respect for the peasant's property rights, or for the peasant as an equal in the kingdom of ends?

We must make a distinction. Once an unconsented-to harm of endangerment has occurred, is it a respectful thing to compensate? Probably so. But is it a respectful thing to harm or endanger without consent, perhaps even deliberately, so long as one later compensates? Probably not. From a social standpoint, it is, we have seen, efficient to permit boundary violations whenever the violator can compensate his victims and still come out ahead. But one of the central themes of the Lockean tradition has been that individual rights take precedence over efficiency.

Now, it seems to me quite important that it be at times morally permssible to pursue activities that give rise to unconsented-to harms or endangerment when these activities in the end yield a substantial balance of benefits over burdens. Without this possibility, society could not achieve much by way of development. Yet moral theories of a Lockean structure and Kantian inspiration tend to exclude such quasi-utilitarian balancing as disrespectful of persons. Now, the balancing involved in a scheme of violation-and-compensation is not strictly utilitarian, for it is person-specific, requiring that a surplus of benefits over burdens accrue to :he particular individuals bearing the burdens of harm or endangerment, and not merely to society as a whole. Yet Kant tells us not to use others solely as means, even as means to their own ends, and libertarians tell us

that we cannot force things upon people even when they themselves are the beneficiaries. A scheme permitting trade-offs of beneflts against rights, even when person-specific, is thus in important ways conceptually closer to utilitarianism than to either Kant or classical natural rights theory.

It is instructive that Lockeans typically have not advocated a scheme of violation-and-compensation as a way of loosening the restrictiveness of private property in general. For example, one might avoid the need for “excessive governmental regulation and enforcement" of prohibitions against theft or assault by permitting the thief or assailant to compensate afterward, or, if compensation is not forthcoming, allowing the victims to have recourse to the tort system.35 Instead, most Lockeans have advocated direct state enforcement through criminal law of rights against theft and assault, and for good reasons: a system of violation-and-compensation would place the burden on the victim; it would allow preventable crimes to occur; it would fail whenever compensation is not possible owing to the nature of the harm or the resources of the harmer; it would be unreliable (many would fail ever to receive compensation because they are unable to pursue their cases, or because small losses would not be worth pursuing); it would not be an adequate deterrent to crime and so would increase insecurity; it would give rise to "free-rider" problems; and so on.36

These reasons apply with equal force to the environmental case. In fact, it may in general be harder for individuals to detect and assess pollution-caused injury or risk than is the case in ordinary crimes against person or property. The information-gathering burden on victims would be enormous, substantially diminishing the probability that polluters would voluntarily compensate (since they could often hope to escape detection) or be brought successfully to trial for failure to compensate. Once one makes a serious assessment of what it would involve for individuals to keep up with current knowledge of the effects of pollutants and to trace the origin of the pollutants to which they are exposed, it becomes obvious that a system of regular public regulation, monitoring, and policing would secure substantial gains in efficiency over individual enforcement through threat of suit. Moreover, such governmental activity need not violate any Lockean rights, for no one is entitled to harm or endanger, with or without permission.37

Both schemes - direct enforcement by the state and individual enforcement through violation-and-compensation - would require that it be permissible under some circumstances to enter private property to monitor potential hazards. How else could one determine whether another is putting one at risk by acts carried out entirely on his own property? The entitlement to inspect would require that property rights be retailored, just as they are tailored in civil law by the notion of a reasonable search. Government enforcement would have the advantage of limiting the total amount of inspecting activity needed by reducing duplication: government inspectors, but not private individuals, could be required to make public record of their findings. Moreover, public inspectors could be required to carry identification and to follow certain procedures.

Note that if the Lockean picture were modified to demote private property to the status of common property, compensation without consent might be fit in more consistently. Under this modification one could appropriate another's property without consent so long as one left enough and as good either in his remaining private holdings or in readily accessible common property. If a given appropriation would not leave enough and as good in this sense, it might still be permissible if one were to substitute something of value equal to whatever is taken. (Would one also have to compensate for distress?) Compensation, then, would emerge as a special case of meeting the conditions necessary for appropriation.

A Lockean may use compensation to gain lessened restrictiveness either by making a special provision for a scheme of compensation without consent or by treating private property on a par with common property. Both are major changes and would result in moral theories with different, and almost certainly less, intuitive appeal than the orthodox view. They fall between two stools, being defective both with regard to efficiency - and so not attractive to utilitarians - and with regard to respect for persons - and so not attractive to Kantians.

Lockeans, then, do seem to face a genuine dilemma. The orthodox view turns out to be vastly restrictive of individual freedom when it comes to pollution-caused harm, but insufficiently restrictive when it comes to pollution-caused risk. Revisions of the orthodox view may permit a more sensible balance, but involve significant departures from Lockeanism and bring with them a host of new problems.

SUMMARY AND CONCLUSION

The injuries and endangerment we may experience from pollution have excited among Lockeans an ingenious interest in incorporating greater flexibility into their view, an interest much less commonly directed at the restrictiveness of the system of private property in general. After all, the system of private property calls for centralized, direct governmental regulation, yet it is viewed by Lockeans as the very bulwark of freedom. What structure of governmental permissions and prohibitions should be in place regarding pollution is a subject beyond the scope of this chapter. My point is the modest one that it seems hardly defensible to treat airborne harms differently from handborne harms. I cannot here canvass all the ways a Lockean might attempt to come to terms with risk and injury from pollution, but we may draw some tentative conclusions.

First, if we treat injuries due to polluting activities comparably with injuries that happen to be caused by other means, we find that the Lockean view in its classical form is highly restrictive about pollution, very much the opposite of the laissez-faire doctrines associated with it. It should be viewed as no more probable that problems posed by pollution could be handled by a self-regulating market than problems of property crime in general. Much of the appeal of Lockean views is that they seem to afford a way of securing considerable freedom of action for individuals, but this is so only if we disregard the injuries individuals may cause each other through the medium of the environment. We cannot argue that Lockeanism is internally inconsistent if it turns out that this doctrine would, if put into practice, be very restrictive of freedom of action, for Lockeanism does not require that freedom should be maximized. But Lockeanism will lose much of its attractiveness unless there is good reason to think that a society founded upon Lockean principles would permit very substantial freedom of action. Owing to environmental effects, Lockeanism would, if put into practice, impose much more severe restraints upon individual action than, for example, the most elaborate existing environmental laws and regulations.

Second, if we look at the specific issue of risk, as opposed to actual injury, we find that classical Lockeanism may fail to be restrictive enough, especially if it is to be thought of as giving expression to the Kantian notion of respect for persons.

Third, there are some systematic - but unmotivated - asymmetries in the classical Lockean view, most notably with regard to the treatment of ownership rights in common property versus private property.

Fourth, the search for a Lockean scheme that strikes a more appropriate balance between restrictiveness and permissiveness suggests a number of modifications of the classical theory: one may need to question the absoluteness of certain rights; to introduce considerations of balancing benefits and burdens; to contemplate collective or aggregative entitlements or obligations as well as individual rights; to challenge the idea that so long as one operates within one's own boundaries and intends no harm, one need acknowledge no other-oriented constraints or obligations; to recognize limitations on the justifYing role of consent - tacit, explicit, or hypothetical; to rethink the Lockean notion of privacy; and to give a fuller account of the notion of showing respect for persons.

All this is a rather roundabout way of arguing what perhaps cannot be argued more directly: if we take seriously the fact that we find ourselves situated in, and connected through, an environment, we are soon impressed with the inaptness of a conception of morality that pictures individuals as set apart by propertylike boundaries, having their effect upon one another largely through intentional action, limiting their intercourse by choice, and free to act as they please within their boundaries, although absolutely constrained by them.

The result of this conception is gross restrictiveness here, gross latitude there, and, in general, an inadequate vocabulary for debating, or even expressing, a number of pressing moral issues concerning the environment.

It does not follow that one ought to give up the notion of individual rights as the basis of morality and adopt utilitarianism. But the arguments made here at least suggest that a plausible morality will involve at base more than a scheme of presocial, territorial individual rights and will make room for a number of notions - balancing, aggregation, and the like - more commonly associated with utilitarian than natural-rights theories.38

NOTES

To Breathe Freely, Mary Gibson, ed. (Totowa, NJ: Rowman and Littlefield, 1985). * I am grateful to members of the Working Group on Risk, Consent, and Air for their comments on an earlier version of this chapter. I should mention especially Judith Jarvis Thomson, Samuel Scheffler, Mary Gibson, and Douglas MacLean. I would also like to thank Rebecca Scott for much helpful discussion.

1. I do not attempt here a full characterization of the doctrines of John Locke. Rather, I seek to draw out certain main features of an influential view that takes a number of central Lockean doctrines as its foundation. For example, although contemporary libertarians often draw heavily from Locke, it would be misleading to call Locke himelf a libertarian.

2. See John Locke, *The Second Treatise of Government* (Indianapolis: Bobbs-Merrill, 1952) ch. 5. All references to Locke are to this work.

3. At this point in the argument, Locke has assumed the existence of an imperishable medium of exchange; otherwise, any wealth amassed beyond what one could use would perish and be wasted. Locke, sec. 51.

4. Perhaps the most explicit use of this boundary-based image of moral space is in Robert Nozick, Anarchy, State, and Utopia (New York: Basic Books, 1974) ch. 3. References to Nozick are to this work.
A right in such a scheme is a moral liberty or entitlement to do or refrain as one pleases, and it entails the existence of an obligation on the part of others not to interfere. In effect, then, it establishes a border. One possible exercise of such a right is to grant to another part or all of one's entitlement, that is, to issue a pass (the order stays put, but the other is tree to cross - perhaps subject to certain conditions), to transfer a deed (the border stays put, but the rightful occupant changes), or to establish joint ownership (no property line separates joint owners, but there may be some agreed-upon limits governing use; in effect, if we think of the uses of properties as quasi-spatial dimensions of it, such limitations are internal boundaries).

5. Or, would it involve crossing an internal boundary of jointly owned property? (See note 4.)

6. A complication arises where another has a "settled design" upon one's life or possessions; then self-defense permits interfering with him even before he crosses one's boundaries. He has, according to Locke, declared an unjust war upon one and thereby forfeited his rights against interference. See Locke, sec. 16.
A further complication is that in a state of nature Locke gives to all the right to enforce the laws of nature. One may, presumably, cross a boundary for this purpose without asking permission, for example, to retrieve stolen property and secure as well any of the thief's property needed for "reparation and restraint" (sec. 8). This boundary crossing, too, comes under the head of states of war (ch. 2).

7. For example, this view is taken by Nozick, 30 ff.

8. Hereinafter, when I speak of crossing a boundary wrongfully, I will mean that the crossing was not freely consented to, is not a legitimate act of self-defense, and is not a legitimate effort to enforce the laws of nature.

9. An objective obligation is an obligation one would recognize if one knew all the principles of morality and all the relevant facts about one's situation and drew the appropriate moral conclusion. (It does not follow that one necessarily would be moved by this conclusion.) Subjective obligations are relative to what one believes, perhaps wrongly, to be the case. For discussion of the distinction, see Richard B. Brandt, *Ethical Theory* (Englewood Cliffs, NJ: Prentice-Hall, 1959) 362ff.

10. Hume wrote that "a poor peasant or artisan. . . [who] knows no foreign language or manners and lives from day to day by the small wages which he acquires" cannot seriously be said to give consent to his government simply by remaining in his place. "We may as well assert that a man, by remaining in a vessel, freely consents to the dominion of the master, though he was carried on board while asleep and must leap into the ocean and perish the moment he leaves her." David Hume, "Of the Original Contract," in David Hume', *Political Essays*, C. W. Hendel, ed. (Indianapolis: Bobbs-Merrill, 1953) 51.

11. Locke himself held that we could not trade away our right to life or sell ourselves into slavery, this being contrary both to reason and to the will of our ultimate owner, God (secs. 6 and 25). Nozick, on the other hand, imposes no such restriction (331).

12. I assume that your neighbor is not operating the reactor in a Kamikazelike effort to put your life at risk, that is, has no "settled design" to harm you, and so his behavior does not fall under Locke's special provision for self-defense. The question of intent will be discussed further.

13. I am availing myself here of the notion of a probabilistic cause. Roughly, a factor C is a (partial) probabilistic cause of event E at time t if, were C not present at t, but conditions up to it were otherwise exactly the same, the objective probability of E at t would have been lower than in fact it was. Thus characterized, this notion is neutral on the question of whether there is an underlying determinism.

14. Interestingly, Locke thought that in a state of nature no one would bother to appropriate in a wasteful fashion, since it would simply be a net loss to expend one's labor and then not put the product to good use (see. 51). This would be so only if it were true that the simplest way of obtaining something for one's own use did not commonly involve despoiling other parts of common property not put to good use. Historically, the opposite has often been true and special care and effort would have been necessary to avoid wasteful despoilation.

15. Regarding this unclarity, see Nozick, 174-5, where he rather surprisingly leaves the unclaritY unresolved. One common form of pollution, dumping toxic wastes into the soil, can be quite a bit like creating a cloud of pollutants in the atmosphere, although this sort of pollution is usually accompanied by some leaching into ground water, streams, etc.

16. Talbot Page, "A Generic View of Toxic Chemicals and Similar Risks," *Ecology Law Quarterly* 7 (1978), 207-44, 222n. Page cites K. S. Crump, D. G. Hoel, C. H. Langley, and R. Peto, "Fundamental Carcinogenic Processes and Their Implications for Low Dose Risk Assessment," *Cancer Research* 36 (1976), 2973-9, and Jerome Cornfield, "Carcinogenic Risk Assessment," *Science* 198 (1977), 693-9.

17. It should be noted that the requirement of consent before taking private property applies among joint owners. Thus, if two of us were to inherit an estate jointlv, I could not simply take whatever I wished from the estate so long as you were left "enough and as good"; some sort of agreement would be needed before the estate could be rightfully partitioned. Express consent may not be needed when tradition or custom establishes rules governing joint property or where the joint owners are in some other, special legal relationship (such as marriage). Locke notices the need for consent when he considers "the joint property of this country or this parish," which he distinguishes from common property in a state of nature by noting that it

is “common in respect of some men, [but] it is not so to all mankind.” He treats this as, in effect, jointly owned private property, saying that "no one can enclose or appropriate any part without the consent of all his fellow commoners." (Locke adds, as a quite separate consideration, that in practice if one were to appropriate part of such property one would not ordinarily leave "enough and as good" behind in common.) An asymmetry therefore exists between jointly held common property and jointly held private property, even though it would seem as if the difference in the end could be no more than a matter of the size of the joint-holding group: a parish, a country, or mankind. See Locke, sec. 35.

18. There are other problems with Locke's argument. For example, it at best justifies private consumption, but not private ownership of land or of other productive resources that might be put to common use in creating the requisites of private consumption.

19. Perhaps some of the special status often attributed to private property derives from considerations of privacy and from the especially intimate relationship we may have with our own possessions. This is a mire of issues - not the least of which concern the private and intimate relationship we may have with common property - which I will simply refrain tram wading into. This is consistent with our purposes, for what is at issue is not a bare right to hold some property privatelv, but a right of exclusion that can be extended over property in no way intimate to us or necessary for us.

20. There is a third option: to drop the notion of natural property rights altogether. This leaves the possibility of arguing for a system of civil property rights (see following text) and is compatible with recognizing other natural rights in terms of which such a system might be justified.

21. At least at one point, Locke himself suggests a very loose reading. He considers the "rule of property, viz., that every man should have as much as he could make use of" and says it "would hold still in the world without straitening anybody, since there is land enough in the world to suffice double the inhabitants,” had not money been introduced (see. 36). The criterion that others not be "straitened" is clearly weaker than that they be left enough and as good. Elsewhere, Locke says that 'enough and as good' means "there was never the less left for others" and that "he that leaves as much as another can make use of does as good as take nothing at all" (see. 33). These latter remarks suggest a stricter and perhaps more appropriate standard: that no one's prospects be reduced by another's appropriation.

22. Again, we assume that it is not part of his motive to put you at risk by operating an unsafe reactor.

23. Depending upon details of particular Lockean theories, it may be that extreme gains or losses in social utility or in consequent rights observance would offset violations of individual rights. Nozick, for one, says the question of absoluteness "is one I hope largely to avoid," 30n.

24. The expression 'side constraint' and the image associated with it are found in Nozick. 28fF.

25. Locke, *The Second Treatise of Government*, sec. 16.

26. Nozick, in ch. 4 of *Anarchy, State, and Utopia*, does use the concept of fear in discussing risk, although he does not give a general theory of how the concept of fear would be integrated into his treatment of natural rights. One may also ask whether it is a harm to cause fear even when no actual risk is involved (and when causing such tear involves no deliberate acts of deception, etc.).

27. Someone might say: "But some people are just more sensitive than others, and it would not be fair that they should therefore have more extensive claims upon the rest of us not to be harmed psychologically. They do not deserve such sensitivity--they may merely be born with it or have inculcated it in themselves." This would be a peculiar objection in the mouth of a Lockean, for some are born with greater property than others,

and some acquire greater property through their own efforts, thereby gaining - justifiably, in the Lockean's eyes - more extensive claims against others than the rest of us enjoy. In comparison with the acquisition of property, is it simply too easy, and of too little benefit to others, to develop a thin skin? Of course, it sometimes is quite easy to acquire property (e.g., by inheritance) and quite unhelpful to others, but that aside, it might be thought that permitting individuals to enlarge their sphere of moral claims through the acquisition of property provides an incentive to industriousness, which often benefits others as well as the agent. By contrast, it is hard to see what beneficial incentives would arise from allowing individuals to enlarge their sphere of moral claims through the cultivation of exquisite sensitivity or the manufacture of psychological harms. This is plausible enough, but unfortunately for the Lockean it is a straightforwardly utilitarian argument.

28. Could it be said that someone is helping you by tipping you off, that is, giving you grounds for rational fear of wrongdoing on his part if his plan is in fact to harm you? In those cases where you are able to put this information to good use, there is some benefit along with the (perhaps protracted) anxiety. However, it is a general feature of harm-causing acts that they may in certain circumstances also confer benefits, so we cannot use this point to settle the question whether causing rational fear of wrongdoing on one's own part is a harm.

29. Does the reference to probability reintroduce psychological states, in the form of degrees of belief? Not necessarily. First, the probability in question could be an objective probability, such as a propensity or a relative frequency, and thus be fully independent of what the agents in question believe. Second, for those who do not admit of irreducible objective probability, it could be interpreted as an idealized subjective probability - a rational degree of belief conditioned upon all relevant evidence. This is manifestly not a psychological state of any sort as such - such probabilities exist at a time whether or not anyone thinks of them.
An important question hinges upon the interpretation of probability given here. Is it objectively wrong, for example, to introduce a drug that in fact is harmless but for which there is not adequate evidence to warrant the conclusion that it is harmless? That is, is it objectively wrong to act in a way that could be said to increase the subjective probability another will suffer harm even if no increase in objective probability actually occurs? My inclination is to say that what is wrong in such cases is that one is acting contrary to one's subjective duty, although, fortuitously, this turns out not to be contrary to one's objective duty.

30. On this point, see the otherwise quite baffling definition of 'voluntary action' given by Nozick:
Whether a person's actions are voluntary depends upon what it is that limits his alternatives. . . . Other people's actions place limits on one's available opportunities. Whether this makes one's resulting action non~voluntary depends upon whether these others had the right to act as they did (262).

On this account, I leave your home voluntarily if you tell me (which is within your right) that if I do not do so you will call the police.
While this clearly is inadequate as an account of voluntariness, one can see the Lockean forces that drove Nozick to this position: whether an act is within one's proper sphere of free action depends upon whether the constraints others impose upon it are within their right to impose. However, not all acts within one's proper sphere of free action need be voluntary; whether they are depends as well upon the psychology of the agent. Moreover, acts outside one's proper sphere of free action may be quite voluntary, albeit wrong,

31. Further, if it is rational for individuals to assess costs versus benefits in evaluating the acceptability of risks, this seems equally rational at the social level. Yet the Lockean view precludes social aggregation and balancing.
It does not follow that so~called "cost~benefit analysis" is a uniquely rational way of making social policy Indeed, it does not follow that cost-benefit analysis is even minimally rational, for it suffers the following detects (among others): it fails to take into account the declining marginal utility of money (and of other ways

in which distribution may affect utility at a given cost/benefit ratio); it ignores the disparities between utilities and prices (including the fact that prices, but not utilities, reflect ability to pay, and that future utilities cannot be discounted the way future prices can); and it often substitutes the demonstration of a net surplus of benefit over costftor a demonstration that a given course of action is optimal. For further discussion, see my "Costs and Benefits of Cost~Benefit Analysis: A Response to Bantz and MacLean," in PSA 1982, vol. 2 (East Lansing, MI: Philosophy of Science Association, 1983) and "Cost-Benefit Analysis as a Source of Information about Welfare," in P. B. Hammond and R. Coppock, eds. *Valuing Health Risks, Costs, and Benefits for Environmental Decision Making* (Washington, DC: National Academy Press, 1990).

32. A similiar principle is suggested by Judith Jarvis Thomson in "Imposing Risks," in Mary Gibson, ed., *To Breathe Freely* (Totowa, NJ: Rowman and Littlefield, 1985).

33. I am grateful to Judith Jarvis Thomson and David Lewis for discussion of the possible importance of a causal proximity condition.

34. One such scheme is Nozick's. I follow his account in most details. See Nozick, *Anarchy, State, and Utopia*, ch. 4.

35. This is fact parallels proposals one hears from libertarian quarters for dealing with pollution. The parallel is rather close in the case of Nozick. Just how close is hard to say, owing to loose ends in Nozick's account and to my imperfect understanding of the whole of his view.

36. Would anyone be interested in perpetrating aboveboard theft-and-compensation? One might dearly love to gain use or possession of a particular piece of property one does not happen to own and be prepared to compensate the owner adequately after the fact, but for one reason or another be unwilling or unable to obtain express consent to such an arrangement. Indeed, if one could simply make more efficient use of certain property than its present holder, one might be able to take it without permission, use it, pay full compensation (i.e., give the owner the equivalent of what he would have had if he had kept possession of the property), and still come out ahead. (See the following discussion of demoting private property.) Aboveboard assault-and-compensation may have substantial appeal to various individuals for reasons we need not go into here.

37. Some Lockeans would insist that individuals remain free to sell or waive their rights against harm or endangerment, just as they should be free to sell or waive rights against assault or theft.

38. My sense of fairness forces me to note that a previously mentioned difficulty poses a problem for those utilitarian theories that assess the objective rightness or wrongness of acts in terms of the value of the actual consequences they produce. (Those utilitarian theories based upon the expected value of acts will not have this problem.) The existence of an unactualized possibility of harm will not show up among manifest consequences, but this means such theories will not reflect pure risk as such. Two acts with the same manifest consequences, but differing in that one imposes a substantial (but unactualized) risk while the other does not, would be judged morally equivalent, other things equal. This is somewhat counterintuitive. Consider a closely related problem. Suppose that an act of mine substantially augments the market value of your house, that is, increases the price that would be paid for it were it to be sold. But suppose further that this increase in value is only temporary, that you do not sell during this period, and, indeed, that you never learn of this change in value. Have you benefited from my action? (Does one benefit by receiving a lottery ticket, hopefulness aside, only if it wins?) If this is a benefit, then we should count possibilities, not just actualities, among the valuable consequences of actions - even possibilities that are never actualized. That would allow a consequentialist to capture the intuitive judgment that, other things equal, it is objectively worse to impose more rather than less risk, even if the risk remains pure. Of course, we would need to explain why mere possibilities are benefits (or harms) and to ask whether, for example, any amount of merely possible benefit

(or harm) could outweigh even the smallest actual benefit (or harm). I leave these puzzles for another occasion.