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## RISKY RESEARCH AND BYSTANDER CONSENT

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### Abstract

There is no quick and easy answer to the question whether research activities that endanger bystanders without their consent ever thereby violate those bystanders' rights. We cannot dismiss the idea that bystanders possess strong rights against researchers simply on the grounds that they are, after all, merely bystanders. Indeed, it is easy to imagine scenarios in which researchers *would* be morally required to gain the informed consent of bystanders whom they risk harming. Whether bystander consent is required in any particular real-world case will depend, in part, upon exactly *how* the research activity endangers them.

### Keywords

research ethics; informed consent; bystanders; risk; research risk; rights

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I take it to be obvious that the risks our activities pose to others matter morally. It follows immediately that the risks medical research activities pose to bystanders—to those who are neither conducting the research nor its subjects—matter morally.<sup>1</sup> Possible ill effects to bystanders must be factored in when determining whether a proposed course of research is morally permissible. Reasonable efforts must be made to minimize risk, and it will be impermissible to conduct the research if, despite such efforts, risk remains excessive. Furthermore, even if the research turns out to be permissible, researchers may be required to warn bystanders of the risk and come to their aid should any end up suffering harm. What is less obvious is whether bystanders ever have *rights* against researchers that they not engage in certain sorts of risky research activity—and if so, how strong those rights are.<sup>2</sup>

Sometimes we judge an action to be morally permissible despite the fact that it affects someone in a way that would ordinarily constitute a violation of his rights. For example, if

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<sup>1</sup>By 'risks' I mean risks of *harm*, and by 'research activities' I mean those acts and omissions in which the conduct of the research consists. I am not here concerned with risk that discoveries yielded by the research will lead to harm via their subsequent application or dissemination. Note also that the term 'bystander' is used differently in other contexts. In discussions of self- and other-defense, for example, a bystander is generally defined as someone who neither poses nor is responsible for the threat to which the agent is responding.

<sup>2</sup>A right involves a special sort of moral relation between two parties. When B has a right against A that A not act in a certain way, A *owes it to B* not to act in that way. And if A acts in a way that violates a right of B's, he does not merely act wrongly, he *wrongs B*. When I refer to rights in this paper, I throughout mean what are more technically referred to as *claim rights*. And I mean *moral*, not legal or institutional, claim rights. An answer to the question what moral rights bystanders have will not settle the question what legal or institutional rights they should be granted, but it will at least have some bearing on that question.

someone is inadvertently blocking your path to a scene where others require life-saving aid and there is too little time to persuade him to move, it may be permissible for you to shove him aside, even at the cost of injuring him slightly. There are different ways to understand such cases. On one model, exceptions (if they exist) are built into the contents of rights: properly specified, B's right is not simply that A not  $\phi$ , but that A not  $\phi$  *in such and such circumstances*, or that A not  $\phi$  *unless thus and so*. On this understanding, all rights are absolute: it is never permissible to do what someone has a right against you that you not do. The difficult part is figuring out exactly what rights people have. On a rival model, the contents of rights are much simpler, but the mere fact that an act is contrary to someone's rights does not entail that the act is all things considered impermissible. On this model, at least some rights can be overridden by competing considerations. Any act that is contrary to a right *infringes* that right, but sometimes infringing a right is morally justified, in which case the act is permissible. We can mark the distinction between justified and unjustified infringements by saying that only the latter constitute *violations* of rights.

In this paper I shall employ the understanding of rights provided by the second model.<sup>3</sup> (I do not believe that anything of substance will hang on this choice.) Rights, then, need not be absolute: some, perhaps all, can be overridden if enough hangs in the balance. Nor are all rights equal in strength: some are more easily overridden than others. But even if a right is at the weak end of the spectrum, it will not be overridden by the mere fact that things would go better for the agent if he were to infringe it. And our more important rights are not overridden even by the fact that their infringement would to some degree advance the common good. The mere fact that others would gain more than the right-holder would lose is not enough to make the infringement permissible.

Now suppose that the considerations favoring A's act of  $\phi$ ing are insufficient to override B's right that he not  $\phi$ . There is still a way it might be permissible for A to  $\phi$ : B's right might, for some reason, cease to be in force. And there are in turn at least two ways this could happen. First, B might lose his right. He might, for example, act in such a way as to forfeit it. And second, B might waive his right by validly consenting to A's  $\phi$ ing.<sup>4</sup> (It is a good question whether all, or only some, rights can be waived. I shall here be concerned only with those that can.) Because rights are not the whole of morality, the consent of those who have undefeated rights against you that you not  $\phi$  does not automatically make it morally permissible for you to  $\phi$ .  $\phi$ ing might yet be wrong for some other reason. It might even be wrong because of its potential ill effects on the very people who gave their consent. But if the only moral obstacle to your  $\phi$ ing is a certain person's right that you not do so, that person's valid consent will suffice to make the act permissible.

Researchers often do to their subjects things that would ordinarily violate those subjects' rights. That is why researchers generally must obtain their subjects' valid consent; absent such consent, many research activities would be morally impermissible. Luckily for researchers, the requirement that they gain the consent of their subjects is seldom an

<sup>3</sup>For a classic defense of the second model, see Judith Jarvis Thomson, *The Realm of Rights* (Cambridge, Mass.: Harvard University Press, 1990), Part I.

<sup>4</sup>Widely accepted conditions for validity include that the consent be informed and uncoerced and that the person giving it be eligible and competent to do so.

insuperable obstacle. If one potential subject withholds his consent, another can be found to take his place. Each potential subject has the power to veto *his own* being used as a subject, but he lacks the power to veto the research's being done. (The research will of course have to be abandoned if too few are willing to serve as subjects.) The situation would be very different, however, if every bystander who might be negatively affected by the researchers' activities had an undefeated right that the researchers not engage in those activities. Researchers may be able to choose their subjects, but they generally have much less power to determine who will be a bystander to their actions.<sup>5</sup> In many cases, then, any bystander with an undefeated right against the researchers would effectively hold veto power over the research's being done. Suppose that a particular course of medical research would expose every member of a given community to some risk of serious infection, and suppose that because of this, each member of the community had an undefeated right that the research not be performed. If even one of these people were to withhold his consent, that would be enough to make the research activity impermissible. It would be impermissible because it would violate this one person's right.<sup>6</sup>

The question I wish to address, then, is whether bystanders endangered by research activities ever have rights against being so endangered strong enough to make those activities impermissible in the absence of their valid consent.<sup>7</sup> (I stress again that a negative answer would not entail that research activities could never be impermissible owing to the risks they impose upon bystanders. We obviously have moral reasons to care about the wellbeing of others and to avoid acting in ways that might adversely affect them even when so acting would not violate their rights. Nor would a negative answer rule out the possibility that bystanders have rights of other sorts—rights concerning things other than exposure to risk of harm—that researchers might sometimes violate.) I shall argue against the suggestion that bystanders' rights against being endangered are quite generally weak and easily overridden. We consequently cannot dismiss the possibility that bystanders have strong rights against researchers in real-world cases simply on the grounds that these supposed rights-holders are, after all, merely bystanders. (This conclusion will admittedly seem obvious to many readers, but I think there is value in seeing why it is correct.) I shall argue further that in order to determine whether bystander consent must be sought in this or that concrete case, we must carefully examine the precise *ways* in which the proposed research would endanger bystanders, and consider whether bystanders have strong rights against being endangered in precisely those ways. Such detailed inquiries are beyond the scope of this paper. I shall,

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<sup>5</sup>Sometimes it might be possible to conduct the research elsewhere, where all the bystanders do consent. Or it might be possible to shield or segregate those bystanders who have withheld their consent so that they are no longer at risk. (The act of segregating them, of course, might itself require their consent.) But on the whole, a requirement to gain the consent of every affected bystander would be much more difficult to satisfy than the requirement to gain the consent of every research subject.

<sup>6</sup>I assume here that the one person's right would remain undefeated even after everyone else had consented. Perhaps, however, there can be situations in which the fact that most relevant parties have consented would make it easier to override the rights of those who continue to withhold their consent.

<sup>7</sup>Even if the bystanders' rights were overridden, with the result that their consent was not strictly required for the research to proceed, researchers might still have good reasons (pragmatic, political, or moral) to seek their "buy-in" for the proposed research. The pursuit of buy-in might be informal, as when researchers try to generate favorable attitudes through education or consultation, or it might be more formal, as when they solicit the permission of those who speak for a relevant group or agree to abide by the outcome of a plebiscite. The crucial difference between receiving these sorts of community buy-in and receiving the consent of parties with undefeated rights is that the former typically needn't involve unanimity among the potentially affected parties. When consent is required, by contrast, it is required from each and every person whose right has not been overridden.

however, identify a number of crucial variables to which I believe such inquiries should attend.

It will aid our analysis if we begin by distinguishing two broad categories of rights. (This distinction is not meant to be exhaustive.) First, there are what we might call rights against trespass. Examples include the rights that others not touch us, enter our homes, or read our private papers. Such rights protect us from intrusions into our private spheres. The act-types that these rights prohibit are not in themselves bad for us. What's bad for us is not people touching us, entering our homes, or reading our diaries, but rather their doing these things *without our consent*. (When we do consent, such acts can constitute valuable forms of intimacy.) Our private spheres are private precisely because it is properly up to us who may enter them. When people enter without our consent, they usurp this authority and thereby wrong us.<sup>8</sup>

Second, there are rights against being harmed. The acts prohibited by these rights are bad for us whether or not we consent. Harms that we have consented to undergo are still harms.<sup>9</sup> The power to consent to being harmed gives us a degree of authority over what goods others may advance at our expense. This power is not absolute: if a good is sufficiently important, it may be permissible for others to advance it at our expense even without our consent; and if a good is sufficiently unimportant, it may be wrong for others to pursue it at the cost of inflicting significant harm upon us even if we *do* consent. But there will be a range of goods, both of greater and of lesser value than what we stand to lose if we are harmed, that others may advance at the cost of harming us only if we grant them permission.

Medical research on human subjects inevitably intrudes into the private spheres of those subjects. Researchers perform procedures on, administer drugs to, extract samples from, gather sensitive information about, and physically examine their subjects. Absent consent, all of these activities would infringe the subjects' rights against trespass. But researchers never do such things to bystanders. If the only rights people had were rights against trespass, then, there would be an excellent case for the thesis that consent is always required from subjects but never from bystanders. But people also have rights against being harmed, and while medical research does not always endanger bystanders, sometimes it does.

We can also draw distinctions within the category of rights against being harmed (or endangered). Philosophers have proposed various principles dividing such rights in two kinds, with rights of one of the sorts being stronger, and thus more difficult to override, than rights of the other, all else being equal. Although it is not usually formulated in terms of rights, the principle of double effect can be seen as such a principle. For present purposes, we may take the principle of double effect to assert that other things being equal, the right not to be harmed (or endangered) *intentionally* is more difficult to override than the right not to be harmed (or endangered) as a mere expected side-effect of what someone intentionally does. A slightly different principle asserts that the right not to be harmed *as a result of being used as a means* is more difficult to override than the right not to be harmed where the harm

<sup>8</sup>Of course, some intrusions are more serious, and thus harder to justify, than others. An unwanted embrace is less objectionable than an unwanted fondling of one's sexual organs.

<sup>9</sup>An attitude of acceptance, however, may sometimes mitigate a harm's impact upon one's well-being.

is not a result of being used as a means. And Alec Walen has recently suggested that what he calls “non-restricting” rights against being harmed are more difficult to override than what he calls “restricting” rights against being harmed. (Walen’s restricting/non-restricting distinction is not easy to explain—I provide a rough characterization in a footnote below—but it is meant to capture the intuitions motivating the second principle just mentioned without relying upon the difficult-to-cash-out notion of *using someone as a means*.)<sup>10</sup>

Let us assume that some such principle is correct. If it were to turn out that the rights that research subjects have against being harmed are generally of the harder-to-override kind, while the rights that bystanders have against being harmed are almost always of the easier-to-override kind, then one might try to use this fact to show that researchers need hardly ever worry about seeking bystander consent. The idea would be that whenever the benefits of the proposed research activity would be great enough to outweigh the costs, those benefits would also be great enough to override the relatively weak rights possessed by those bystanders whom the research activity would endanger. Of course, this line of reasoning presupposes that bystander rights are almost always of the easier-to-override kind, which might well be contested; but let us assume, for the sake of argument, that they are. The truth of this assumption would not be enough, by itself, to secure the desired result. For recall that the principles described above say only that other things being equal, rights of one sort are stronger than rights of the other. At best, then, we could conclude that bystanders’ rights against being harmed are weaker than those held by potential research subjects. But while this would be an interesting result, it would not suffice to show that bystanders never have rights strong enough to pose serious moral obstacles to the activities of researchers. That’s because for all the relevant principles tell us, some of the rights that bystanders have against researchers might nonetheless be very strong—just not *as* strong as the corresponding rights of subjects. In order for the line of reasoning under consideration to succeed, the rights of bystanders must be *much* weaker than those of research subjects. They must be so weak that they can be overridden fairly easily.

I think it is clear, however, that at least some of the rights that bystanders possess against being harmed are very strong indeed. Consider a couple of examples familiar from the literature on killing and letting die. One person is trapped on a narrow road leading to a place where five others are in mortal peril; if an agent were to drive over this person, thereby killing him, he could reach the five in time to save their lives; if he were to stop to free the one, the five would die. Or again, if the agent were to manufacture a certain substance, he could use it to save the lives of five people, but the manufacturing process would produce toxic fumes that would kill one person trapped nearby.<sup>11</sup> In both cases the agent has a choice

<sup>10</sup>Strictly speaking, Walen’s thesis concerns claims, not rights, but this terminological difference needn’t concern us here. A restricting right is, roughly, one whose existence restricts the range of permissible options available to an agent, relative to the options that would have been available to him had the right-holder not been on the scene, in a way that makes others worse off than they would be had the agent’s baseline freedom not been restricted in this way. See Walen’s “Transcending the Means Principle,” *Law and Philosophy* 33 (2014): 427-464, and also his “The Restricting Claims Principle Revisited: Grounding the Means Principle on the Agent-Patient Divide,” *Law and Philosophy* 35 (2016): 211-247, in which the view presented in the former paper is modified in important ways. Gerhard Øverland proposes a principle similar to Walen’s in “Moral Obstacles: An Alternative to the Doctrine of Double Effect,” *Ethics* 124 (2014): 481-506.

<sup>11</sup>These examples are taken from Philippa Foot, “Killing and Letting Die,” originally published in J. Garfield (ed.), *Abortion: Moral and Legal Perspectives* (Amherst Mass.: University of Massachusetts Press, 1985), reprinted in her *Moral Dilemmas* (Oxford: Oxford University Press, 2002).

between killing one person and letting five others die (or failing to save them), and in both cases the one person is a bystander whose right not to be killed is, according to each of the principles mentioned above, of the easier-to-override kind.<sup>12</sup> (In neither case would the agent kill the one intentionally, or use him as a means, and in both cases Walen would classify the one's right not to be killed as a restricting right.) Yet in both cases it seems wrong for the agent to kill the one. The bystander's right not to be killed prevails—it is not overridden—despite the fact that the agent could produce a substantially better overall state of affairs by infringing that right (only one person would die, rather than five), and despite the fact that the one's right not to be killed conflicts with the claims of five others to be saved.

Some authors appeal to a well-known “trolley” example in order to resist the claim that the one's right is difficult to override in such cases. Suppose a runaway trolley will run over and kill two or more people unless it is diverted onto a siding, where it will run over and kill just one person. According to each of our three principles, the one person's right that the trolley not be diverted towards him is of the weaker kind. (If the trolley is diverted, the one is neither used as a means nor killed intentionally; and according to Walen, his right against the agent is a restricting right.) And most think it would be permissible to divert the trolley. The one person's right not to be run over thus appears to be overridden by the fact that fewer people would die if the trolley were diverted. Some take this example to show that rights of the weaker kind are quite generally overridden whenever infringing them would prevent even slightly more people from suffering comparable harm.<sup>13</sup> But I think it is a serious mistake to draw such a sweeping conclusion from the example. The trolley example is special, and puzzling, precisely because it appears to be an exception to the general rule that killing innocent people—whether intentionally or not, whether as a result of using them or not—is wrong even when the alternative is that a substantially greater number of people will be allowed to die. To reject the entire rule because of this apparent exception would be rash.<sup>14</sup>

Bystanders, then, have strong rights not to be killed. But it does not follow that they have strong rights not to be endangered by real-world instances of risky research. At least three independent variables affect the strength of a right not to be exposed to risk of harm. (And each variable raises philosophical difficulties.)

The first variable concerns the magnitude of the harm at issue. My right that someone not kill me is obviously stronger than my right that he not break my leg, which is in turn stronger than my right that he not bruise me. More generally, a right that someone not inflict a greater harm upon me is stronger, and hence less easily overridden, than a right that he not inflict a lesser harm upon me. There are, however, disputes about what makes one harm

<sup>12</sup>Helen Frowe has argued that in such cases the one person should be classified as an “indirect threat” rather than a bystander (see “Threats, Bystanders and Obstructors,” *Proceedings of the Aristotelian Society* 108 [2008]: 365-372 and “Equating Innocent Threats and Bystanders,” *Journal of Applied Philosophy* 25 [2008]: 277-290), but this terminological point does not bear on the point being made in the text. What matters for present purposes is that these characters are relevantly analogous to non-subjects whose lives are endangered by research activities, and that their rights are of the supposedly easier-to-override kind.

<sup>13</sup>Walen's explicitly appeals to such cases to argue that negative restricting rights against being killed are at most only slightly stronger than positive rights to be saved. See “Transcending the Means Principle,” *op. cit.*, pp. 439-440.

<sup>14</sup>For a recent defense of the rule, see Fiona Wollard, *Doing and Allowing Harm* (Oxford: Oxford University Press, 2015).



greater than another. A common view is that harms are negative effects on well-being, and that their magnitude is determined by how much worse off they leave us. But I think this view is mistaken. Our rights against being harmed protect us not from being made worse off—indeed, I doubt that we have any rights simply not to be made worse off—but rather from having certain particular kinds of ill effects inflicted upon us. Most centrally, rights against being harmed protect us from having various kinds of physical damage inflicted upon us. And the strength of a person’s right not to have a certain sort of damage inflicted upon him seems to depend not upon the degree to which that damage will affect his well-being, but rather upon the nature of the damage. Suppose that because of his cheerful, optimistic temperament, A would find it easier than B to come to terms with the loss of an arm, and that because of this, losing an arm would have a greater negative effect on B’s well-being than it would on A’s. It is plausible to hold that A and B nonetheless have equally strong rights against me that I not chop off their arms. They would suffer harms of equal magnitude if I were to do this to them, even if the effects on their well-being would be different.<sup>15</sup>

A second variable is the likelihood that the action will result in harm. It is harder to justify an action with a higher probability of causing harm of a given magnitude than to justify an action with a lower probability of causing harm of the same magnitude. Yet it is difficult to know how properly to incorporate considerations of probability into a theory of rights. Do people have rights not to be harmed *and* rights not to be endangered (i.e. exposed to risk of harm), or do they have only rights not to be harmed? If they have rights of both sorts, do they have rights of the one sort *because* they have rights of the other? If they have rights not to be exposed to risk of harm, is the strength of this right a function of the magnitude of the “expected” harm, where the expected harm is determined by multiplying the magnitudes of the various possible harms by the probabilities of those harms and then summing up the results? (If so, the right not to be exposed to a small risk of great harm would be equal in strength to the right not to be exposed to a large risk of a suitably slight harm.)

Third, the strength of a person’s right against the performance of an action that would harm or endanger him (and indeed whether the person has any right at all against the performance of the action) depends upon exactly how the harm would be related to the agent’s activity. We have already observed that it is wrong to knowingly run someone over, thereby killing him, in the course of saving five lives, even when the only alternative is allowing the five to die. But what if my driving to rescue five people disrupts another agent’s attempt to save one person, with the result that this person dies? Perhaps the other agent would have used the same communally available car for his rescue mission had I not taken it first for mine. I do not *kill* the person who remains unsaved because I use the car to save five; rather, I prevent him from being saved. And this difference seems to matter morally. If I have just as much a right to use the car as the other agent, then it seems permissible for me to rescue the five, even though doing so ensures that someone else will die who would otherwise have lived. If this person has a right against me that I not prevent him from being saved, then, that right is evidently weaker than his right that I not kill him, since the former right, but not the latter, is

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<sup>15</sup>For elaboration and defense of this view, see Matthew Hanser, “The Wrongness of Killing and the Badness of Death,” in B. Bradley, F. Feldman and J. Johansson (eds.), *The Oxford Handbook of the Philosophy of Death* (Oxford: Oxford University Press, 2013).

overridden when it comes into conflict with five people's rights to be saved.<sup>16</sup> And there are many other ways in which an action can result in someone's dying without thereby being an act of killing. One especially interesting class of cases encompasses various ways in which one agent's action might occasion another's act of killing. Suppose that my act of rescuing five people would predictably lead Othello to encounter seeming evidence of Desdemona's adultery, with the predictable result that he kills her. It is arguably permissible for me to save the five in this case. Desdemona may have a claim against me that I not even unintentionally or indirectly provoke Othello's jealousy, but this claim would arguably be overridden by the claims of five to be saved.

This third variable is especially relevant in the present context, since the risks that research activities pose to bystanders are often indirect. The previous paragraph described just two structures that indirect harming can exemplify, and these structures can be found in cases of risky research. Research activities might, for example, leave subjects less able to provide necessary assistance to family members or neighbors; or they might cause subjects to pose threats to others.

If what I have said so far is correct, there is no quick and easy answer to the question whether researchers must ever obtain the consent of bystanders whom their research activities will endanger. On the one hand, we cannot dismiss the possibility that bystanders have strong rights against researchers. At the very least, bystanders have strong rights not to be killed. On the other hand, we cannot infer from this that they also have strong rights not to be endangered in the ways that real-world instances of research might actually endanger them. There are, after all, many contexts in which we think that people may permissibly be exposed to risk of harm without their consent. To determine whether bystander consent is required in any particular case, we must examine the details of that case.

Consider the following admittedly imaginary example. A group of researchers wish to study the spread and progress of a certain moderately serious mosquito-borne illness. They first select and gain the valid consent of a representative sample of community members to serve as research subjects. They then release infected mosquitos into the community. One week later the researchers test the previously selected subjects to determine how many were infected. They then monitor the progress of the illness in the infected subjects by periodically administering physical exams and conducting additional tests. Administering physical exams and taking samples for testing are both impermissible trespasses in the absence of consent, so the researchers clearly needed their subjects to consent to these procedures. And since the researchers do not examine or take samples from bystanders, the question whether any bystanders consented to these procedures does not arise. But administering physical exams and taking samples are not the only acts requiring moral justification in the example. One week before the researchers began examining and testing their subjects, they exposed them, along with everyone else in the community, to a significant risk of contracting a moderately serious illness. The question thus arises whether the act of releasing infected mosquitos into the community infringed the rights against being

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<sup>16</sup>See Matthew Hanser, "Killing, Letting Die and Preventing People from Being Saved," *Utilitas* 11 (1999): 277-295.



harmful of those community members who did not consent to having this risk imposed upon them.

I think it is clear that when the researchers were seeking the informed consent of their subjects, one of the things they needed them to consent to was this initial exposure to a significant risk of harm. Subject consent is rendered invalid when researchers conceal the nature and magnitude of the risks to which the subjects will be exposed. But if consent for exposure to a significant risk of harm was required from the research subjects, surely it was also required from everyone else in the community. All were endangered in exactly the same way and to exactly the same degree. I see no rational grounds for holding that imposing a significant risk of harm upon a person infringes his rights only if one intends subsequently to test and examine him. I thus believe that I have here described a case, admittedly imaginary, in which consent from bystanders would indeed be required.

This is a significant result, despite the case's lack of realism. (I assume no modern researcher would propose exposing an entire community to risk of infection in this way.) I began this section by observing that although bystanders have strong rights not to be killed, it does not follow that they have strong rights not to be endangered in the ways that real-world instances of risky research might actually endanger them. Now recall the three variables that can affect the strength of a right against being exposed to risk of harm. The mosquito example and the examples that were earlier used to illustrate bystanders' rights not to be killed differ greatly with respect to the first two variables. (As a reminder: one killing example involved an agent running over a person trapped on the road; the other involved an agent producing poisonous fumes that kill a person trapped nearby.) In the killing examples, the harm at issue was death; in the mosquito example, the harms at issue are much less serious. In the killing examples, it was certain that the acts in question would result in harm; in the mosquito example, each bystander is merely exposed to a small risk of harm. The rights infringed in the mosquito example are thus presumably much weaker than the rights infringed in the killing examples. Yet even so, the bystanders' rights in the mosquito example are strong enough that the research will be impermissible if they do not give their consent.

Most real-world research cases admittedly differ from the mosquito example with respect to the third variable. In the mosquito example, research subjects and bystanders are endangered in exactly the same way. But in most real-world cases, the manners in which subjects and bystanders are endangered are different, and the differences may affect the strength of the implicated rights. Risks to subjects are usually due to the dangerousness of the treatments they are given. Since bystanders do not receive these treatments, they are not exposed to these risks. Risks to bystanders typically have other sources. In some cases, the risk is due to the possibility of an accident or careless error on the part of researchers, as when there is some danger that a pathogen will escape from a laboratory. In other cases, the source of risk to bystanders is more indirect. Sometimes it is due to the possibility of wrongful conduct on the part of research subjects, as when there is danger that the subjects will fail to follow agreed upon safety protocols, or that the medications being tested on them will make them violent towards others. Sometimes the risk is that subjects who have been intentionally infected, or left untreated, will in turn inadvertently infect others. I cannot adequately

explore here the many different ways in which harm to bystanders can result, directly or indirectly, from the agency of researchers. Nor can I adequately explore here how these differences might affect the strength of the bystander rights infringed by the research activities. This is an area—perhaps the most important area—where more work needs to be done.

### **One final observation.**

Whether a bystander's right against being exposed to a certain risk of harm is overridden in a given case will depend in part upon the nature and magnitude of the good to be achieved by imposing that risk. In the various examples of saving five lives at the cost of one death discussed in Sections II and III, it was certain that the good would be achieved if the agent performed the harmful act in question, and, importantly, no additional harmful or risky actions were needed in order for that good to be achieved. Neither condition holds in ordinary cases of medical research. It is usually uncertain whether a particular trial or research project will ultimately contribute to the development of a harm-preventing or harm-alleviating treatment; and unless researchers are already very close to achieving their ultimate goal, the successful completion of the particular trial or research project whose permissibility is at issue will not suffice for achieving that goal. Even in the best-case scenario, a great deal of additional research will be required before a treatment can be developed, and much of this additional research will also be risky. When we ask whether the good to be achieved is sufficient to justify the risk to bystanders, then, the question is not simply whether the good is sufficient to justify the risk imposed by the particular trial or research project whose permissibility is presently at issue, but whether the good is sufficient to justify all the risks that will be imposed throughout the entire sequence of research projects that will be needed if the good is ever to be achieved.

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