RISK AND RIGHTS: TOWARDS A RIGHTS-BASED RISK ETHICS

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This article tries to solve the persistent problem rights-based moral theories face in justifying criteria for morally acceptable risk impositions. After having answered the question of how rights can be violated by risks in the first place, it is argued that there are two principles of risk ethics which take into account both the rights of those affected by risk impositions and the rights of the agents who impose risks on others. On the one hand every person has a right not to be exposed by others to risks of relevant harm without sufficient reasons. On the other hand every person has, within certain limits, a right to perform actions that impose risks on others. Accordingly, we need to distinguish two fundamental types of risks from a moral point of view, risks to well-being or W-risks and risks to freedom or F-risks. In the case of W-risks a general permission would inappropriately impair the well-being of the affected parties and their corresponding rights. In the case of F-risks a general prohibition would inappropriately impair the freedom of agents and their corresponding rights. By demarcating F-Risks from W-Risks and by explicating the sufficient reasons for imposing W-risks on others the criteria for acceptable risk impositions are found. The article is concluded with some considerations on cumulative, systemic and catastrophic risks and the obligations of the state in handling (these) risks.

INTRODUCTION

If a person has a right not to be harmed by others then that person should also have a right not to be exposed to the risk of being harmed by others. At least, this seems plausible (or not entirely implausible) at first glance. However, a right not to be exposed to any such risks would have entirely implausible consequences. Modern societies are shaped by multiple technologies, and our actions are constantly linked with risks for others. Thus, any unqualified

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right not to have any such risks imposed on oneself would require drastic restrictions on our freedom of action as well as fundamental societal changes.[1] At the same time, a rights-based ethics cannot consider the imposition of risks on others as generally unobjectionable or insignificant.

Thus, the point is to properly qualify our rights against risk impositions and to devise criteria that enable us to establish which risk impositions are excluded by the rights of others and which are not; to determine, in other words, which risks are morally acceptable in consideration of the rights of persons. Others have repeatedly pointed out the difficulties involved in this task,[2] but so far there have been few attempts to tackle it. Deliberations concerning this question have not gotten beyond the stage of philosophical sketches.[3] Some authors have argued that the

[1] See, e.g., Samuel Scheffler, "The Role of Consent in the Legitimation of Risky Activity," in *To Breathe Freely: Risk, Consent, and Air*, ed. Mary Gibson (Totowa, NJ: Rowman and Allanheld, 1985), 75-88, 83; Christopher H. Schroeder, "Rights Against Risks," *Columbia Law Review* 86 (1986): 495-562, 519 and 535; Sven Ove Hansson, "Ethical Criteria of Risk Acceptance," *Erkenntnis* 59 (2003): 291-309, 298.

[2] See, e.g., Robert Nozick, *Anarchy, State, and Utopia* (New York: Basic Books, 1974), 73-78; Scheffler, "The Role of Consent," 82-85; Judith J. Thomson, *The Realm of Rights* (Cambridge, Mass.: Harvard University Press, 1990), 243-246.

[3] David McCarthy, "Rights, Explanation, and Risks," *Ethics* 107 (1997): 205-225; John Oberdiek, "Towards a Right Against Risking," *Law and Philosophy* 28 (2009): 367-392; Stephen Perry, "Risk, Harm, Interests, and Rights," in *Risk. Philosophical Perspectives*, ed. Tim Lewens (London, New York: Routledge, 2007), 190-209.

problem is insoluble.[4] It is the aim of this paper to contribute to a solution of the problem of morally acceptable risks and to show that a rights-based ethics has the potential to solve this problem.

The problem has both an individual and a structural-social dimension. From an individual perspective, the issue is about the aforementioned question of what risks an agent may impose on others and what risks he or she may not impose. From a structural-social perspective, the task is to determine, at first with respect to an individual society, existing or imminent risk constellations and to inquire about the corresponding needs for action. Are certain persons or groups inappropriately exposed to risks or especially susceptible to being so? Are there real or imminent morally relevant risks for significant portions of society or for society as a whole? What risks are there that should be prevented, eliminated, minimized or redistributed, if possible? Since these questions probably cannot be answered without previously settling the issue of the acceptability of risks in the domain of individuals' actions, I will focus on answering this latter question first.

This paper has four parts. Part I aims at clarifying certain presuppositions that are essential for the following discussions: the concept of risk, the rights-based moral theory to which I shall subsequently refer, and the concept of risk imposition, which is the central focus of this paper. Part II contains my answer to the question of how, if risks represent merely *possible* harm, risk impositions can infringe on the rights of affected persons in the first place. My answer to this question leads to the justification of two principles of risk ethics, which will be introduced in Part III of this paper. In this part, I will also distinguish between two basic types of risks,

[4] See, e.g., J. E. J. Altham, "Ethics of Risk," *Proceedings of the Aristotelian Society* 84 (1984): 15-29, 17-20; Dennis McKerlie, "Rights and Risk," *Canadian Journal of Philosophy* 16 (1986): 239-252.

which I call F-risks and W-risks, respectively. Based on these two types of risks, I suggest various criteria for determining which risks are morally acceptable. Part IV contains a concluding overview of the tasks that governments face with respect to societal risk situations.

I. STARTING POINTS: RISK, RIGHTS, RISK IMPOSITIONS

By *risk* I mean the real or realistic *possibility* of a negative event or a harm the occurrence of which is not certain, or expectable[5] but only more or less likely. However, the probability that harm will occur does not have to be known or be subject to exact numerical specification. Thus, I do not use the term "risk" as an antonym to "uncertainty", as is customary in decision theory, but rather as a generic concept that covers both "risk in a narrower sense" and "uncertainty". This is because we frequently lack a sufficient basis to determine the probabilities with any precision. In particular, the basic normative questions that are the subject of this paper concern both risks in the narrower sense and uncertainties.

Since the aim of this paper is to develop criteria that enable us to determine which risks are acceptable with regard to the rights of persons and which are not, I need to first outline the *kind of theory of rights* that will be relevant in my subsequent discussion. I borrow the main characteristics of such a theory from Kant und Gewirth,[6] although I shall neglect the strong justificational demands both authors impose on their respective theories. Moreover, I shall not be concerned with whether or not I am interpreting Kant or Gewirth accurately here. Instead, I shall

[5] I call an event expectable if it is known to be a normal and common consequence of certain circumstances or actions. Whenever an event that is expectable in this sense does not occur, that is something abnormal and needs explanation.

[6] Alan Gewirth, *Reason and Morality* (Chicago: University of Chicago Press, 1978); Gewirth, *Human Rights. Essays on Justification and Applications* (Chicago: University of Chicago Press, 1981).

attempt to characterize the theory I have in mind in such a way that it is compatible with other theories. What these two authors have in common is a certain method, namely, the use of *reflexive arguments* for the explication of the assumptions a person needs to make (is required to make on pain of self-contradiction).[7] The claim that each person has to assign dignity (in the normative sense)—that is, an absolute value—to herself and to every other person can be regarded as the core of Kant's moral philosophy. Based on this value an individual has to assume that each person represents a strict limit both for herself and for every other person and at the same time also a task both for herself and for others. Thus, a person's dignity prohibits certain actions, yet it also requires that under certain circumstances certain actions be performed with her.[8]

Every person has to assume that each individual person has certain fundamental entitlements against every other person and that therefore all persons have a certain reciprocal fundamental claim toward one another. The object of this claim has found various formulations in the context of the different theories. For example, it has been formulated as an entitlement to the necessary (pre-)conditions for a person to lead a self-determined life, or to the fulfillment of the requirements of developing, changing and pursuing life plans, or to the necessary (pre-)conditions of self-fulfillment through action. In any case, this is the fundamental entitlement that each person has, which now still needs specification in terms of individual, concrete rights claims (claim rights). Among these are the right to life and to physical as well as psychological

[7] See Immanuel Kant, *Groundwork of the Metaphysics of Morals* III, 2 in *Practical Philosophy*, ed. and trans. Mary J. Gregor (Cambridge: Cambridge University Press, 1996), 95-96. Gewirth speaks of "dialectically necessary statements"; see *Reason and Morality*, 152.

[8] I shall not go into the "duties to oneself", which Kant sees as rooted in the dignity of persons.

integrity, the right to freedom, and property rights, to name just a few that are particularly relevant in the context of this paper. To these rights correspond strict duties on the part of others—first and foremost negative duties, that is, duties to avoid certain actions. Inasmuch as the theory of rights regards our fundamental entitlement as rooted in the dignity of persons, as suggested here, it will usually assume that the rights of persons also include positive rights. These rights accordingly serve to establish positive duties (under certain conditions), that is, duties to provide assistance.[9]

Such a rights-based ethics focuses on the consequences of actions. The crucial question for us in evaluating the moral rightness of actions and of the circumstances of action is this: How do these actions and the circumstances of action impinge on the rights of all affected persons, do they infringe on these rights or not? Since the individual rights serve to protect goods that are to varying degrees important, or even indispensable, for the fundamental entitlement, and since every person has the same fundamental entitlement, in certain exceptional situations one person's more important rights may take priority over another's less important rights. For example, we are entitled to infringe on the right to or make use of a person's property if doing so is necessary to protect or save the life of another person and the property in question is not indispensable for its owner's survival. Thus, to take up Judith Thomson's helpful distinction,[10]

[9] Interestingly, Kant assumes that the dignity of persons does not establish (originally) positive rights, though it does establish positive duties. For the reasons see Klaus Steigleder, "Human Dignity and Social Welfare," in *Cambridge Handbook of Human Dignity*, ed. M. Düwell, J. Braavig, R. Brownsword and D. Mieth (Cambridge: Cambridge University Press, forthcoming).

[10] See Judith J. Thomson, "Some Ruminations on Rights," in *Rights, Restitution, and Risk: Essays in Moral Theory* (Cambridge, Mass.: Harvard University Press, 1986), 49-65, 51-55.

not every infringement on a person's rights constitutes an (inadmissible) violation of that person's rights.

Accordingly, most rights are not absolute. However, individual persons themselves constitute strict boundaries against one another. One person may not be sacrificed for another person or even a large number of other persons. Thus, *some* of the rights of persons are indeed absolute rights. However, finding an appropriate formulation for such an absolute right is not easy. Gewirth proposed the following: "All innocent persons have an absolute right not to be made the intended victims of a homicidal project."[11] However, in the present context we may fortunately set aside the question of how rigorous a theory assuming absolute rights actually has to be.

The theory (or type of theory) outlined here is a rights-*based* theory inasmuch as the rights of persons form the normative basis of our considerations. This holds even if the fundamental rights themselves are derived from the dignity of persons. For in a certain sense a fundamental right is already contained in the normative entitlement to dignity, just as the concrete derived rights are themselves contained in the fundamental right or serve to interpret it. In this respect a rights-based theory differs from theories that derive rights from other (different) normatively relevant aspects. One prominent example is Mill's justification of rights in Chapter 5 of his *Utilitarianism* by the security needs of persons, whose fulfillment in turn is significant for their happiness.

The central concept of this paper is that of *risk imposition*. According to this notion, the person acting imposes the risk, whereas the person affected by the risk is entirely passive. Referring to Ronald Coase's groundbreaking analyses, Stephen Perry has pointed out that this

[11] Alan Gewirth, "Are There Any Absolute Rights?" in *Human Rights*, 218-233, 233.

picture is often too narrow and one-sided.[12] The affected party is also a cause for the imposition of a risk—for example, by being in a certain place at a certain time or by behaving in a certain way. However, there are normatively significant asymmetries reflected in the concept of risk imposition. Oftentimes, the affected parties are fully entitled to be where they are at the time and to behave the way they do, whereas the agent causes certain risks or dangers by his or her very actions. This raises the question of whether the agent is even permitted to act the way s/he does. Hence, it makes sense to take the asymmetric notion of risk imposition as the starting point of the following investigation, even if we need to remain aware that there are also less asymmetric risk situations.

II. CAN RIGHTS BE VIOLATED BY RISKS?

It seems that if risks represent merely *possible* harms, imposing them on someone does not (yet) impair that person. This provokes the question whether (and under what circumstances) risks can infringe on the rights of affected parties in the first place. One possible answer is that the knowledge of being exposed to a risk might trigger certain adverse reactions (such as fear) on part of the affected parties, which in turn infringe on their rights. However, there are two problems with this answer. First, we need to ask what criteria we could use to assess whether the reactions of the affected parties are appropriate or reasonable, and to what extent it depends on the reasonableness of their reactions whether the parties' rights are infringed or not. Second, the

[12] Stephen R. Perry, "Risk, Harm, and Responsibility," in *Philosophical Foundations of Tort Law*, ed. David G. Owen (Oxford: Clarendon Press, 1995), 321-346, 342f.; Stephen Perry, "Risk, Harm, Interests, and Rights," 204f.; R. H. Coase, "The Problem of Social Cost," *Journal of Law and Economics* 3 (1960): 1-44.

risk impositions do not per se infringe on other people's rights but only through certain effects, which are not necessarily linked with risk impositions. Often the affected parties will either be unaware that they are exposed to a risk, or such knowledge won't trigger any adverse reactions.

Is it possible, though, that a risk imposition as such, independently of any associated contingent effects, might represent an infringement of rights? There are two possible ways of answering this question in the affirmative. First, we could claim that (at least some) risk impositions themselves do actually harm the affected parties, irrespective of whether the risk actually materializes. Claire Finkelstein, who argues that risks are harms, accordingly distinguishes between "risk-harms" and "outcome-harms".[13] We could then also claim that such risk-harms infringe on the rights of the affected parties. Second, we could try to show that risk impositions as such can infringe on the rights of affected parties even if the risk impositions themselves do not represent harms. Different versions of this strategy have been employed by Stephen Perry[14] and John Oberdiek.[15] In an influential essay, Perry tries to show that risks cannot be harms (though he considerably modified this thesis at a later point).[16] While Oberdiek agrees with Perry that risks are not harms, he does not share Perry's reasoning as to why risk impositions can nonetheless infringe on the rights of affected parties.

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[13] Claire Finkelstein, "Is Risk a Harm?" *University of Pennsylvania Law Review* 151 (2003): 963-1001, 966.

[14] Stephen R. Perry, "Harm, History, and Counterfactuals," in: *San Diego Law Review* 40 (2003): 1283-1313; Perry, "Risk, Harm, Interests, and Rights."

[15] Oberdiek, "Towards a Right Against Risking."

[16] Perry, "Risk, Harm and Responsibility", for the modified version see Perry, "Risk, Harm, Interests, and Rights," 206, n. 13.

To answer the central question of this part of the paper, namely whether rights can be violated by risks, I shall now proceed as follows: First, I shall briefly summarize Perry's arguments as to why risks are not harms while at the same time risk impositions can still infringe on the rights of concerned parties. I shall subsequently develop my own argument as to why risk impositions can infringe on the rights of affected parties. My argument will draw on the presuppositions of Perry's argument that risks are not harms. Following my argument, however, I shall come back to the question of whether risks are harms. Finally, I shall review Oberdiek's argument as to why risk impositions can infringe on the rights of affected persons.

1. Stephen Perry's Argument: Risks Are Not Harms, Yet They Can Infringe on the Rights of Affected Parties

Perry's argument that risks are not harms, which he presents in his paper "Risk, Harm, and Responsibility" as well as in other work, essentially amounts to this: The fact that we have to rely on claims about risks in the first place is an expression of our epistemic limits with regard to the situation to be analyzed. Hence, unlike harms, risks qua risks do not have any concrete impact on individuals and do not constitute harms. For if we had a better understanding of the causal mechanisms and were better informed about the constitution of the affected parties, we would know how certain actions affect the individual parties. In other words, we would know who—if anyone—will be harmed and who won't. The reason is that, at least in a deterministic world, the question is already settled.[17] Now, that certain persons are harmed by certain actions

[17] Perry tends toward the assumption that indeterminism at the level of subatomic particles does not lead to indeterminism at the level of macroscopic events, see Perry, "Risk, Harm, and Responsibility," 337.

while others are not is not altered by our lack of knowledge about it or by the fact that all we can do is make claims about risks regarding all affected parties that have certain characteristics. For example, we may know from experience that roughly 25% of adult men exposed to a certain dosage of toxin content in the air at their work places will suffer from severe respiratory diseases.[18] However, this does not mean that every single worker is actually exposed to such risk. The risk applies only to a certain class of workers, and for this class of workers there is a probability of 0.25 if and only if 25% of the members of this class happen to have exactly those characteristics the presence of which will enable the toxin to trigger the respiratory disease (given a certain dosage of the toxin). For other classes of affected parties there might exist a different probability, depending on the portion of members of this class who exhibit the relevant characteristics. This number is indeed an objective parameter (which, however, we can only determine by way of our limited cognitive capacities). However, the risk does not constitute an independent reality for each single individual within a class. It does not add anything to the fact that the respective individual will either fall ill, because he or she fully displays the required characteristics, or will not fall ill, because he or she does not (fully) display the required characteristics. This is why risks per se do not constitute harms. To use Finkelstein's terminology, there cannot be independent *risk harms*, as opposed to *outcome harms*.

At the same time, Perry thinks that risk impositions may constitute wrongs. In later writings, he tried to demonstrate that risk impositions may infringe on the rights of concerned parties. To show this he uses an interest theory of rights as was developed by Joseph Raz[19] and others. According to such a theory, rights protect certain important interests of persons, insofar

[18] For a very similar example see Perry, "Risk, Harm, Interests, and Rights," 193-196.

[19] Joseph Raz, *The Morality of Freedom* (Oxford: Clarendon Press, 1986), 165-192.

as these interests give rise to other persons' duties to respect the interests. According to Perry the fundamental rights of persons cover their "core or primary interests" not to be harmed.[20] Due to the weight of these interests and of the rights protecting them, however, we also develop second order interests that our primary interests and rights will not be harmed. These "second-order" and "secondary" interests[21] also include the interest in not being exposed to (certain) risks, and they are protected by corresponding second-order and secondary rights.

There are some problems with this argument. For one thing, based on the interest theory of rights Perry would need to show that the secondary interests are strong enough to establish duties for other persons.[22] Even more importantly, in the light of Perry's argument that risks are not harms it remains unclear how it would be possible for risk impositions to threaten the core rights of *every single* member of a class of affected parties. I will pick up this question in the following section and show that and why risks can infringe on the rights of affected parties. On the one hand, I will draw on the presuppositions of Perry's argument that risks are not harms. On the other hand, I will pursue the rights-based ethics outlined in Part I of this paper. I shall return to the question of whether risks are harms after presenting my argument.

2. Why Risks Can Infringe On the Rights of Affected Parties

Let me return to the notion that risk claims are an expression of our fundamental epistemic limits. We recognize that certain actions do not necessarily or expectably cause harm, but only entail the—more or less likely—probability of harm. We do not know (with certainty)

[20] Perry, "Harm, History, and Counterfactuals," 1306.

[21] Ibid.

[22] This is also emphasized by John Oberdiek, "Towards a Right Against Risking," 381-383.

what determines whether the actions will result in adverse events or harm certain affected parties. We can only attempt to arrive at a probability that within certain classes of concerned parties harm will occur. This then enables us to establish certain risk claims for certain classes of affected parties. Yet our statements about the probabilities, which we assume to be objective, are subject to multiple restrictions. We often lack sufficient support for such statements, cannot go beyond conjectures and may be mistaken, and so on. Let me now develop my argument in three steps:

1. Let us take as our example a certain toxin of which we know, based on the information available to us, that a certain dose will trigger severe illness in 25% of adults exposed to this toxin. Neither those responsible for the exposure of others to the toxin nor the affected persons know what the precise requirements are for someone to fall ill or whether specific affected persons possess the properties required for the disease to break out. Since it cannot be ruled out for any one of the affected parties that he or she might display the properties required for the outbreak of the disease, we should assume that the action of exposing others to the toxin creates the possibility for *each* of the affected parties, and thus the danger, of falling ill. Moreover, with a sufficient number of affected parties we can be sure that some of them will fall ill due to the exposure to the toxin.

Let us assume that all persons have an equal, fundamental normative entitlement with respect to one another and that this entitlement is realized in concrete, equal rights for each individual. Now if a person has an entitlement to certain objects O, such as life, health etc., in such a way that all others have the duty to at least not infringe on her entitlement to O, then exposing others to the danger or risk of being harmed with respect to O cannot be permitted per se. For such endangerment opens up or hightens the possibility that the respective person's

entitlement to O will be infringed on by someone who, due to the person's rights, has the duty of not infringing on her entitlement to O. Thus, the endangerment, and hence the risk imposition, affects the right not to be harmed with respect to O. Therefore, viewed only from the perspective of the affected persons, a person's right not to be harmed by others with respect to O *implies* the right not to be exposed by others to risks of being harmed with respect to O.

2. At the same time, however, actually harmful actions are not quite the same as actions that only have an endangering effect or are linked with the risk of harm. For this reason alone we cannot simply infer from a right not to be harmed with respect to O to an *unqualified* right not to be exposed to the danger or the risk of being harmed with respect to O. Moreover, there are indications of normatively relevant differences. In contrast to direct actual infringements of other person's rights, it might be difficult or even impossible to avoid the exposure of other persons to risks. Thus, a general right not to be exposed in any way or under any circumstances to the risk of harm would entail severe restrictions concerning the actions of those obligated to respect such a right. These restrictions could conceivably infringe upon their own rights in turn. Accordingly, we should be ready to accept that there might be justifiable reasons for actions that expose persons to dangers regarding the objects of their rights. However, such actions can be legitimate only if their justifying reasons are sufficient.

3. As long as claims or judgments concerning risks are based on our underlying epistemic limits, the assumed dangers may be merely putative ones based on our available evidence. Can the qualified right not to be put at risk with regard to O, which results from the right not to be harmed with regard to O, also exist with respect to merely putative dangers? As I shall argue now, this is correct.

Suppose that Smith and Jones enter a room in which there is a table with a pistol placed on top of it. Neither of them knows whether the pistol is loaded. On a whim, Smith takes the pistol, uncocks it, and aims at Jones, finger on the trigger. He then pulls the trigger. Nothing happens. Smith laughs and removes the magazine from the pistol. It is empty. (I leave Jones's reaction to the imagination of the reader.) Thus, *in retrospect* it turns out that objectively there was no danger at any time during this entire event that Smith would kill or injure Jones by shooting the pistol. However, *ex ante* we would have to reasonably assume[23] that the pistol could be loaded and that accordingly, there is a risk and an imminent danger of Smith's killing or at least injuring Jones with the pistol. For this reason alone Smith should not have acted the way he did. (This holds even if Jones is not aware of Smith's actions.) The example shows that what matters is what a reasonable person has to assume when assessing a danger, and not what an omniscient person would assume. This is why even an objectively putative danger gives reason to certain rights and duties.[24]

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[23] In this paper I shall not attempt to define what distinguishes a "reasonable" assumption from an unreasonable one.

[24] I call a danger that we have to reasonably assume *ex ante* but that may turn out to be just putative a "realistic" possibility. Judith Thomson has discussed the problem of subjective ought, as opposed to objective ought, following G. E. Moore (Thomson, "Imposing Risks," in *To Breathe Freely*, 124-140, 128-136). If we ask whether an agent really ought to refrain from performing an action of which he or she assumes that it will endanger those affected by it, even though objectively it will not but instead has quite positive outcomes, or if, just like Thomson, we ask whether someone ought to administer a pill of which he or she assumes that it is a certain medication but which in reality is a deadly toxin, then we will also have to confront the question whence we have the corresponding knowledge. That we often know more *in retrospect* does not mean that we can use such knowledge *ex ante*. What we ought to do from the only

Based on the above argumentation I conclude that, due to their claim right not to be harmed, persons also have the right not to be exposed to the risk of being harmed with regard to the objects of their claim rights without sufficiently justifying reasons. Regarding the endangerments and risks that are prohibited by the rights of persons, it is sufficient that it can be reasonably assumed that the endangerments are linked to certain types of actions. (The specification of "sufficiently justifying reasons" to expose other persons to risks is among the tasks of Part III of this paper.)

If, however, risk impositions are to be considered as actual endangerments of the affected parties, does this not imply that the imposition itself constitutes a real harm for the affected parties? This question is not important here, since it has already been established that due to the endangerments they generate risk impositions can infringe on the rights of the affected parties. The potential infringement on rights does not depend on whether it can be shown that the endangerments constitute harms (in a certain sense) to the affected parties.

Nonetheless, Perry's analysis of the toxin example—that the toxin can become effective only in persons displaying certain characteristics—is a simplification that matches only some risk impositions. Perry has explicitly admitted this in a later paper with reference to the more diversified analyses by Peter Railton.[25] For it is fully conceivable that the dosage of the toxin

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perspective available to us depends on what we can know and be reasonably expected to know in order to make our decisions. See also Sven Ove Hanson, "Objective or Subjective 'Ought'?" *Utilitas* 22 (2010): 33-35.

[25] Perry, "Risk, Harm, Interests, and Rights," 206, n. 13; see Peter Railton, "Locke, Stock, and Peril: Natural Property Rights, Pollution, and Risk," in *To Breathe Freely*, 89-123, 94-95 ("Dispositional Harms and Risks").

may lead to non-manifest changes that could cause or contribute to severe illnesses in conjunction with other events. Whether these events will occur may again depend on a number of factors and circumstances. The changes effected by the toxic substances in the affected persons do not per se have to constitute harms. These changes constitute harms insofar as they increase the possibility for the affected parties to suffer from certain (severe) illnesses. The affected parties are *objectively more endangered* due to the changes; the risk imposition increases their risk as *individual affected parties*. Whether the factors and circumstances that will trigger the disease in conjunction with the changes will in fact materialize is another question. It is crucial that without the changes, additional factors and circumstances would be required to trigger the diseases. This means that the affected parties are more prone to the diseases if the changes take place. Thus, it makes sense to say that the increased probability of harm itself constitutes harm, and that in this sense risks *can* certainly constitute harms. At the same time the kind of determinism presupposed here turns out to be somewhat more complex at the very least.[26]

This analysis can be extended to other risk situations as well. Let us consider another example similar to an example brought up by Claire Finkelstein in her argument that risks are harms.[27] Suppose that despite certain technical defects an airline company allows a fully occupied plane to take off. In unfavorable circumstances the technical defects could lead to a failure of at least one of the two engines, which in turn could, in unfavorable circumstances, lead to a plane crash. In these circumstances we can say that for each single passenger on the plane there is an increased probability that he or she will go down with the plane and die. As

[26] For this, see also Railton, "Locke, Stock, and Peril," 120, n. 13.

[27] See Finkelstein, "Is Risk a Harm?" 970f.

Finkelstein correctly remarks, it makes perfect sense to say that such increased probability of harm already constitutes a harm for the affected parties.

John Oberdiek has proposed a theory of why risk impositions can infringe on the rights of affected parties that deviates from the outcome of my argument.[28] Let me present and critically discuss this theory here at the end of this part of my paper to see whether it gives cause for any revisions of or additions to my own position.

3. John Oberdiek's Theory of Why Risks Can Infringe on Rights

Just like Perry, Oberdiek proposes an interest theory of rights following Joseph Raz, so let me introduce Oberdiek's theory from the angle of such an interest theory. Specific interests of persons establish specific rights if the interests can generate duties for other persons to respect the interests of persons. Thus, the specific interests not to be harmed in certain ways generate rights not to be harmed. Since risks as such are not harms (and in this Oberdiek agrees with Perry), possible rights of persons not to be exposed to certain risks of harm cannot rest on their specific interests not to be harmed, according to Oberdiek. (This is contrary to my foregoing argument, which, however, follows a differently accentuated theory of rights). This is why, according to Oberdiek, we have to look for a specific interest (or class of interests) that is capable of generating rights for persons not to be exposed to the risk of harm. This type of interest would have to be sufficiently powerful to generate duties for other persons. Oberdiek questions whether the instrumental secondary interests introduced by Perry meet this requirement.[29]

[28] Oberdiek, "Towards a Right Against Risking."

[29] Ibid. 381-383.

Oberdiek is convinced that the desired interest on which rights against risk impositions could be based is the interest in (a certain aspect of) autonomy; namely, in the interest in not being readily restricted in one's acceptable courses of action. According to Oberdiek, risks have exactly this restrictive effect on the affected parties' options for action, irrespective of their knowledge or ignorance of the risk in question.[30] Risks, Oberdiek argues, have the same effect for the affected parties as traps layed out in order to restrict the movements of people by forcing them to navigate safely in between them.[31]

As the image of the traps shows, Oberdiek assumes that risks constrain the affected parties in the sense that certain actions would lead to harms. If there is a trap two meters to the left of me, another one five meters to the right of me, and yet another one five meters ahead of me then I will fall into a trap if I move the required distance forward, to the right or to the left. My options for moving without being harmed are accordingly restricted. To use another example by Oberdiek: Suppose I want to buy a certain type of car. Now it happens to be the case that for some reason all red cars of that model explode during use, whereas this does not occur with blue cars of the same model. In this case I cannot purchase and use a red car of that model without being harmed. Once again the acceptable courses of action for me are objectively restricted, whether or not I know about these restrictions.[32]

Oberdiek uses this example to show that the problem of reference classes for frequency theoretical probability statements does not arise in his theory. No matter how the reference classes are defined (e.g., cars of a certain model, the red cars of that model), the mere fact that

[30] Ibid. 373f.

[31] Ibid. 375.

[32] Ibid. 384f.

reference classes can be generated shows that there are certain routes of harm, whether or not we are familiar with them, that restrict our range of acceptable courses of action.[33]

I see two problems with Oberdiek's theory. First, not all risks that may possibly harm the rights of persons represent routes of harm for *all* concerned parties. To see why, let us return to Perry's simplified interpretation of the toxin example. Only persons with certain characteristics are harmed if they are exposed to the toxin. If this is the case, then in what sense does exposure to the toxin affect the autonomy of all those persons who do not display the characteristics? What acceptable courses of action of these persons are restricted by their exposure to the toxin? Furthermore, it turns out that in the cases represented by the toxin example the problem of reference classes still exists.

Now, the reader might object that I put higher demands on Oberdiek's theory than on my own. Whereas I require objective restrictions of courses of actions for Oberdiek's theory, for my own theory I am content with mere endangerments, as they present themselves based on our available information. Could we not speak of restrictions on the acceptable courses of action based on the most current available information in Oberdiek's case as well? Accordingly, regarding the toxin example, all affected persons would have to suppose that their acceptable courses of action are restricted by their exposure to the toxin (actions leading to exposure to the toxin are not acceptable). This argumentative option, however, is not available to Oberdiek. For just like Perry, Oberdiek presupposes that a risk imposition as such does not represent harm. Hence, the affected parties would have to assume that their acceptable courses of action are restricted by exposure to the toxin only if they have to assume that they will be harmed by exposure to the toxin. That is, they would have to assume that it is possible for them to be among

[33] Ibid. 385f.

those who will be harmed by the toxin. But in this case the restriction of their autonomy is *derived* from their interest in not being harmed and hence not being exposed to the danger of harm. Oberdiek, however, requires for his analysis an original kind of restriction of courses of action: a restriction that corresponds to an original interest independent of the interest in not being harmed. Thus, Oberdiek's analysis is unable to cover at least some relevant risks.

But what about those risks of which we can say, following Oberdiek's analysis, that they correspond to a restriction of acceptable courses of action for the affected parties? This question leads us to the second problem. The interests in not being restricted in one's acceptable courses of action are not necessarily interests that could be a basis for rights. Let us return to the trap example. Suppose that new utility lines are installed or old ones repaired along a sidewalk that I take each day. For this reason, holes have been excavated in various places along the sidewalk. These holes force me to walk around them or switch over to the other side of the street. This restricts my range of acceptable courses of action. However, this is not decisive for me. What is decisive is that I can recognize the holes, that the area around them is secured, that there are secure routes to bypass them, and so forth. In this respect, construction holes usually differ from traps; for it is in the nature of a trap that it is hidden and hard to recognize. More generally, the crucial matter concerning risks is, first of all, the dangers of harm. The relevant restrictions of courses of action are only due to the dangers of harm. This is why I have doubts that an interest, independent of these dangers, in not being restricted in one's acceptable courses of action could alone serve as a basis for a right not to be exposed to risks.

III. PRINCIPLES OF RISK ETHICS, F-RISKS AND W-RISKS

1. Two Principles

I have explored the question of why exposure to risks can infringe on the rights of affected parties in some detail because the answer to this question lies at the heart of risk ethics. Indeed, that answer essentially comprises the two principles of risk ethics and their respective justification. The first principle of risk ethics is:

Every person has a right not to be exposed by others to risks of relevant harm without sufficient reasons.

This principle can be regarded as justified by the foregoing argument on condition that persons have rights not to be harmed by others. The second principle of risk ethics is:

Every person has, within certain limits, a right to perform actions that impose risks on others or that may be linked with risks for others.

We might object to these formulations of the principles on the grounds that they contain certain restrictions ("without sufficient reasons", "within certain limits") without stating any requirements that would enable us to obtain a better understanding of them. This is why the principles do not offer genuine guidelines for action, which we should normally expect of normative principles. Thus, the putative principles seem to be pseudo-principles at best. Moreover, one might object that the second principle is already implied by the first. An agent's freedom of action, which includes the freedom to make certain risk impositions, should be among the sufficient reasons that restrict the prohibition of risk impositions. But then the second principle is redundant and does not constitute an independent or genuine principle.

These two objections, however, can be rejected without thereby necessarily denying that the formulations of the principles could be still improved. The principles are based on a general rights-based ethics or, in other words, a moral principle that formulates certain basic and equal rights of persons. The task of a risk ethics based on rights is to show what normative directions

we can derive from the rights of persons with regard to the question of a morally right treatment of risks. The two principles provide basic directions for answering this question by specifying the general ethics or moral principle covering the problems associated with risks. Since they are subordinated to the theory or principle, they may contain some open gaps to be interpreted or "filled" by the theory or principle. Against this background it is crucial that the principles are indeed able to offer basic normative directions for their respective subject area. Even if it is true that the second principle can be thought of as being contained in the first, the explicit formulation of the second principle adds an essential additional perspective to the first principle that is not easily recognized simply by looking at the latter.

Before discussing this further, let me briefly address the question what we can reasonably expect of the normative foundations of a risk ethics in the first place. In my view, we cannot expect a catalog of criteria that would deliver infallible and precise answers to every normative question of risk ethics. However, we can reasonably expect persuasive normative orientations that neither prohibit nor permit everything, but establish qualified normative limits and margins. These could then serve as starting points for the investigation of more special questions. It is the aim of this paper to contribute to the formulation and justification of these normative orientations.

To some extent the first principle confirms the intuition that rights not to be harmed prohibit exposure to a risk of harm; yet at the same time it also contradicts it. The principle states that the rights not to be harmed are indeed relevant for an assessment of risks of such harm and that the corresponding risk impositions have to be prohibited whenever there are insufficient justifying reasons for such risk impositions. The prohibition of risk impositions is in a certain sense the default position. At the same time the principle recognizes that such sufficient reasons

can and do exist. The principle does *not* amount to the so-called "risk thesis" that generally all risk impositions are prohibited by the rights of the affected parties.[34]

The second principle implies that such a general prohibition of all risk impositions for the purpose of protecting the *affected parties*, would inappropriately restrict and hence infringe on the rights of *agents*. This is characteristic of risks and a core subject of risk ethics. In standard theories of rights the restrictions of actions that are justified by the rights of others *usually* are not in danger of restricting the rights of agents in an unacceptable way. Rather, they are a part of the mutual restrictions justified by rights through which, following Kant, the same maximum scope of action is provided for any person with the capacity to act. Yet the case is not so clear with actions associated with risks, that is, actions that may only *possibly* harm the affected parties. In such cases the restrictions of the agent's freedom may be *disproportional*. And with that, the rights of the affected parties would receive priority over the rights of agents, which infringes on the fundamental equality of rights between agents and affected parties. Since those who are the affected parties in certain situations and contexts can be the agents in other situations, this inequality of rights can also be translated into the Kantian image of the room for maneuver. To be sure, consistent prioritizing of the rights of persons affected by risk-laden actions would establish equal, but not equally maximal rights of agents. Their respective scopes of action, which can have their legitimate boundaries only in others' equal scopes of action,

[34] The "risk thesis" was tentatively introduced and critically discussed by Judith Thomson; see Thomson, *The Realm of Rights*, 243-248. The risk thesis was explicitly adopted as the basic principle of a rights-based risk ethics by David MacCarthy, "Rights, Explanation, and Risks," 208. MacCarthy's view is that the risk thesis does not have to suffer from absurd or counterintutive consequences as long as the rights are not absolute.

would be inappropriately restricted. Accordingly, agents should be permitted to impose risks on others whenever a prohibition of the corresponding risk-laden action would inappropriately restrict their own rights. They have a right to impose the risk. This right is a claim right because the agents are entitled to act in accordance with it and must not be prevented from doing so. The rights do not merely establish liberties in the sense that agents are not prevented from performing the respective actions by opposing duties.

If, however, the agents have *ceteris paribus* claim rights to perform actions imposing risks on others or associated with risks for others, how can we maintain that the prohibition of risk impositions represents the default position? My response is that there is a difference in power between the roles of the agent and that of the affected party. Even if in a case of risk-laden action it might not be in the agent's power to decide whether or not the affected parties will in fact be harmed or who the affected parties will be, it is still within the agent‘s power to decide whether he or she acts in certain ways. The affected parties, by contrast, are exposed to the agent's actions. They are therefore exposed to the real or realistic danger of being harmed. By contrast, the danger that agents' rights will be inappropriately restricted in this type of context would be but the consequence of erroneous (views about) norms. Thus, the protection of the affected parties is more urgent, since the danger of infringement of their rights is greater. Furthermore, the agent's right to impose risks on others is valid only within certain narrow limits. It follows that in general we need to make sure that an agent has these rights with respect to certain actions and contexts of action. Hence, there are higher requirements for the justification of actions than for the prohibition of these actions. Accordingly, the order of principles represents a ranking order.

2. The Distinction Between F-Risks and W-Risks

Based on the two principles of risk ethics we now need to distinguish between two fundamental types of risks *from a moral point of view*: First, risks of which it has to be assumed that a general *permission* of actions associated with them would inappropriately restrict the rights of *those affected* by the actions. Secondly, risks of which it has to be assumed that a general prohibition of actions associated with them would inappropriately restrict the rights of *agents*. I suggest that we call these two types of risks *risks to well-being* or *W-risks* and *risks to freedom* or *F-risks,* respectively. In the case of W-risks, a general permission would inappropriately impair the *well-being* of the affected parties and their corresponding rights. Therefore, it is generally prohibited to take these risks. In the case of F-risks a general prohibition would inappropriately impair the *freedom* of agents and their corresponding rights. Therefore, it is generally permitted to take these risks.[35]

To date, rights-based theories have tended to assume that risk impositions on others are generally prohibited. Under this assumption we could only ask what conditions would justify exceptions from this prohibition. However, F-risks do not constitute exceptions from generally prohibited risks, but risks that are generally permitted in the first place. Since it depends on their existence whether an ethics of risk indeed is necessarily governed by two principles and since the distinction between W- and F-risks leads to a considerable change in the widespread image of a rights-based risk ethics, I shall now first address the topic of F-risks.

[35] This is not to rule out that the freedom of the affected parties and/or the wellbeing of the agents may not also be impaired.

3. F-Risks

As mentioned before, the normative basis for permitting risks or actions generating them is that a general prohibition of such risks would *disproportionally* restrict the rights of the agent relative to the rights of the affected parties. As I shall argue, there are *two types* of F-risks. For the first type of F-risks, such disproportion will be given if two conditions are fulfilled: First, in case of a prohibition, a merely possible harm of the affected parties would be matched by an actual restriction of the agent's possibilities to act. Additionally, as a rule it can be assumed that the risk normally will not materialize, at least if the agent takes the necessary precautions. Second, the harms which may result from the risk impositions are reasonable for the affected parties. Such reasonableness will be given, (a) if the harm is as such moderate and transient, or (b) if the harm is relatively moderate and transient – relative to the restrictions the agent had to bear in order to bar the possibility of harming others, or (c) if the harm can be almost completely compensated for, should it occur.

The basic idea is this: If it can be presumed that normally no harm will occur and that, in the exceptional case that harm will actually occur, the harm is not grave, then an unqualified prohibition of such risks would disproportionally restrict the agent in his or her freedom of action. The respective criteria for the two conditions, which try to operationalize the basic idea are vague in part. For example, in some cases the evaluation as to whether a harm might still count as "moderate" may be blurred or disputed. Since, however, there are both harms that can be clearly recognized as moderate (such as a small scratch, a minor shock) or as not moderate (such as a broken bone, a wound that requires stitches), the criterion of moderate (and transient) harm is by no means empty.

By contrast, the criterion of "relatively moderate" harm is more difficult to pinpoint. Let me explain this by using an example that I hope won't be too controversial. Consider a moderate to severe cold (short of an influenza infection). Such a condition bears a high infection risk. It is not unlikely that someone with a severe cold will infect others.[36] A severe cold can be quite unpleasant. Many feel very ill for a few days, suffer diminished capabilities, and so on, when they catch a severe cold. What duties does someone suffering from a severe cold have with regard to the infection risk for others? Certain measures are useful to reduce that risk: for example avoiding physical contact with others, keeping a certain distance from them and not sneezing at them, and the like. However, such measures have limited success. It is much more promising to isolate yourself from fellow people and avoid any contact with them in the first place. Is someone with a severe cold obliged to isolate herself? And if so, towards whom is she obliged? Is she obliged to absent herself from work? Is she obligated to stay away from her own family members? Does it matter in this context under which working or living conditions she lives? I am inclined to think that (at least in certain circumstances) a general obligation to isolate oneself whenever we suffer a serious cold would be disproportional. The harm of passing on a cold is "relatively moderate" compared to the negative consequences that a strict isolation would have for the sick person. Of course, this neither rules out that the infected person should avoid contact with certain risk groups, nor that she won't be permitted to work in certain professions while suffering from a cold, or that she won't have to adhere to the aforementioned precautionary measures.

The example shows that the question of whether certain risks are F-risks can be controversial. The answers may differ depending on (broadly) shared assumptions in different

[36] Thus, this case is an exception from the rule that the risk normally does not materialize.

cultural contexts. Whether justified or not, certain risks may be accepted as F-risks in a society while others may not. The aforementioned requirements should allow for reviewing the respective claims, and assist in resolving controversies.

Regarding the requirements for a risk to qualify as an F-risk, the amount of damage is irrelevant if the damage can be (nearly) fully compensated. For in this case it can't be right to restrict an agent's freedom by way of prohibitions serving the prevention of damages that normally, if the necessary precautions have been taken, do not occur. (Nearly) full compensation, however, is realistically possible only with respect to infringements to property, as opposed to personal injury, and not all material property can be replaced (in their full value); just think of mementos or pieces of art. Furthermore, the compensability requirement applies only if it can be ensured that in a case of (nearly) fully compensable damage, compensation will in fact be made by the agent and not by an uninvolved third party.

Let us look at a simple example to illustrate this point. Miller wants to read a book she borrowed while having a cup of coffee. She knows that if she takes certain precautionary measures she can be pretty sure that she will neither leave coffee stains inside the book nor will she pour the entire cup of coffee over the book. If this should happen against all odds, she will buy a new copy of the book. If, however, the copy she borrowed is a first edition of *Risk, Uncertainty, and Profit* with a personal dedication by the author to the owner's grandfather, or if Miller lacks the funds to replace the book, then she should avoid drinking coffee or taking other risks of damaging the book.

The aforementioned necessary conditions for the designation of F-risks and the permissibility of actions associated with such risks are not sufficient without further specification. Another decisive factor is that the problematic moral status of the actions

associated with such risks basically derives only from these risks themselves. Thus, the questionable actions must not with certainty infringe on the rights of others as well. Furthermore, the risks must not be a part of the action's purpose. Thus, for example, we are not concerned here with actions that are part of games whose thrill for the agent is based on the very possibility of someone's being moderately injured.

In the light of these requirements for F-risks and the examples brought up for their illustration we may be tempted to ask ourselves whether F-risks are not, after all, relatively plain risks that hardly justify such close scrutiny or focus on them as subject of a discussion of criteria. Suffice to say that compared to W-risks, F-risks are indeed not among the most important risks. However, the F-risks considered so far do represent a good part of those risks of which it is assumed that they would be prohibited by a rights-based theory, with the consequence of the damnation to an almost complete incapacity to act. It is therefore an important step in developing a rights-based risk ethics to show that this is not the case. Furthermore, I have already pointed out that the requirements for "relatively moderate" damage give rise to quite challenging questions about the determination of F-risks. Finally, so far we have only discussed one of two types of F-risks. The second type, which I am going to address now, concerns central issues of risk ethics.

This type comprises risks with high damage potential (such as death or lasting severe impairments) of single persons. But theses risks are controllable by the agent to the extent that he or she may be sufficiently certain that the risk will not materialize. As long as the agent takes the required control measures and precautions, she is generally entitled to perform the actions generating the respective risks. This is because a general prohibition of such actions would

restrict agents inappropriately in their freedom of action. Accordingly, these risks which can be sufficiently controlled by the agent are F-risks.

An (admittedly controversial) example of this type of F-risks is the risk of an accident while driving. I shall here focus only on the driver's risk of hitting or running over a pedestrian. A car driving fast is in principle very dangerous for a pedestrian. This is why motorized traffic is subject to a comprehensive set of regulations, why sidewalks in cities are reserved for pedestrians, and so on. Nevertheless numerous accidents occur every year in which pedestrians are severely injured or killed. For some of these accidents it is the drivers who are at fault, for others it is the pedestrians, and for still others both drivers and pedestrians are to blame. However, the existing traffic regulations make it possible in principle to drive with the required attention and circumspection in such a way as to ensure that we will not hurt or kill a pedestrian as long as he adheres to the regulations. The corresponding risks of driving are F-risks given that they are controllable in principle *and* the agent takes the required precautions to control the risks. If, however, the requirements mentioned above are not met and the driver does not drive with the required attention and circumspection, then the risks are actually W-risks.

The risks associated with driving play a prominent role in risk ethics. Not seldom they are used as an objection to a rights-based risk ethics on the grounds that any such ethics is supposedly forced to a counterintuitive prohibition on driving. Attempts to refute this objection by pointing out various forms of reciprocal risk impositions cannot convince in the end. If an immediate reciprocity is assumed (the traffic participants reciprocally impose the same risks on one another) then this does not cover pedestrians or cyclists who do not drive a car. If a more elaborated form of reciprocity is assumed (risk impositions are not unjust if the different risks

that we mutually impose on one another altogether amount to the same harm potential)[37] then it is difficult to assess whether the underlying presumption really applies. The account of a driver's risks as F-risks strikes me as a more plausible alternative to these proposals.

Other examples of F-risks are those connected with the use of technical devices with a high harm potential for their individual users. These devices can be produced in such a way that all risks can be handled, provided the device is properly used. Think of the danger of explosions or implosions associated with gas stoves or TV tubes. Despite this danger, gas stoves and TV tubes can be produced in such a way that—proper use provided—the likelihood of an explosion or implosion can normally be ruled out. It follows that even the risks associated with Judith Thomson's notorious gas stove,[38] which is well-known in the area of risk ethics, are basically F-risks of the second type (note that proper handling of old gas stoves may include checking their supply lines and replacing them as needed).

4. W-Risks

Let us now turn to W-risks. All risks imposed on others that are not F-risks are W-risks. This means that exactly those conditions which apply to F-risks and justify their permission are absent in the case of W-risks. W-risks thus are:

- uncontrollable or uncontrolled risks bearing the potential for harms that are not just moderate or relatively moderate,
- risks with a potential for harms that may *not* be fully compensable,
- risks for which it does *not* apply that they normally do not materialize,

[37] See Hansson's interesting proposal in "Ethical Criteria of Risk Acceptance," 306.

[38] See Judith J. Thomson, "Imposing Risks," in *To Breathe Freely*, 128-130.

- risks that may appear controllable, yet if they materialized would affect not only single individuals, but a great many people—in a word, risks with catastrophic harm potential.

If the foregoing argument that *certain* risks in themselves already constitute harms is correct, then these risks also number among the class of W-risks. The previously discussed example of continuous or repeated workplace pollution thus constitutes an example of W-risks.

Imposing W-risks on others is morally unacceptable unless there are sufficient reasons to do so. Let me denominate three such qualifying reasons:

(1.) Consensus

(2.) Context-relative priority of rights

(3.) Normative inevitability of W-risks.

Of course, these qualifying reasons for the permission of certain W-risks can be interconnected and have to be applied against the background of the general *prohibition* of W-risks. Accordingly, the gathering, justification, formulation and prioritizing of rules of risk assessment is an important task of risk ethics. I have in mind rules such as preference of the lesser risk, priority of voluntarily accepted over involuntarily imposed risks etc. I will now discuss the three qualifying reasons in more detail.

Consensus

Let us start with the *consensus* requirement. This refers to the direct and explicit consensus of the affected parties.[39] W-risks may be imposed on others if the affected parties are willing to accept them. The consensus of the affected parties has to be informed and voluntary. Both requirements are connected with a number of problems that cannot be discussed in detail here. Let me just point out that comprehensive psychological research has been conducted concerning the special problems involved in understanding and assessing risks.[40]

The rationality of a decision can, but need not meet the consensus requirement. Someone who can only choose between undergoing a highly risky surgical operation or imminent death may decide in favor of the lesser evil of the surgery. This rational choice should normally suffice for the surgeon to be authorized to perform the operation. Conceivably, it might also be rational for an employee to prefer working under the influence of dangerous chemicals to being unemployed, if accepting these working conditions is the only means to provide for his family

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[39] For the distinction of the different forms of indirect consensus see Douglas MacLean, "Risk and Consent: Philosophical Issues for Centralized Decisions," in *Values at Risk*, ed. Douglas MacLean (Totowa: Rowman and Allanheld, 1986), 17-30, 22-27.

[40] One standard work that assembles a collection of groundbreaking essays concerning this question is *Judgment Under Uncertainty: Heuristics and Biases*, ed. Daniel Kahneman, Paul Slovic, and Amos Tversky (New York: Cambridge University Press, 1982). On the problems of "informed consent" from the standpoint of behavioral decision theory see Baruch Fischhoff, "Cognitive and Institutional Barriers to 'Informed Consent'," in *To Breathe Freely*, 169-185. Furthermore, "free and informed consent" is a core criterion of contemporary medical ethics and has thus triggered a body of work on its requirements and problems; see for example Ruth F. Faden, Nancy M.P. King, Tom L. Beauchamp, *The History and Theory of Informed Consent* (New York: Oxford University Press, 1986); Tom L. Beauchamp, James F. Childress, *Principles of Biomedical Ethics*, 6th ed. (New York: Oxford University Press, 2008), chap. 4.

and himself. That does not imply however that the employer is entitled to expose the worker to the chemicals. This applies especially if effective security measures can be taken relatively easily, or if production could be conducted in a different way. In the case of the surgery the coercive circumstances the person undergoing the surgery faces are not caused by the surgeon. This does not apply in the case of the employer. Though she is not responsible for the difficult material situation of the worker or for the lack of social security in the country, the employer could establish better working conditions so as not to exploit the worker's plight.[41]

Let us consider a slightly different version of this example. Let us assume that all possible safety measures have been taken, yet there is no way to avoid a certain amount of chemical pollution, or certain important tasks can be performed only under considerable risks. We can indeed think of situations in which a person makes the informed and voluntary decision to accept such risks—in exchange for sufficient monetary compensation, for example. In this case, however, given the rights of the worker and the worker's relatives, the employer would have the duty to bear certain responsibilities in cases of actual harm and to take certain precautions to ensure that the affected worker and his family will receive certain kinds of support if the harm materializes. Depending on the specific job, the performance of such dangerous tasks

[41] Does the employer really have this option? Is she not herself under the constraint of conducting production in the most profitable way? Would it help the worker if the employer ceased production because she lacked an incentive or the capability of producing at higher expenses due to improved work safety measures? Of course, I cannot deal with these problems just in passing. I content myself with the remark that obviously this example points at structural problems involved that cannot be solved by means of individual moral appeals, but require the establishment of more general rules.

may be of public or common interest. In this case, to ensure that the precautionary measures are taken is not only an individual duty, but a societal responsibility.

Context-Relative Priority of Rights

More fundamental rights of some persons can have context-relative priority over less fundamental rights of other persons. If this is true, then it is also possible to establish priority rules that determine when the protection of some persons' rights justifies the *risk* of infringing on other persons' rights. It follows that whenever a direct infringement on rights is justified, the mere imposition of the risk of infringement on rights is also justified. If a person's right to life justifies infringing on another person's property rights, then it also justifies imposing the *risk* of such an infringement. This is neither a spectacular nor a novel insight. At the same time, it is important to realize that under certain circumstances there are undisputed reasons justifying the imposition of W-risks on others.

The really interesting question is whether under certain circumstances the *protection* of rights can justify imposing on others the *risk* of infringement of their rights even in a case in which the certain infringement of their rights would *not* be justified. Under normal circumstances, I am not permitted to take someone's life in order to save someone else's life. But am I permitted—under certain circumstances—to impose on others the *risk* of being killed or severely injured in order to save someone else's life? One example that illustrates the difficulty to answer this question is if I try to get my severely injured child to a hospital in time (for her not to die) driving at high speed. Am I permitted to do that? I am inclined to say that I am only entitled to disrespect speed limits to the extent that I am able to control the increased risk of an accident. But then we are dealing with an F-risk. An ambulance in service is usually permitted to

drive faster than a private vehicle, since the ambulance is able to draw the traffic's attention towards the emergency via its warning lights and siren. Yet even the driver of an ambulance may accept a higher risk of accident only in cases of emergency and only insofar as he is able to control the risk.

Now what about undisputed W-risks? At least theoretically it is conceivable that a very good chance of saving a large number of people, or even just one, may justify imposing on others a smaller risk of being severely harmed. The justification here is not that it is permissible to sacrifice the well-being of some individuals for the sake of others—for example, a minority for a majority—but that there is a great likelihood that the risk will not materialize and that no one will be harmed, while at the same time others can be protected from harm that is relatively certain. The point would be to normatively examine and discuss the relevant questions using realistic examples. It is important to note that the relevant measures are taken in the context of specific situations, that is, in certain *emergencies* or *exceptional cases* only. Practices that permanently impose on others a W-risk in order to help certain other persons or groups do not qualify.

The Normative Inevitability of Risks

Practices that permanently impose a W-risk on others can be justified, however, if a criterion is met that I would like to call the criterion of the *normative inevitability of risks*. I use this to emphasize that risks can be normatively acceptable if they contribute to the prevention of greater risks and if the greater risks can be prevented *only* by risk-bearing courses of action. In particular, it is a justifying reason for imposing risks of right-infringements on others that the relevant actions are an essential or at least normal aspect of a social practice that serves to justify

certain expectations among all involved parties: expectations that either the imposition of greater risks will thereby be prevented, or their rights will thereby be better protected. However, the community (society)[42] has to function as an insurance for all, giving assistance (as far as possible) to those affected in the case that risks materialize. This is justified because all benefit from the risk-laden social practices, while the risks themselves materialize (unevenly) only for individual persons. The corresponding guarantees, moreover, assist in avoiding existential uncertainties, thus protecting the rights of the affected parties in this way as well.

The fact that residents of Western industrial nations are largely protected from numerous natural dangers; that their nutritional needs are (predominantly) met; that they have protected, stable and warm accommodation; that they are able to store their groceries in a cool area and to smoothly heat them up, and so on, is not least due to the development and use of diverse technologies, technical systems and forms of social and economic organization. These technologies and forms of organization are linked with W-risks, yet they assist in protecting the affected parties from greater risks or in better protecting their rights overall.

The criterion of the normative inevitability of W-risks, which in turn has to be understood in the light of the two principles and the theory of rights on which they are based, does not demand strict equality with regard to the distribution of risks, but does not allow for just any unequal distribution of risks either. The fundamental equality of the rights of persons requires that such risks be part of social practices which ensure that each one of the affected parties is better off with regard to the protection of their rights—*despite* being imposed to the relevant

[42] The restriction to individual societies in this formulation of the requirement, as well as in the explication of it below, is a simplification, since the relevant social practices could, at least in part, extend far beyond individual societies or nation-states.

risks. Hence, the requirement does not allow for imposing risks on individuals or certain groups only for the purpose of minimizing the risks of others or of increasing their opportunities. Ideally, the burden of various risks would offset one another, so that over time all individuals were exposed to a roughly equal amount of risks, though the exposition might not be equal at all times or in all contexts.

Having said this, the requirement does allow for *some* unequal distributions however, namely if these inequalities remain within certain limits or meet certain conditions. This is because it could turn out that the desired equal distribution is not attainable or not actually desirable in reality. This is the case whenever circumstances are tolerated or created which make *all* worse off with regard to the protection of their rights for the sake of a more equal distribution of risks. In this case, a more equal distribution of risks might be less attractive than a comparatively *unequal* distribution even for the least advantaged under the more unequal distribution.

Of course, these considerations are inspired by the important argument by John Rawls that inequalities can be justified if they serve "to the greatest expected benefit of the least advantaged".[43] My argument draws on Rawls' insight that social reality cannot be designed simply according to the well-wishers' preferences and that a less equal distribution might in fact serve more effectively for the well-being of all. I depart from Rawls' argument however inasmuch as I argue for the permissibility of inequalities in the distribution of *risks*, while Rawls' difference principle allows for differences in *wealth* and *power* (under the precondition that they serve to the benefit of the least advantaged). Hence, I use Rawls' line of argument and apply it to the question if and under what circumstances unequal distributions of risk impositions might be

[43] John Rawls, *A Theory of Justice*, rev. ed (Cambridge, Mass: Harvard University Press, 1999), 72.

permissible.[44] Following Rawls, it is important to note that inequalities are justified only if they meet certain preconditions. Accordingly, the fundamental rights of persons have to be recognized, respected and (by and large) protected, even—and especially—for those least advantaged with regard to the distribution of risks. Only if this precondition is met, can unequal distributions be justified. Furthermore, society needs to ensure that those worse off with regard to the distribution of risks (or at least their descendants) generally have opportunities to leave that disadvantaged group. This is because circumstances that would permanently condemn the members of certain groups to be disadvantaged in comparison to others would be inconsistent with the fundamental equality of personal rights. Since all benefit from the risk-laden social practices (which is a presupposition of the criterion), but the majority (usually) benefits disproportionally compared to the minority[45], the ones that benefit more than the others should also contribute more to the communal insurance. Their contribution should correspond to their benefit. Moreover, those most disadvantaged by the distribution of risks should be the primary recipients of the insurance benefits.

Let us take the example of a market economy. Let us assume that the (admittedly controversial) thesis is true that such an economy, providing certain framework conditions including functioning welfare institutions, *can* secure and protect the rights of the members of a society better than any other type of economy hitherto known and tested. This capacity of market economies rests especially on the possibility of a general and continuous increase of wealth. Now, I certainly do not claim that *all* risks taken and imposed on others in the context of market

[44] Of course, inequalities in the distribution of risks might also result in—or from—inequalities in the distribution of wealth.

[45] Note that there may still be great differences among those that constitute the majority.

transactions can be justified. I do claim, however, that a market economy is inevitably linked to certain risks that generally concern everyone but are unequally distributed. For example, business owners routinely have to accept risks that concern not just themselves, but also their staff, suppliers, and others. Industry sectors or production locations can become obsolete, there is a risk of unemployment, and so on.

Such risks are imposed disproportionately on the weakest members of a society. However, we need to compare this distribution of risks with the available alternatives. Would not the risks associated with other forms of economy be even greater? At the same time we need to focus on the potential, available to a society organized along market economic principles, of reducing or limiting such risks by creating new branches of production and new markets. Market societies moreover have the capacity to render the affected parties themselves more competent in handling and dealing with risks with the help of training and qualification options. Finally, they can reduce and offset the consequences of materialized risks by means of unemployment and other social benefits.

The criterion of normative inevitability of risks undoubtedly is not easy to apply and control, which is why it is more prone than other criteria to defective and abusive application. But this cannot be used as an objection to the criterion itself. Instead, this problem may encourage us to further specify the criterion or to apply it to certain domains using some more easily applicable auxiliary criteria, or to develop specific rules for applying it. One example of such a rule is to distinguish between social practices and individual actions as part of these practices. Financial markets are inevitably linked with W-risks for uninvolved parties, yet they are a necessary requirement for the functioning of a developed market economy. Hence, they may be justified by the criterion of normative inevitability, because this justifies market

economies. This does not entail however that all W-risks for uninvolved parties in financial markets are inevitable and justified.

The criterion of normative inevitability does not just concern individual actions but also, and in particular, entire social practices. These, however, in a certain sense develop (at least in part) behind the backs of those involved and, moreover, cannot be controlled by individuals but only on a more comprehensive level. Hence, the question whether certain risks are to be evaluated as inevitable can only be answered relative to the options a society has. It can mean that within a society this is generally the only way to avoid greater risks. Or it can mean that the society in principle has options to further reduce the risks associated with the generally justified social practices, but that taking up one or more of these options is not acceptable (at least for the time being), since it could be done only by neglecting normatively more urgent tasks (such as reducing more pressing risks). Accordingly, another rule for applying the criterion is to pay attention to and determine the type of any purportedly normative inevitability.

The criterion of *W-risks as part of justified institutions* can serve as an auxiliary rule for applying the criterion of the normative inevitability of W-risks. If the protection or guarantee of the rights of persons justifies or prescribes the existence of certain institutions, the W-risks linked to the existence of these institutions are also justified. (However, the justification of such institutions itself would have to take into consideration the W-risks associated with their implementation.) For example, the risk of a judicial error is an inevitable part of criminal law and its institutions. Still, if criminal law is justified by the rights of persons and the need to protect these, then it follows that the risks associated with it are also justified. Of course, criminal law and its institutions have to take certain precautionary measures suited to minimize and restrict the risk of judicial errors. Another example of such justified institutions linked to certain W-risks is

the system of compulsory military service. If those citizens of a nation-state suitable for military service have the duty to perform military service in the state of defense, this also justifies the high risks associated with such military service.

IV. CONCLUDING REMARKS: c-RISKS, s-RISKS AND THE DUTIES OF THE STATE

Technologies, technical systems and certain forms of social and economic organization represent social practices that can hardly be influenced by individuals, but only through comprehensive control mechanisms. This holds true for two kinds of W-risks as well, which deserve special attention. I will thus briefly address these two types of risks now.

Regarding the risks associated with driving a car, we have thus far only considered the risk of accidents. Let me now turn to two other types of risks linked to driving a car: human health hazards due to the pollutants contained in exhaust fumes and hazards to the natural environment due to CO_2 emissions. Let us start with the health hazards. It is characteristic of these risks that the emissions produced by a single car do not have a relevant impact on our health, but those produced by many cars collectively do. Thus, the corresponding risks are based on *cumulative effects*. I suggest that we call such risks *c-risks*, where "c" stands for "cumulative". I use a lower case letter here to denote that the c-risks represent a subclass of risks. The c-risk of impairments to health due to emissions is a W-risk, and I suspect that most c-risks *as c-risks* are W-risks. This is because most cumulative risks represent uncontrollable or uncontrolled risks bearing the potential for harms that are *not* just moderate or relatively moderate. Accordingly they are subject to a general moral prohibition.

Still, the individual driver does not impose a c-risk on others, but merely contributes to a c-risk. Hence, individual drivers as such cannot prevent a c-risk from being imposed. Even if an

individual gives up on driving the c-risk will continue to exist as long as others continue to drive. On the other hand, if no one drove a car any longer, something that could be achieved only by a general legal prohibition, the c-risk would be eliminated. However, to undertake this measure would presumably be more than is necessary in order to avoid the c-risk. C-risks require comprehensive regulation at a national and, if necessary, even an international level. If these regulations are too weak, the rights of the affected parties will be insufficiently protected. If, on the other hand, the regulations are too strong, they may improperly restrict the freedom of agents.

Regarding the environmental risks resulting from CO_2 emissions caused by car driving, these are both c-risks and *systemic* risks. Let us call these *s-risks*, once again with a lower-case letter to indicate that they represent a subclass of W-risks. An s-risk consists in the possibility, (ultimately) caused by endogenic (inner-systemic) actions or processes, of a threatening change or breakdown of a system which represents an essential or important basis of our social existence. Examples of such systemic failure are unchecked climatic change, a breakdown of power supply, the meltdown of the financial market and the breakdown of a legal system. The endogenic mechanisms that cause the relevant damage are of multiple kinds. What they structurally have in common, is the spreading of problematic effects via networking and an amplification of the effects due to feedback.

Regarding the contribution of an individual car's CO_2 emissions to climate change, the c-risk is different from what it is in the case of health hazards due to car emissions. Climate change is not caused solely by a nation's total CO_2-emissions due to traffic, nor even by the total global road traffic, though the latter significantly contributes to it. Hence the problem of effective and fair measures of prevention takes on a special form in this case. S-risks are W-risks of *catastrophic* dimensions. Since risks of catastrophic dimensions have special moral weight, it

makes sense to separate them from the others and call them *W/Ca-risks*. Just like c-risks, s-risks can be ultimately controlled only by comprehensive measures. Putting such measures into place is a very urgent and at the same time difficult task, not only since this can be done only by way of comprehensive and lasting international cooperation, but also because adequate measures presuppose an understanding of the endogenic mechanisms. We cannot tell just by looking at them that certain actions, instruments or events in certain constellations constitute a potential threat of a systemic breakdown. Ultimately a structural analysis will be required to identify the ominous links and try to undermine and restrict feedback.

Besides, let me mention that special precaution is advised with regard to W/Ca-risks, which may make it necessary to tolerate measures minimizing such risks that involve rather too much than too little force—unless the measures themselves were associated with W/Ca-risks. But this topic is beyond the scope of this paper.

We have seen that there are a number of risks that can be regulated or controlled only at a comprehensive level. This is an essential task for governments and possibly even international measures. Yet these are not the only tasks of the state with respect to risks. Since risk impositions can infringe on the rights of the affected parties, it is the duty of the government to protect those parties accordingly. At the same time, it has to be ensured that neither the rights nor the room for maneuver of agents are inappropriately restricted. Because the controllability of risks characteristic of the second type of F-risks usually also depends on a number of framework conditions—with respect to driving a car, for example, such things as technical safety standards, traffic regulations, the concrete road conditions—such framework conditions serve to protect the rights of both agents and affected parties. One special problem in connection with the second type of F-risks is that, although an individual can sufficiently control those risks and, if he or she

does so, can permissibly perform the actions associated with them, many agents do not take the required control measures. This creates an additional, comprehensive need for regulations. Ultimately, the aim of all of these tasks is to ensure the effective protection of the rights of persons, to which everyone is obliged to contribute. With respect to a specific territory, the state is the institutional arrangement capable of tackling this societal task and reliably ascertaining the required protection. Since it is a societal task to which everyone is expected to contribute, it is the obligation of the citizens to support the government in tackling this task to a degree that reflects their respective resources (such as the ability to pay taxes, for example).

The concrete requirements of protection cannot be formulated independent of the stage of development of social and economic organization or the state of technology. They are considerably different in a subsistence economy than under the conditions of extreme forms of division of labor. New forms of organization and new developments may overall improve the protection of rights, yet at the same time involve special hazards for individuals, certain groups or the community as a whole. Hence, depending on the state of development, there may be different needs and demands regarding risks. Thus, for example, the promotion of certain forms of social and economic organization suitable for minimizing the existential risks among large parts of the population may have priority over a control of the risks that are linked to these forms of organization.[46]

In his predominantly historical book on the government as the ultimate risk manager, David Moss has emphasized that the government can either prohibit or redistribute risks, where any redistribution would have to be conducted by risk shifting or risk spreading. Examples of

[46] See David A. Moss, *When All Else Fails. Government as the Ultimate Risk Manager* (Cambridge, Mass.: Harvard University Press, 2002).

risk spreading are the various forms of social security. An example of risk shifting is the introduction of limited liability for corporate shareholders, by which the risk of insolvency is shifted to the creditors.[47] The government's fulfillment of its obligation to regulate or control risks is itself risk-laden. First, it is not easy to avoid over- or under-regulation. Second, the measures can easily impact the risk behavior of a society in an undesirable way. Incentives can be falsely set, and—as the financial crisis of 2007 has shown—regulations can encourage to employ avoidance strategies that are themselves linked to undesirable risks. Such risks may be more serious than the risks that were to be controlled or counteracted.

The core tasks of applied risk ethics include an analysis of a society's needs for action in the light of existing risks in various areas, as well as a proposal of suitable measures to regulate and control those risks. In this paper I set out to show, that a rights-based risk ethics need not have the aforementioned absurd consequences and can provide criteria that enable us to tackle this task.

[47] Ibid.