



KEY CONCEPTS

RISK
JAKOB ARNOLDI

Risk

RISK

An Introduction

Jakob Arnoldi

polity

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1

Introduction

Risks are social

Risks are potential dangers. We are all confronted with risks every day, and we all have well-developed skills with which we constantly assess the various risks and how best to avoid them – or rather reduce them the best we can. No matter how hard we try, risks cannot be avoided. We constantly accept and/or take risks because accomplishing anything necessarily entails risks of all sorts: a choice of career means the risk of not fulfilling one’s goals and ambitions, using any mode of transportation means the risk of accident, falling in love means the risk of heartbreak. We take and avoid risks both consciously and unconsciously. We perhaps consciously tell ourselves not to quit a job we dislike because it would be risky to do so before having found another one. We do not drive round a bend faster than we (most often subconsciously) believe is safe, and maybe we shy away from an attractive possible partner because we find it just too risky to place all our emotional stock in that person. Or conversely, sometimes we enjoy driving just a little too fast, or congratulate ourselves on having succeeded in a risky career move, or seek the thrills of a new and uncertain love affair.

But risks are not just problems that we have to deal with individually. *Risks are social*, which is the starting point of this book. Briefly, three reasons can be mentioned: risks are

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social and political *problems* – for example, the problem of creating an ecologically sustainable society; risks are understood against a *social and cultural background*, that is, people worry about different risks due to different social and cultural backgrounds; and risk is a key concept in various *practices* and *knowledges* with which people are governed and society is structured. For instance, systems of social insurance are social institutions built around knowledge of risks.

The three reasons are taken from arguably the three most important sociological theoretical approaches to risk.

1. The first approach, best represented by the work of Ulrich Beck and Anthony Giddens, takes as its point of departure new dangers from modern technologies and the way in which scientists, politicians, the public (laypeople) and the mass media experience immense difficulty coming to terms with these risks, because they are complex and surrounded by uncertainty, because of their potential magnitude and because they upset our ideas about what is natural and what is not. Resulting problems are lack of trust, lack of solid ground on which to make decisions and, above all, fierce political struggles over who is responsible and what should be done politically.
2. The second approach is that of Mary Douglas and her collaborators, which focuses on the cultural logic behind the marked differences in what people fear and which risks they are ready to take. Some people worry more about, say, the risks of global warming, while for others terrorism is a much graver risk. All individuals fear for their lives and health, but they nevertheless hold different beliefs about risks and manage them differently, and they do so not at random but rather according to specific social and cultural logic.
3. The third approach is taken by scholars inspired by Michel Foucault's notion of governmentality. Here the focus is on how risk is used in various technologies of government and on the power that risk can hold over people. I mentioned social insurance as a social institution that is based on ideas and knowledge of risk. Obviously the concrete design of social insurance has considerable influence on how society is structured. A

different example could be how modern medicine screens patients to establish risks – for instance, screening foetuses for Down’s syndrome. Yet another example, also related to health, could be the information campaigns launched by governments to influence public behaviour. Such information is often about risk – of smoking, being obese and so on. The examples might seem very different, but the thing they share is that knowledge of risks is used to govern citizens.

As indicated, these three approaches translate into three of the main sociological theories of risk that are described in chapter 3 of this book. But the three are not exhaustive of sociology of risk. Another key area of study could be voluntary risk taking – for instance, engaging in extreme sports – and there are several others.

Risk in contemporary society

Risks have not always been problems high on the political and public agenda, and they are not used as technologies for government the same way today as they were fifty years ago. As for problems, one of the first instances where a new awareness of technological side effects emerged was the discovery that heavy use of pesticides in agriculture severely damaged the health of humans exposed to them. Today such health concerns are commonplace: worries about radiation from mobile phones, the side effects of genetically modified (GM) technologies, carcinogens in food and phthalates in children’s toys, to name but a few. At the same time, global warming poses severe threats to society. For several reasons, these risks can be said to be of a type that until the late 1960s hardly existed. They are often unknown to laypeople without information from scientists. Somewhat paradoxically, they are nevertheless surrounded by uncertainty, as scientists often have difficulty describing the magnitude of the risks with even an approximation of certainty. Many of the risks – for instance, global warming – are furthermore potentially disastrous and would, if they were to materialize, radically change

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both society and nature. And, lastly, they are all unwanted and unintended side effects of technological progress; they have as such led to new debates about what constitutes progress and whether social and economic progress through technological innovation is sustainable. Globally as well as nationally, society faces a range of problems that are caused by human efforts to forge a better and more efficient society.

In roughly the same period that these concerns about the risks of technology emerged, many Western societies started to embrace uncertainty in new ways. The rolling back of welfare state provisions and the rise of neoliberalism diminished the social safety net for many people and made the labour market more volatile. This has made life more risky for many people in terms of career, life planning, access to social insurance and perhaps even identity and sense of self (Bauman, 2000; Sennett, 1998). Yet this is far from the only reason for the sociological interest in these social changes. Risk also plays another role, and a significant one, in this development. The reason is that the political changes have to a large extent been brought about by political and economic theories that have rethought notions of risk and uncertainty (and the distinction between them – see below). Neoliberalism has explicitly argued for a need for people to become more entrepreneurial, based on economic theories that describe entrepreneurialism as uncertain risk taking that is essential to the creation of wealth. Neoliberalism attacked, and continues to attack, the model of the welfare state not only because the costs are deemed too high but also because too much security against risk suppresses individual entrepreneurship and responsibility (see O'Malley, 2004). These political changes which have valorized uncertainty have not meant, however, that the concept of risk is no longer used by governments to plan and to make decisions. On the contrary, risk is used in all sorts of government; more and more state regulation is built around scientific concepts of risk (Rothstein, Huber and Gaskell, 2006).

Ulrich Beck has famously suggested that modern society has become a risk society, as reflected in the title of his 1986 classic. Beck's groundbreaking book took new technological risks as its point of departure, and in the foreword he deals

with the nuclear disaster at the Chernobyl plant that happened in April 1986. Beck's book more than anything else rendered risk an object of sociological study. Since then, other sociological approaches to risk have appeared – for instance what I will call the governmentality approach, which has been at the forefront of the study of the changing function of social insurance and redefinitions of risk and uncertainty. There are many differences and disagreements between these theories (and several other mutually conflicting theories). However, one central thesis does unite the various theories – the idea that since the late 1960s or early 1970s risk, in various guises, has come to play both bigger and new roles in society. In this book I shall adopt the term 'risk society', using it to refer to the various roles risk plays in contemporary society. The premise will be that fundamental changes have occurred in most Western, and arguably all industrial, societies since the early 1970s and that risks play several roles, both new and augmented, in these fundamental changes. Many social theorists, including theorists of risk, have difficulties with the idea of big social changes that mark a transition from one epoch to another. There are valid reasons for questioning the idea of epoch-making changes. Risk plays several new roles in modern society, and one should not assume that these new roles all are driven by one underlying cause or that these roles are the same in all parts of the world. Yet some fundamental, and by and large synchronous, changes are visible, and these I intend to outline.

The three approaches outlined above show a perhaps worryingly broad approach to risk in sociological research. In the first approach, the risks of technology feature heavily, while risk in the third approach is not so much risk *of* something or some action as it is risk as a concept that could be used *for* different (governing) purposes. That the sociological notion of risk is so broad – fuzzy, in fact – might be seen as a weakness. But this fuzziness is inevitable precisely because the key insight into risk that sociology has delivered is that risk involves more than simply an objectively given probability.

The kinds of risks analysed by sociologists are in many cases potential dangers, such as pollution, environmental disaster, pandemics, terrorism, war and conflict, or financial

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instability (Beck, 1999; 2007). But the list expands beyond a list of 'bads'. David Garland presents arguably the most concise and comprehensible list of the forms of risk analysed in sociological analysis:

Risk is a calculation. Risk is a commodity. Risk is a capital. Risk is a technique of government. Risk is objective and scientifically knowable. Risk is subjective and socially constructed. Risk is a problem, a threat, a source of insecurity. Risk is a pleasure, a thrill, a source of profit and freedom. Risk is the means whereby we colonize and control the future. Risk society is our late modern world spinning out of control. (Garland, 2003: 49)

Garland's list captures effectively the spectrum of sociological research on risk. All of these definitions of risk will be described at length in this book, but it might also be worth explaining briefly here what is meant. Sociologists are generally wary of the idea that risks are calculable and hence objective, but they are interested in *objectifications* of risk – that is, how such calculations are made and what they are used for. Insurance, both private and public, might make for the most prominent example. Another could be finance, where such calculations of risk have created financial markets in which risks are traded, rendering risk a commodity and a kind of capital. Creating and managing such things as social insurance systems is, as has been said, a way of governing society. Investigating how risk is calculated, objectified and used often exposes how risks have been objectified differently at different times, and how such objectifications serve different interests and are shaped by values and culture. This means that risks are socially constructed (I return to this below). Obviously risks are often a source of fear, as they are potential dangers, but, as mentioned above, some practices such as extreme sport can also be seen as deriving their meaning from the very fact that they are risky. Likewise, the idea of entrepreneurialism, much celebrated in contemporary society, is essentially about taking risks or braving uncertainty. And the new class of risks caused by technology undermines the hope for technological progress and human control.

The (un)reality of risk

In the years leading up to the new millennium there were widespread concerns about whether or not electronic devices containing microchips would continue to function after midnight 01.01.2000, because many such microprocessors (so to speak) were only configured to keep track of time in the twentieth century. There were fears that everything from coffee machines to the global financial system to nuclear reactors would malfunction if they were not made 'Y2K ready'. Concerns were voiced in the mass media, and huge amounts of work-time and money were invested in making sure that the new millennium would not start with a technological disaster. As it turned out, nothing serious happened, perhaps because the concerns were unfounded, perhaps because technicians had foreseen the problems and taken the correct measures. Y2K was soon forgotten.

Y2K is one example of great concern about future or potential dangers, and also an example of how these concerns by no means always materialize. In the risk society risks are anticipated and precautionary measures taken. On the other hand, history provides many examples of new technologies that were celebrated as great innovations, only for severe side effects to be discovered later. When the chemical company Du Pont invented chlorofluorocarbons (CFCs), it was not known that their use in the production of refrigerators, among other things, would cause dramatic ozone depletion, which in turn has caused increased ultraviolet (UV) radiation, which then in its turn has caused alarming increases in the rate of human skin cancer, among other things. As a matter of fact CFCs were for a long time celebrated as being harmless. Past experience of such things, and the painful experience of the continuing effects today, have arguably created a public frame of mind in which fears of possible negative side effects of new technologies are a knee-jerk reaction. But it is not only laypeople who react instinctively. Steadily accumulating scientific knowledge means that various negative side effects – or, in many cases, possible negative side effects – have been exposed.

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Science also creates knowledge of potential dangers in another way. Today it is possible to conduct genetic screening for a range of diseases, meaning that 'patients' (a term that is acquiring a new meaning because the people in question actually are healthy) can obtain prognoses about the likelihood of their developing diseases later in life. Discovering a high likelihood then might lead to prophylactic surgery; for instance, given the increased likelihood of breast cancer, patients may choose to have prophylactic mastectomies. As in the cases above, potential dangers are pondered and calculated, and precautionary measures are taken.

The underlying paradox of this discussion is of course that the risk society is not necessarily a more dangerous society. Life expectancies are generally rising in Western societies. Risks are not *actual* but rather *potential* dangers. Among other things, their impact on contemporary society is due to the fact that many risks – for example, nuclear accidents – would be on a catastrophic scale if they were to occur; moreover, they are surrounded by scientific uncertainty that causes problems not only for scientists but also for decision makers who have to act on inconclusive scientific reports. Risk has an impact, too, in the medical arena. While medical knowledge about potential dangers, sophisticated prognostication techniques and prophylactic treatment indeed extend people's lives, being told of an 80 per cent risk of developing cancer in later life nevertheless has dramatic impact.

It is difficult to worry about everything in the future. Our perception of which risks are most serious is to a wide degree influenced by our cultural values and world views. Most of us have probably experienced how others hold different perceptions of the direst risks. Risks are viewed differently simply because people adopt different beliefs about the world, and a significant reason for these differences is cultural background. It is also easy to see that problems such as environmental risks are politically contested and that opinions about risk tend to be distributed along existing political lines. If a person is right-wing, it is less likely that she or he will be concerned about the risk of nuclear energy, for example. The opposite is the case if the person is left-wing.

As another example of the importance of values, let us imagine that a new drug against cancer has been discovered.

The drug works well in most cases, extending patients' lives by many years, but 10 per cent of all patients experience severe heart problems due to the drug, from which 5 per cent die. Is this an acceptable risk? Most people would probably say no, but how low does the probability have to be then? Most people would probably agree that the drug does not have to have zero risk for its use to be accepted, given its benefits. But where, then, is the acceptable threshold? Answers to that question have to be based on ethics and values; probability does not do it alone – indeed a mere figure might be seen as insufficient.

Two imagined scenarios involving risk

The first imagined scenario regards responsibility, values and knowledge. Let us imagine that I was suddenly, on only a slightly overcast day, struck by lightning. If that did happen, probably no one would say that I had taken an unnecessary risk (or that someone had exposed me to such a risk). But then imagine another scenario in which I chose to stay during a thunderstorm under a tall tree on a high hill with a long metal pole in my hands. If I were then struck by lightning, some people would probably say that I had taken a stupid risk. Likewise, if someone had told me to stay under the tree holding the pole, that person would probably be blamed for having exposed me to risk. The difference between my two invented scenarios turns on whether I or someone else can be held responsible for my mishap, based on knowledge of risk factors (causes and effects). If there is no one who can be held responsible, we would probably all see the mishap as pure chance, as bad luck, as a naturally caused accident.

Risk more or less disappears in the latter scenario. In other words, risk is the opposite of pure chance, because it involves human agency. For the same reason it is also the opposite of random acts of nature. What we often refer to as natural causes is something that suspends human responsibility – no one is responsible. But when humans can be held responsible, risk emerges. We can assess the risks and try to manage them, and blame can be attributed to those who have managed the

risks badly or exposed others to risk. And note that we do so based on knowledge of cause and effect. If we did not know that lightning strikes high structures and is attracted to metal, it would not have mattered where I had stood or what I had held – the event would, in any case, have been seen as a random act of nature and as bad luck.

The attributability of risk, its relationship to decisions and actions and its reverse relationship to nature and randomness, is tantamount to saying that risk is social. To assess when one can speak of natural causes and when blame can be attributed relies on human values. As such, risk is subject to change as human values change, and it can be negotiated and challenged. Even if I had chosen to stay under a tree on a hill with a metal pole in my hand, I might just about have been able to justify my actions by pointing out that the risk of doing so is still statistically much lower than, say, the risk of driving a car on average 30 miles a day. By drawing on that knowledge I would literally be able to show that I knew what I was doing – that I was acting responsibly (just for the record: there are a lot of data on the risks of driving a car and being hit by lightning, but none for the specific risk of being struck by lightning while standing under a tree on a hill holding a metal pole, so the example is imaginary). In a religious community I could furthermore have possibly defended my actions by pointing to my blind faith in God. In other words, exposing oneself to unnecessary risks often invokes moral condemnation, but one might also use values to legitimize one's actions. Another example of how questions of risks are negotiable would be the increasingly hostile attitude to smoking. Part of this hostility is fuelled by the argument that smokers expose themselves to unreasonable risk, and often the moral undertone is inescapable. Yet the same argument is rarely used against, say, people skiing or mountain climbing or drinking. What is deemed risky depends not only on objective risks but also on values. The example also shows that risk involves being held to account. We are faced with the prerogative of being responsible for our actions on the basis of knowledge and values. Implicitly the question hovers: why did you stand there with a metal pole in your hand? Or why do you smoke? And because of such questions we conduct ourselves accordingly; that is, we do not act

grossly irresponsibly. Given this influence on human behaviour, risk is a way of exerting power.

With the proliferation of human technology and the new class of risks stemming from these technologies, the scope of human actions and human decisions has drastically increased. Humans know much more about the natural world and, thanks to technology, they can manipulate things much more effectively. Therefore more can be attributed to human actions and decisions. Take flooding as an example. When floods occurred, say, two hundred years ago, they were probably seen as more or less random acts of nature or maybe as a sign of God's will. Nowadays there is little that is pure nature. Rivers are regulated, drainage systems are installed and weirs and levees are built. Therefore most floods can and will be attributed to bad decisions and inadequate engineering and technology, in this case inaccurate calculation of the maximum water pressure or failure to build levees high enough. In most cases there are good reasons for this, but clearly the boundary between what is nature and what is human responsibility can be hard to establish. And more human factors stack up all the time. To stay on the topic of flooding – today another factor has emerged, namely global warming. Floods today can therefore be attributed not only to bad engineering but also to extreme weather caused by carbon dioxide emissions that are the result of human activity.

Obviously the increased technological scope affects general values and perceptions of where random nature ends and human responsibility begins. For example, increased technological scope arguably creates a simple feeling that humans are to blame, indeed that we ourselves are to be blamed for our own misfortunes. Think about health. In contemporary society the attitude predominates that we can all assume responsibility for our own health by eating well, taking adequate exercise and so on. Moreover, these values are actively ingrained in us through information campaigns mounted by health authorities – campaigns in which information about risk features heavily. Most people today know which foods are good for us and which are not. By means of such information, humans are made responsible for their own conduct.

The reader might have noticed that this last issue offers an example of how risk is used as a technique of government; we

are given information about risk to change our conduct. Earlier in this chapter I referred to this as the third of three main sociological approaches to risk. The two other approaches have in fact resurfaced as well – the first in the discussion about the increased scope of technology, and the second in the discussion about human values and responsibility.

The second imagined scenario indeed calls for a bit of imagination. Imagine that anything could cause everything, that anything might be possible. If that really was the case, no one would be able to do anything for fear of what might happen. One would not dare to carry out even the most mundane actions, such as turning on the television, for fear that it might cause the boiler to explode or the sun to darken. The floors might not carry weight and therefore not be safe to walk on. Luckily, when it comes to most things in the real world, we have relatively certain expectations about what causes what and what does not. We know that turning on the television is relatively safe and that floors are mostly even, have no holes and will hold our weight. This set of expectations without which we could not exist is based on previous experiences. So far, no one has turned off the sun just by turning on the television, so we can be pretty sure that this will not happen, and having walked on many floors makes us expect smooth and stable surfaces. However, when it comes to new technologies, past experience might not grant us the same certainty. Indeed, past experience might even tell us that things indeed interact in ways not originally foreseen. Above I mentioned CFCs, which are a good example of a new technology first being celebrated as effective with no side effects, only for severe side effects to be detected later. This kind of experience hinders us from forming stable expectations, or perhaps it leads to us forming expectations that try to take into account the unexpected.

‘Expectations that take into the account the unexpected’ is a rather strained expression, so instead I suggest that we talk about broad frames of expectations. Something – let us use CFC gases as an example – is understood to have a series of possible effects, good or bad. Each of the individual effects may not be fully known, but at least there is an outline of the worst and the best that might occur. This is the frame of expectations. It is the same with turning on the television – we