



# World at Risk

## Ulrich Beck



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ULRICH BECK

*Translated by Ciaran Cronin*

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# Acknowledgements

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*Risk Society* was published in German in 1986. In 1999, *World Risk Society* appeared in English and was translated into more than ten languages, though not into German. The attempt to translate it into German in a lightly revised version proved to be untenable. Too much has occurred in the meantime, the learning curve in responding to global risks is simply too vast. Hence this new book.

There was no shortage of reasons for writing it. They reside, first, in the endless chain of events in which reality and the mass media are co-authoring ever new chapters of 'world risk society'. What seemed larger than life twenty years ago has proved to be the script that reality has been following: 'We are all trapped in the global danger zone' (*Tagesanzeiger*, Zurich, 2006). On the other hand, the trend towards a globalization of risks is also reflected in the reception of *Risk Society*. My analyses have by now been translated into more than thirty languages and have triggered heated debates across nations and specialist fields – in sociology and political science, in law and history, in philosophy, anthropology, ecology and engineering. Furthermore, studies on diverse topics in the most varied empirical contexts have contributed to articulating the contours, paradoxes and contradictions of (world) risk society. This worldwide discourse on *Risk Society* stimulated me to further reflection and to write *World at Risk*. I would like to mention here just the inspiring works of Joost van Loon (*Risk and Technological Culture: Towards a Sociology of Virulence*) and Piet Strydom (*Risk, Environment and Society: Ongoing Debates, Current Issues and Future Prospects*).

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On this occasion, Elisabeth Beck-Gernsheim encouraged me to tame my academicism and to indulge my pleasure in writing. Hence this book is addressed not to sociologists alone but to all of those who are keen to understand our age of man-made uncertainties.

# Introduction: Staging Global Risk

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The academic debate concerning climate change is over, but the political and moral responses have reached a new level. . . . Human beings, as researchers have established with a unanimity rare with such multi-faceted issues, bear the primary blame for global warming. . . . The real novelty, perhaps even the historic message of this report, is the conclusiveness with which all evasions and doubts concerning the human causation of climate change are dispelled.

Müller-Jung 2007 (referring to IPCC 2007)

## *The anticipation of catastrophe is changing the world*

A suicide bomber attack in which terrorists with British passports planned to blow up several passenger aircraft en route from Heathrow to the United States with liquid explosives did *not* occur during the summer of 2006 under the spotlight of the global mass media because the British police, in cooperation with international colleagues, managed to intervene on time and arrest the suspected perpetrators. On 6 November, barely three months after the thwarted attack, a new EU-wide regulation came into force that imposes severe restrictions on the transport of liquids in aircraft cabins. The new security measures are the worldwide reaction to *anticipated* terrorist attacks which, as stated, did *not* occur in a certain place, i.e. London. They place restrictions on the freedom of millions of passengers for the foreseeable future. The passengers, in whose minds the terrorist threat has become lodged, accepted such restrictions on their liberties without demur.

## *The power of the powerless or: The risk to the reputation of banks*

The pressure exerted by a small Westphalian environmental group is jeopardizing a multibillion dollar nuclear generation project in Bulgaria. Following protests by this internationally networked civic group opposed to nuclear power, Deutsche Bank and the HypoVereinsbank withdrew their financing

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of the Belene nuclear power station. The justification offered was the ‘high reputation risk’ that forced the banks on to the defensive. Allegedly this had nothing to do with the evaluation of the project, even from an environmental point of view. The measure was solely due to the protests of the group Urgewalt, Ausgestrahlt and its European partners. The anticipated nuclear threat which might be posed by the planned Bulgarian nuclear power plant in the future was publicly denounced by a small West German group active across Europe in protest actions picked up by the media – for example, outside the Deutsche Bank – with the result that the silent powerbrokers of global capitalism, the banks, gave in without a murmur.

### *Segregating risk embryos*

The successes of human genetics and reproductive medicine mean that parents can now select embryos whose genetic profiles promise a reduced risk of illness. They are taking advantage of the opportunities provided by reproductive medicine to ‘weed out’ embryos with predispositions, for instance, for cancer – which will not break out in later life with certainty but only with a certain degree of probability – and to bring potentially healthy children into the world. All couples, whether they like it or not, will be confronted with this difficult decision sooner or later. They will have to assess whether their wish to prevent suffering, even though they cannot be certain that it will occur, justifies the conscious selection of an embryo and the ‘rejection’ of potential children who are bearers of a ‘risk gene’, however the latter is identified. This can lead simultaneously to a lowering of inhibitions. The growing interest in the early detection and elimination of the risk of cancer through ‘genetic screening’ is symptomatic of a growing tolerance for genetic selection. It is also contributing to the use of pre-implantation diagnosis to identify indicators that are less concerned with serious illnesses and ultimately even give effect to preferences and prejudices. And although there are in the meantime thousands of apparently healthy babies in the United States who underwent these interventions at the pre-embryonic stage, concerns over their unknown long-term effects cannot be simply brushed aside.

### *The inundation of London, New York and Tokyo*

In November 2006, the British foreign minister Margaret Beckett stated that wars fought over limited resources – land, drinking water, oil – are as old as human history. Furthermore, she stated that climate change is threatening to reduce the availability of these resources in some of the most unstable regions of the world, with Africa and the Middle East being the most dramatically affected. If climate change represents a foreign policy issue in this sense, then

the converse also holds, namely, foreign policy must become part of the solution to the problems thrown up by climate change. If global warming leads to increases the temperature of the earth by 4 to 5 degrees Celsius, London, New York and Tokyo could disappear into the sea. In order to prevent 'local' problems, such as the inundation of London, therefore, global initiatives, and ultimately a 'global deal', are required. To this end, it is not only necessary to spur the environmental offender number one, the United States, into action. We must also succeed in finding or inventing a compromise formula for global justice in a world in which both wealth and risks are radically unequally distributed. At any rate, this is becoming a tangible task and a concrete utopia to which every country should contribute simply because it is in its own most basic national interest.

### *Changing sides*

A paradigm shift is taking place in climate policy. It is becoming apparent that the sovereignty of the market represents a fatal threat given the danger of catastrophic climate change. As a result, major sectors of the transnational economy have switched sides and are jostling for favourable starting positions in the competition over the markets for environmental technologies and renewable energy sources. But this also means that a new alliance between civic movements and the large corporations is emerging. In January 2007, American companies called on President George W. Bush to make an environmental conversion. The managers pleaded for an improved climate policy based on state regulation on a global scale.

In Europe and California, the state and environmental movements are forming an alliance against the motor industry. Because voluntary undertakings on the part of the firms have proven to be ineffective, EU Commissioner Stavros Dimas and Governor Arnold Schwarzenegger of California are resorting to compulsory measures, namely, sharp reductions in carbon dioxide emissions. This is painful for the motor industry, especially for the German. In both Germany and in California the neoliberal alliance between state and capital is open to challenge.

### *World ugliness contest*

The 'existential concern' which is being awakened across the world by global risks has long since led to a risky game for survival, to a world 'ugliness contest' over the suppression of large-scale risks. The incalculable threats to which climate change is giving rise are supposed to be 'combated' with the incalculable threats associated with new nuclear power stations. Many decisions over major risks do not involve a choice between safe and risky alterna-

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tives, but one between different risky alternatives, and often a choice between alternatives whose risks concern qualitatively different dimensions which are scarcely commensurable. Current scientific and public discourses are rarely a match for such considerations. One source of temptation towards inadmissible simplifications is to represent the decision in question as one between safe and risky alternatives by playing down the imponderabilities of one's preferred proposal while simultaneously focusing on the hazardousness of the other risks.

### 1 Risk

Threat and insecurity have always been among the conditions of human existence; in a certain sense this was even more the case in the past than it is today. The threat to individuals and their families through illness and premature death and the threats to the community through famines and plagues were greater in the Middle Ages than today. From this kind of threat we must distinguish the *semantics of risk* associated since the beginning of the modern period with the increasing importance of decision, uncertainty and probability in the process of modernization. The semantics of risk refer to the present thematization of future threats that are often a product of the successes of civilization. It also makes possible new, post-utopian mobilizations of societies, for example, as we have seen, cosmopolitan initiatives against climate change and shifting alliances between civic movements, states and companies.

The two faces of risk – chance and danger – became an issue in the course of industrialization, starting with intercontinental merchant shipping. Risk represents the perceptual and cognitive schema in accordance with which a society mobilizes itself when it is confronted with the openness, uncertainties and obstructions of a self-created future and is no longer defined by religion, tradition or the superior power of nature but has even lost its faith in the redemptive powers of utopias.

As a gulf opened up between God and risk, the European novel entered into an association with risk. When risk appeared on the stage, God had to renounce his role as lord of the universe, with all the subversive consequences that this entailed. *The Art of the Novel* (Kundera 2003) revealed the many faces of risk in terms of its own logic and explored its existential dimension. In the figure of Don Quixote, human life, whose future no longer bows down before the power of the gods or before God's wisdom, has become a never-ending adventure. For, in God's absence, risk unfolds its fateful and terrible, inscrutable ambiguity. The world is not as it is; rather its existence and its future depend on *decisions*, decisions which play off positive and negative aspects against one another, which connect progress and decline and which, like all things human, are bearers of error, ignorance, hubris, the promise of control and, ultimately, even the seed of possible self-destruction.

*Don Quixote*, one of the first modern European novels, was completed with the appearance of the second part in 1616. The reaction of the sciences to the unforeseen was swift. The history of science dates the birth of the probability calculus, the first attempt to bring the unpredictable under control – developed in the correspondence between Pierre Fermat and Blaise Pascal – to the year 1651.

The horror of ambiguity which was a hallmark of the hazardousness – the ‘quixoticness’ – of risk from the beginning, can still be felt today; indeed, it is more present than ever with the cutting-edge technologies in which the greatest promise and the greatest calamity are inextricably fused. Not only Descartes, but also Cervantes, not only philosophy and natural science, but also the novelist, explores the ambivalences of risk modernity. If Descartes conceived of the ‘thinking ego’ as the foundation of everything, with risk the acting ego defies the gods and a predestined future, an attitude that can be correctly characterized as ‘heroic’ in Hegel’s sense. In the first modern novels, this heroism of risk is narrated as an awakening into an unknown world involving ever more unpredictability. At the beginning of Denis Diderot’s *Jacques le fataliste et son maître*, we come upon the two heroes under way – where they are coming from or where they are going to we have no idea. They live in a time without beginning or end, in a space without limits, amid social landscapes whose future seems as present as it is infinite. One senses that, given the indeterminateness of risk, existential experimentalism is unavoidable. The experiential dimension of risk – the discovery, the suffering, the prediction of the unpredictable, the fear, the desire, the surprise, the occasional anticipation of death, which risk smuggles into everyday life – all of this can be summarized in the (of course ironical and playful) assertion *I risk, therefore I am*. I venture, therefore I am. I suffer, therefore I am. Who am I? Why am I? Why am I the person who I am and not the person I could also be, and thus also am?

The category of risk opens up a world within and beyond the clear distinction between knowledge and non-knowing, truth and falsehood, good and evil. The single, undivided truth has fractured into hundreds of relative truths resulting from the proximity to and dismay over risk. This does not mean that risk annuls all forms of knowledge. Rather it amalgamates knowledge with non-knowing within the semantic horizon of probability. Thus the category of risk reflects the response to uncertainty, which nowadays often cannot be overcome by more knowledge but is instead a result of more knowledge. Sometimes this inability-to-know [*Nicht-Wissen-Können*] is suppressed, sometimes it becomes the centre of attention, the horror scenario which is great for business and for playing power games. Through risk, the arrogant assumption of controllability – but perhaps also the wisdom of uncertainty – can increase in influence.

The history of the novel and the history of the social sciences can be described, in parallel though contrasting ways, in terms of the historical

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metamorphosis of risk. In Balzac's novels the dominant factor is no longer the existential hazardousness of a precarious human condition forsaken by God. Here modern social institutions – the police, the administration of justice, the world of finance or the world of criminals, of the military, of state authority – take centre stage. Risk is explored in the institutional forms which foster domination, as later in the almost Kafkaesque rationalization theory of Max Weber and Michel Foucault's theory of power. Balzac's novels no longer have any place for lucky new beginnings. Society is founded and administered on the basis of the ambiguity of risk. The promise of happiness still outweighs the premonition of the possible disaster. Such a perspective reaches its culmination in Kafka. Here the freedom promised by risk has metamorphosed into its opposite, into self-obstruction, self-accusation and self-subjection in the face of the all-pervasive court and castle. The impenetrability, omnipresence and undecidability of systemic risks are foisted onto the individual.<sup>1</sup>

Nowadays the semantics of risk is especially topical and important in the languages of technology, economics and the natural sciences and in that of politics. Those natural sciences (such as human genetics, reproductive medicine, nanotechnology, etc.) whose speed of development is overwhelming cultural imagination are most affected by the public dramatization of risks. The corresponding fears, which are directed to a (still) non-existent future, and hence are difficult for science to defuse, threaten to place restrictions on the freedom of research. Under certain conditions, politicians feel compelled to impose such restrictions because public discourses concerning risk take on a dynamic of their own (which remains to be studied). Risk is thus a 'mediating issue' in terms of which the division of labour between science, politics and the economy in highly innovative societies must ultimately be renegotiated.

## 2 Risk society

In risk societies, the consequences and successes of modernization become an issue with the speed and radicality of processes of modernization. A new dimension of risk emerges because the conditions for calculating and institutionally processing it break down in part. Under such conditions a new moral climate of politics develops in which cultural, and hence nationally varying, evaluations play a central role and arguments for and against real or possible consequences of technical and economic decisions are publicly conducted. In the process, the functions of science and technology also change. Over the past two centuries, the judgement of scientists has replaced tradition in Western societies. Paradoxically, however, the more science and technology permeate and transform life on a global scale, the less this expert authority is taken as a given. In discourses concerning risk, in which questions of

normative (self-)limitation also arise, the mass media, parliaments, social movements, governments, philosophers, lawyers, writers, etc., are winning the right to a say in decisions. The conflicts are leading to new forms of institutionalization and have even contributed to the emergence of a new field of law, risk law, which regulates responses to risks, above all those of scientific-technological provenance, and operates mainly at the level of administration, though already also increasingly at the level of research.

The struggle over blame and responsibility which is raging in social conflicts concerning the definition of risk, therefore, is not – as Mary Douglas (1966, 1986) asserts – an anthropological constant. Premodern threats also led to assignments of blame. Yet risks remained in essence ‘blows of fate’ that assaulted human beings from ‘outside’ and could be attributed to ‘external’ gods, demons or nature. The political history of the institutions of the developing modern society during the nineteenth and twentieth centuries can be understood as the conflict-ridden evolution of a system of rules for responding to industrial uncertainties and risks, hence those produced by decisions. That a ‘risk contract’ is a possible or necessary response to the adventure involved in opening up and conquering new markets and in developing and implementing new technologies is a social invention, an invention that goes back to the origins of intercontinental merchant shipping and that was extended to almost all social problem areas and gradually perfected with the emergence of national capitalism. Consequences that at first affect individuals become ‘risks’, that is, systemic, statistically describable and hence ‘calculable’ event types that can be subsumed under supra-individual compensation and avoidance rules.

This ‘risk calculus’ links the natural, technical and social sciences. It can be applied as much to highly diverse phenomena in public health – from the risk of smoking to the risk posed by nuclear power stations – as to economic risks, risks of unemployment, of traffic accidents, of ageing, and so forth. As François Ewald (1991) shows, by applying generalizable accident statistics and employing the exchange principle ‘money for damage’, the risk-insurance calculus makes it possible to institutionalize state promises of security in the face of an open, uncertain future.

Such a state-sanctioned risk contract involving precautions to curb the side effects and costs of industrial decisions and to ensure their ‘just’ distribution is situated somewhere between socialism and liberalism. For it recognizes the systemic origins of hazardous side effects while at the same time involving individuals in their compensation and prevention. Where this national risk contract is blatantly and systematically violated, the consensus which has sustained modernization at least in principle is open to challenge: this is the meaning of the category of *risk society*. It thematizes the process of problematizing the assumption that it is possible to control and compensate for industrially generated insecurities and dangers, an assumption which is central to the risk contract.<sup>2</sup> This means that the dynamic of risk society rests

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less on the assumption that now and in future we must live in a world of unprecedented dangers; rather, we live in a world that has to make decisions concerning its future under the conditions of manufactured, self-inflicted insecurity. Among other things, the world can no longer control the dangers produced by modernity; to be more precise, the belief that modern society can control the dangers that it itself produces is collapsing – not because of its omissions and defeats but because of its *triumphs*. Climate change, for example, is a product of successful industrialization which systematically disregards its consequences for nature and humanity. The global economy is growing too quickly, affluence is rising too sharply, which simply means that the greenhouse emissions of the industrial countries are steadily increasing – by 2.4 per cent since 2000, to be precise. And it has become clear that, faced with this global challenge, single-state solutions are like Stone Age answers to the questions of the industrial age. The uncontrollable impacts of globalized financial flows for whole groups of countries, as suddenly transpired during the Asian crisis, are also an expression of the *radicalized* capitalist market principle which has cast off the fetters of national and supranational controls. Here political and institutional answers are still lacking.

The term *risk society* which I coined and made the title of my book in 1986 epitomizes an era of modern society that no longer merely casts off traditional ways of life but rather wrestles with the side effects of successful modernization – with precarious biographies and inscrutable threats that affect everybody and against which nobody can adequately insure. From this I drew a number of conclusions:

- Risk possesses the ‘destructive force of war’. The language of threat is infectious and transforms social inequality: social need is hierarchical, the new threat, by contrast, is democratic. It affects even the rich and powerful. The shocks are felt in all areas of society. Markets collapse, legal systems fail to register offences, governments become the targets of accusations while at the same time gaining new leeway for action.
- We are becoming members of a ‘global community of threats’. The threats are no longer the internal affairs of particular countries and a country cannot deal with the threats alone. A new conflict dynamic of social inequalities is emerging.
- Scientific progress now consists in subverting the role of experts. The fundamental principle of science and its visualization technologies – ‘I do not see any risk, therefore no risk exists’ – is being challenged. More science does not necessarily translate into less risk but makes the perception of risk more acute and risks themselves ‘collectively’ visible for the first time.
- Fear determines the attitude towards life. Security is displacing freedom and equality from the highest position on the scale of values. The result

is a tightening of laws, a seemingly rational ‘totalitarianism of defence against threats’.

- The ‘fear business’ will profit from the general loss of nerve. The suspicious and suspect citizen must be grateful when he is scanned, photographed, searched and interrogated ‘for his own safety’. Security is becoming a profitable public and private sector consumer good like water and electricity.

When I re-read *Risk Society* today, I find it touching. In spite of the dramatic tone, the world it describes is idyllic – it is still ‘terror free’. Yet many structural features described in *Risk Society* read today like descriptions of the world after 11 September 2001, after the terrorist attacks in New York and Washington.

### 3 World risk society

In order to convey what is unfamiliar and novel about the category *world risk society* in contrast to that of *risk society*, here I will introduce and develop a whole series of conceptual innovations and differentiations – for example, the distinction between risk and catastrophe or between risk and culturally varying assessments of risk, whose importance is steadily increasing in the era of globalization. At the same time I will offer a typology of different ‘logics’ of global risks that makes it possible to define the new phenomena associated with transnational suicide terrorism (as compared with the national terrorism of struggles for independence or for political participation, such as that of the Irish or the Palestinians) and to compare it to environmental and economic global risks. Here I would like to mention by way of anticipation some of these conceptual innovations and the insights they open up.

#### *Risk and catastrophe*

Risk is *not* synonymous with catastrophe. Risk means the *anticipation* of the catastrophe. Risks concern the possibility of future occurrences and developments; they make present a state of the world that does not (yet) exist. Whereas every catastrophe is spatially, temporally and socially determined, the anticipation of catastrophe lacks any spatio-temporal or social concreteness. Thus the category of risk signifies the controversial reality of the possible, which must be demarcated from merely speculative possibility, on the one hand, and from the actual occurrence of the catastrophe, on the other. The moment risks become real, when a nuclear power station explodes or a terrorist attack occurs, they become catastrophes. Risks are always *future* events that *may* occur, that *threaten* us. But because this constant danger

shapes our expectations, lodges in our heads and guides our actions, it becomes a political force that transforms the world.

One of the key questions which this book poses and seeks to answer shines a spotlight on this difference between anticipated risk and the really occurring catastrophe. How is the presence of future catastrophes ‘manufactured’? Along what routes does risk acquire the predicate ‘real’ – in other words, how does it come to reign as ‘believed’ anticipation in people’s minds and in institutions and indeed often across the boundaries between nations, regions, religions and political parties and between rich and poor? And why does the anticipation of catastrophe, of all things, prompt a reinvention of the political?

The answer, reduced to a formula, is: global risk is the *staging of the reality* [*Realitätsinszenierung*] of global risk. That is one of the essential perspectives in which *World at Risk* goes beyond the theses of *Risk Society*. ‘Staging’ here is not intended in the colloquial sense of the deliberate falsification of reality by exaggerating ‘unreal’ risks. The distinction between risk as anticipated catastrophe and the actual catastrophe forces us instead to take the role of staging seriously. For only by imagining and staging world risk does the future catastrophe become present – often with the goal of averting it by influencing present decisions. Then the diagnosis of risk would be ‘a self-refuting prophecy’ – a prime example being the debate on climate change which is supposed to prevent climate change.<sup>3</sup>

The emphasis on the perspective of staging makes it possible to highlight an aspect of the global terrorist conflict that has been largely neglected until now. To exaggerate somewhat: it is not the terrorist act, but the global staging of the act and the political anticipations, actions and reactions in response to the staging which are destroying the Western institutions of freedom and democracy. The restrictions on individual liberties discernible at many levels – from the increase in surveillance cameras to restrictions on immigration – are not simply effects of actual catastrophes (for example, acts of terrorist violence). They are a result of such experiences *and their globalized anticipation*, in other words, of the attempt to prevent the future occurrence of such events anywhere in the world. Bin Laden and his networks achieve global political prominence only when a whole series of further conditions are fulfilled that enable them to achieve global public resonance and presence. Whether it be the mass media broadcasting the images of bloodstained victims across the world, or American President Bush declaring war on terrorism, or NATO declaring a case of legitimate defence after 9/11: only when such reactions follow the deed does every terrorist’s dream of a meteoric rise from obscure petty criminality to the ‘number one enemy’, the ‘global danger’ – in short, to ‘terrorist world stardom’ – become a reality.

Part of the success story of terrorism is that the US government, the European governments and the journalists working in the mass media have not yet grasped the importance of staging, i.e. how they unwittingly support

the perpetrators by (contributing to) staging the anticipation of terrorism as global danger in the struggle for control over the images in people's minds – and in the process increase the terrorists' power. This involuntary complicity is reflected in the formula 'War on Terror': this scattered the terrorist seed over real battlefields where terrorism could achieve its greatest victories, namely, countless deaths and moral and political harm to the United States.<sup>4</sup>

*The distinction between risk and cultural perception of  
risk is becoming blurred*

A further moment follows from this difference between risk (as anticipated event) and catastrophe (as actual event). It does not matter whether we live in a world that is 'objectively' more secure than any that has gone before – *the staged anticipation of disasters and catastrophes obliges us to take preventive action*. This holds especially for the state, which is forced to take anticipatory precautionary measures because guaranteeing the security of its citizens is one of its pre-eminent tasks. This is true even if the relevant authorities (science, the military, the judiciary) do not have the corresponding instruments at their disposal (e.g. because their ability to respond to global risks is confined to the horizon of the nation-state).

This casts doubt on an often entirely unreflected 'rationalistic understanding' of risks, such as prevails in everyday life but is also formulated in disciplines such as the natural sciences, the engineering sciences, psychology, economics and medicine. On this interpretation, risk is assumed more or less without question to be an objective reality. Accordingly, risk research in these fields focuses primarily on the statistical-mathematical identification of risks, on formulating and testing causal hypotheses, on the resulting prognostic models for particular risks and on the answers of different groups to typical variations in perceptions of risk. These investigations in many disciplines are 'rationalistic' because they are guided by the assumptions that scientific methods of measurement and calculation are the most appropriate way to approach risks descriptively, explanatorily and prognostically, and importantly also politically.

This 'technical' science of risk rests on a clear separation between risk and perception which is underscored and supported by the parallel separation between experts and lay people. Correspondingly, the 'subjectivity' of risk, and hence the 'perception of risk', is delegated to attitude research. Here the perception of risk is viewed and analysed in turn largely as an individual reaction and response to 'objective' risks as measured by various 'heuristics' of individual judgement and understanding. It is clear on which side prejudices and mistakes are assumed to lie – namely, that of the lay people – and on which not – namely, that of the experts. The 'subjectivity of risk' is

assumed to be pervasive among lay people, who are regarded as 'poorly informed' in comparison to the 'precise' and 'scientific' analyses of the experts. On this view, the irrationality of risk perception among large portions of the population is primarily a matter of inadequate information. If we succeeded in turning everyone into an expert, risk conflicts would resolve themselves – this, thought through to its conclusion, is the guiding idea. All complicating factors – such as different forms of non-knowing, contradictions among different experts and disciplines, ultimately the impossibility of making the unforeseeable foreseeable – are bracketed and dismissed as over-rated problems.

The staging thesis generally contradicts this, especially in the case of global risks. The global anticipation of catastrophe for the most part resists the methods of scientific calculation. The less calculable risk becomes, however, the more weight culturally shifting perceptions of risk acquire, with the result that the distinction between *risk* and *cultural perception of risk* becomes blurred. The same risk becomes 'real' in different ways from the perspective of different countries and cultures – and is assessed differently. And the more the world contracts as globalization progresses, the more these clashing cultural perceptions stand out as mutually exclusive certainties. The 'clash of risk cultures', the collision of culturally different 'risk realities' (i.e. perceptions of risk), is developing into a fundamental problem of global politics in the twenty-first century (chapter 4).

Perceptions of risk clash in the global public arena of the mass media and are at the same time becoming an everyday conflict experience. In the global communications networks, all human beings, all ethnic and religious groups, all populations are part of a shared present for the first time in human history. Each nation has become the next-door neighbour of every other, and shocks in one part of the planet are transmitted with extraordinary speed to the whole population of the earth. But this factual common present is not founded on a common past and by no means guarantees a common future. Precisely because the world is being 'united' against its will, without its vote or agreement, the conflicts between cultures, pasts, situations, religions – especially in assessing and responding to global risks (climate change, terrorism, nuclear energy, nuclear weapons) – are becoming manifest. This means that it is increasingly difficult to make a clear and binding distinction between hysteria and deliberate fear-mongering, on the one hand, and appropriate fear and precaution, on the other.<sup>5</sup>

Many will regard the staging of risk as an abstract issue that has little or nothing to do with the experience of risk. But that would be a grave error, for such stagings always also have an *existential* aspect, an element of suffering. Global risk, through its omnipresence in the media, normalizes death and suffering, not just as an individual fate but also as a collective one, even though for most people suffering is synonymous with images of the suffering of others.

Does the ‘staging’ of risk therefore mean that risks do not exist at all? Of course not. Nobody can deny that the fears that an intercontinental airliner will explode as a result of a terrorist attack, that a nuclear power plant will be built, that an oil tanker will run aground or that London and Tokyo will be inundated as a result of climate change as some predict, are founded on objective realities. However, risk analysts in particular know that risk is not an objectively measurable quantity. What does the ‘reality’ of risk mean? The reality of risk is shown by its *controversial* character. Risks do not have any abstract existence in themselves. They acquire reality in the contradictory judgements of groups and populations. The notion of an objective yardstick against which degrees of risk can be measured overlooks the fact that risks count as urgent, threatening and real or as negligible and unreal only as a result of particular cultural perceptions and evaluations.

Risks are lurking everywhere. Some are accepted, others not. Are some risks rejected because they are more dangerous than others? Certainly not – but if so, then because the same risk looks like a dragon to some, but like a worm to others. Acceptable risks are those which are accepted. This apparent tautology goes to the heart of the matter: the greater and more objective a risk appears, the more its reality depends on its cultural evaluation. In other words, the objectivity of a risk is a product of its perception and its staging (also by experts).

To repeat, this does not mean that there are no risks, that risks are illusions, products of a widespread alarmism or the sensationalism of the mass media. However, it does mean that nobody can appeal solely to an external reality in dealing with risks. The risks which we believe we recognize and which fill us with fear are mirror images of our selves, of our cultural perceptions. And global risks become real in this antagonism of cultural certainties or against the backdrop of an emerging global solidarity.

### *Typology of global risks*

I would first like to make a systematic distinction (without any claim to completeness and for purely pragmatic reasons of reducing complexity) between three ‘logics’ of global risks and explore their interrelations, namely, environmental crises, global financial risks and terrorist threats. A fourth dimension – biographical risks closely connected with the dynamics of individualization that play a prominent role in the risk society – I leave aside.<sup>6</sup>

An essential difference between environmental and economic dangers, on the one hand, and the terrorist threat, on the other, resides in the fact that in the latter case *purpose* takes the place of *chance*. Environmental crises and economic threats due to global financial flows, in spite of all their differences, exhibit a commonality: they must be understood in terms of the dialectic of *goods* and *bads*, and hence as contingent side effects of decisions in the

process of modernization. This is not true of the new terrorism, which annuls the rational principles of former risk calculations because purpose replaces chance and maliciousness replaces good will.

Only in retrospect does it become apparent that the calculability of risks has a moral basis. It presupposes that a possible catastrophe occurs by chance and is not brought about with evil intent. This can be seen from a tiny but highly symbolic example, namely, air safety before 11 September 2001. The electronic airline ticket machine used for flights between Boston, New York and Washington asked the user in an electronic voice: 'Did you pack your bags yourself?' or 'Did anyone unknown to you ask you to carry anything on board?' And the answer which let you through could be given by pressing your finger on a particular part of the screen. This 'security machine' sums up the Western technical security strategy: it is founded on a kind of original civilizational faith in controllability that every terrorist threat subverts.

This entails (in the long term) a profound setback for the public legitimization of new technologies. Cutting-edge technologies – genetics, nanotechnology and robotics – are opening 'a new Pandora's box'. For this very reason, those responsible for well-intentioned research and technological development will in future have to do more than offer public assurances of the social utility and the minimal 'residual risk' of their activity. Instead, in the future the risk assessments of such technological and scientific developments will have to take into account, literally, intention as well as chance, the terrorist threats and the conceivable malicious uses as well as dangerous side effects.

The attacks on 11 September 2001 gave rise to a universal awareness of the vulnerability of the West, notwithstanding its economic and military superiority. At the same time this makes it clear that, whereas we are – more or less – insured against chance and accident, we are completely defenceless against suicidal terrorist attacks. This poses a dilemma for the sociology of risk and for risk society itself. On the one hand, they must anticipate the deed by thinking the unthinkable; on the other hand, in attempting to raise awareness they may alert possible attackers to new opportunities. The hazardousness of risk analysis, therefore, consists in the fact that imagining dangers that were previously unthinkable can inadvertently help to bring them about. However, in a world in which the imagination of the threats posed by civilization is freed from the reins of chance with the aim of prevention and is set upon the deliberate triggering of catastrophes, the foundations of freedom and democracy are in danger of being undermined.

*Believed anticipation of catastrophe is transforming the concept of  
society in the twenty-first century*

We are living in a world risk society not only in the sense that everything is being transformed into decisions whose consequences are unforeseeable or

in the sense of risk-management societies or risk-discourse societies. Risk society means precisely a constellation in which the *idea* of the controllability of decision-based side effects and dangers which is guiding for modernity has become questionable. Thus it is a constellation in which new knowledge serves to transform unpredictable risks into calculable risks, but in the process it gives rise to new unpredictabilities, forcing us to reflect upon risks, as this book again shows.<sup>7</sup> Through this 'reflexivity of uncertainty', the indeterminability of risk in the present is for the first time becoming fundamental for society as a whole, which is why we have to overhaul our concept of society and the conceptual apparatus of social science.

At the same time, world risk society sets free a 'cosmopolitan moment' – for example, in historical comparison with ancient cosmopolitanism (stoicism), with the *jus cosmopolitica* of the Enlightenment (Kant) or with crimes against humanity (Hannah Arendt, Karl Jaspers) (chapter 3). Global risks force us to confront the apparently excluded other. They tear down national barriers and mix natives with foreigners. The expelled other becomes the internal other, as a result not of migration but of global risks. Everyday life is becoming cosmopolitan: human beings must lend meaning to their lives through exchanges with others and no longer in encounters with people like themselves.<sup>8</sup>

Both tendencies – the reflexivity of uncertainty and the cosmopolitan moment – point to a comprehensive meta-change of 'society' in the twenty-first century (chapter 11):

- The stagings, experiences and conflicts of global risk permeate and transform the foundations of social life and action in all spheres, national and global.
- World risk also exhibits the new way of coping with open questions, how the future is integrated into the present, what shapes societies assume as a result of internalizing risk, how existing institutions are changing and what previously unknown organizational patterns are emerging.
- On the one hand, (unintentional) large-scale risks (climate change) are gaining prominence; on the other hand, the anticipation of the new kinds of threats emanating from (deliberate) terrorist attacks represents a persistent public concern.
- A general cultural transformation is taking place: different understandings of nature and its relation to society, of ourselves and others, of social rationality, freedom, democracy and legitimation – even of the individual – are developing.
- A new, future-oriented *planetary ethics of responsibility* (Jonas 1984; Apel 1987; Strydom 2002; Linklater 2001; Mason 2005) is called for that finds its advocates among new cultural movements. By appealing to such a macro-ethics, social groups and firms coordinate their activities, offer competing assessments of risk and create new identities, laws and

international organizations in economics, society and politics. Even the military has transformed itself, at least in part, into an advocate of a post-national ethics of responsibility, as is shown by the foreign missions of the Bundeswehr in Afghanistan, Africa and Lebanon.

The overarching meaning of global risk has serious implications because it involves a whole new repertoire of ideas, apprehensions, fears, hopes, behavioural norms and religious conflicts. These fears have one particularly unfortunate side effect: people or groups who are (or are made into) 'risk persons' or 'risk groups' count as nonpersons whose basic rights are threatened. Risk divides, excludes and stigmatizes. In this way, new limits of perception and communication are developing, though also problems and undertakings that are for the first time subject to public pressure for cross-border resolution. As a result, the staging of global risk sets in train a social production and construction of reality. With this, risk becomes the cause and medium of social transformation. It is also closely connected with the new forms of classification, interpretation and organization of our everyday lives and the new way of staging, organizing, living and shaping society in light of the presence of the future – which is why it is decisive for a new definition of the basic concepts of sociology.

*Max Weber and John Maynard Keynes or:  
Downplaying the central role of non-knowing*

The leap from the risk society to world risk society can be clarified in hindsight by appeal to two witnesses: Max Weber and John Maynard Keynes, the modern classics of sociology and economics, respectively. In Max Weber, the logic of control triumphs in the modern response to risk, and so irreversibly that cultural optimism and cultural pessimism turn out to be two aspects of a single dynamic. The unfolding and radicalization of the basic principles of modernity, in particular the radicalization of scientific and economic rationality, threatens to give rise to a despotic regime, on the one hand in relation to the development of modern bureaucracy and on the other because of the victory march of profit-seeking capitalism. Hope and concern condition one another. Since the uncertainties and unseen, unintended side effects which are concomitants of risk rationality are repeatedly 'optimistically' mastered through an increase in and extension of rationalization and marketing, Weber's primary concern, in contrast to Comte and Durkheim, was not the deficiency of social order and integration. Unlike Comte, he was not afraid of the 'chaos of uncertainties'. On the contrary, he recognized that the synthesis of science, bureaucracy and capitalism transforms the modern world into a kind of 'prison'. This threat is not a marginal phenomenon but is the

logical consequence of the *successful* rationalization of risk: when everything goes well, things get progressively worse.

Instrumental rationality depoliticizes politics and undermines individual freedom. At the same time, implicit in Max Weber's model is an idea that explains why risk becomes a global phenomenon, though not why it leads to world risk society. According to Weber, the globalization of risk is not bound up with colonialism or imperialism and hence is not driven by fire and the sword. Rather, it follows the path of the unforced force of the better argument. The triumphal procession of rationalization is based on the promised utility of risk and on the corresponding rational restriction of the side effects, uncertainties and dangers bound up with it. It is this self-application of risk to risk with the goal of perfecting self-control that globalizes 'universalism'. However, the idea that precisely the unseen, unwanted, incalculable, unexpected, uncertain, which is made permanent by risk, could become the source of unforeseeable possibilities and threats that effectively place in question the idea of rational control – this idea is inconceivable on the Weberian model. It provides the foundation of my theory of world risk society.

The sciences which concern themselves with risk modernity consistently sought and seek opportunities not only to analyse the unexpected but also to make it expectable. Here the crux is less the decision itself than the consequences of decisions. The key idea is that these risky consequences lurk and spread behind the mantle of non-knowing, of the inability-to-know, something about which we are only too ready to deceive ourselves. We project experiences of the past into the future and in this way become entangled in the snares of the past in the seemingly calculable future.

The reality of risk forces us to look the unexpected in the eye. But how can one expect the unexpected, the unexpectable? No frivolous faith in progress or frivolous pessimism can help us overcome this paradox. Frank Knight and John Keynes were the first to deal systematically with the uncertainty of all attempts to overcome uncertainty in a rational way. Already in his dissertation, which he completed at Cornell University in 1916 and published in 1921 under the title of *Risk, Uncertainty and Profit*, Knight made a clear distinction between risk and uncertainty:

But Uncertainty must be taken in a sense radically distinct from the familiar notion of Risk, from which it has never been properly separated . . . It will appear that a measurable uncertainty, or 'risk' proper . . . is so far different from an unmeasurable one that it is not in effect an uncertainty at all. (1921: 19–20)

With risk, chaos neither breaks out nor breaks down – any more than does disaster or threat. Rather, calculable uncertainty becomes a source of creativity, it makes it possible to allow the unexpected. The world of calculable