

World Risk Society and Manufactured Uncertainties

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Abstract: The dominance of the modern concept of risk and calculability is challenged by and has to be distinguished from “manufactured uncertainties.” Typically today, conflict and controversy flare up around this particular type of new manufactured risk. Neither natural disasters – threats – coming from the outside and thus attributable to God or nature have this effect any longer. Nor do the specific calculable uncertainties – “risks” – which are determinable with actuarial precision in terms of a probability calculus backed up by insurance and monetary compensation fall in this category. At the centre of attention today, by contrast, are “manufactured uncertainties.” They are distinguished by the fact that they are dependent on human decisions, created by society itself, immanent to society and thus non-externalizable, collectively imposed and thus individually unavoidable.

Why are the concepts of manufactured uncertainty and “(world) risk society” so important in order to understand the social and political dynamics and transformations at the beginning of the 21st century? It is the accumulation of risks – ecological, terrorist, military, financial, biomedical and informational – that has an overwhelming presence in our world today. To the extent that risk is experienced as omnipresent, there are only three possible reactions: denial, apathy and transformation. The first is largely inscribed in modern culture, the second gives way to a nihilistic strain in postmodernism, the third marks the issue this paper raises: How does the anticipation of a multiplicity of man-made futures and its risky consequences affect and transform the perceptions, living conditions and institutions of modern societies? It is crucial to keep sight of the irrevocable openness of the future and the specifically modern demand for rationalization. My assumption is that the demand for rationalization increases uncertainty. For the uncertainty produced by industrial society does not result ineluctably in chaos or in catastrophe. Rather, incalculable uncertainty can also be a source of creativity, the reason for permitting the unexpected and experimenting with the new. Against the grain of the current wide-spread feeling of doom I would like to ask: Is there hidden in the “culture of catastrophe” also an *enlightenment function* of global risks and what form does it take?

My argument (summarizing my theory) will be developed here in two steps:¹

- (1) Dangers, new risks: How has the coping with uncertainty changed since early modernity? What is new about “world risk society”?
- (2) Dimensions of the Problem: The social construction of risks and the different forms of institutionalization.

1. Old dangers, new risks: conceptual differentiation, historical localization

Can we know the future we face? The answer of course is, no, we cannot; but yes, we must act “as if” we do. Present action requires knowledge of the future in order to govern the future. But the future is in many ways unknowable, and uncertainty is a basic condition of human knowledge and existence. This creates a paradox: How to provide certainty and security through knowledge of the future in the face of uncertainty as a basic condition of human knowledge? People have always tried to fill by imaginative means this irrevocable uncertainty regarding the spaces of the future. These “imaginaries” include religious conceptions of the cosmos, the worlds of literature, and, of course, the sophisticated rationalities of probability and risk calculation (and of law, of planning, of futurology, methods of scenario construction, and finally of esoterics). What is the sociology of risk and risk society all about?

Conceptual Distinctions

First we have to understand the key distinction between risk and catastrophe. Risk does not mean catastrophe. Risk means the anticipation of catastrophe. Risks exist in a permanent state of virtuality, and only become “topical” to the extent that they are anticipated. Risks are not “real,” they are “becoming real.” At the moment in which risks become real – for example in the shape of a terrorist attack – they cease to be risks and become catastrophes. Risk has already moved elsewhere: to the anticipation of further attacks, inflation, new markets, wars or the restriction of civil liberties. Risks are always events that are not yet real. Without techniques of visualization, without symbolic

¹ See U. Beck, *Risikogesellschaft. Auf dem Weg in eine andere Moderne*, Frankfurt am Main: Suhrkamp, 1986 [*Risk Society: Towards a New Modernity*, trans. S. Lash and B. Wynne, London: Sage, 1992]; Id., *Weltrisikogesellschaft. Auf der Suche nach der verlorenen Sicherheit*, Frankfurt am Main: Suhrkamp, 2007..

forms, without mass media, risks are nothing at all. The sociological point is: If destruction and disaster are anticipated this might produce a compulsion to act. The social construction of a “real” anticipation of catastrophes can become a political force, which transforms the world.

In a second step we then have to distinguish between three types of future insecurity: *threats*, *risks* and *manufactured uncertainties*. The risk society thesis always encounters the objection: Have not endangerment and insecurity belonged to the human existence from its beginnings, in earlier ages seemingly more so than today (sickness, short life expectancies, wars, epidemics)? This is true, but according to a conventionally agreed distinction, this is not “risk,” but a “threat.” We can make the following distinction: risk is a modern concept, risk presupposes *human decisions*, humanly made futures (probability, technology, modernization). Risk-as-anticipation is the turning point for modern technology, as it has to embrace the future as an extended present. While the confidence in large-scale planning and regulation has proved deceptive, the concept of risk calls for an engagement with the future which is both less speculative and less careless, but opts for a political commitment to responsibility and accountability.

This modern concept of risk has to be distinguished from “manufactured uncertainties.” Typically today, communication and conflict flare up around this particular type of new manufactured risk. Neither natural disasters – threats – coming from the outside and thus attributable to God or nature, such as prevailed in the pre-modern period, have this effect any longer. Nor do the specific calculable uncertainties – *risks* – that are determinable with actuarial precision in terms of a probability calculus backed up by insurance and monetary compensation, such as were typical of early modern industrial society, fall in this category. At the centre of attention today, by contrast, are “manufactured uncertainties.” They are distinguished by the fact that they are dependent on human decisions, created by society itself, immanent to society and thus externalizable, collectively imposed and thus individually unavoidable; their perceptions break with the past, break with experienced risks and institutionalized routines; they are incalculable, uncontrollable and in the final analysis no longer (privately) insurable (climate change, for example).

Threat, risk and manufactured uncertainty can be differentiated in ideal-typical terms as outlined here, but in reality they intersect and commingle. In fact, the problems of drawing hard and fast distinctions between these politically very differently valued aspects of future uncertainty comprise a decisive focus and motor of risk conflicts (see below).

What is new about world risk society? My thesis is: Modern societies and their foundations are shaken by the global anticipation of global catastrophes (climate change, financial crisis, terrorism). Such perceptions of globalized

manufactured risks and uncertainties are characterized by three features:

- (1) *De-localisation*: Their causes and consequences are not limited to one geographical location or space, but are in principle omnipresent.
- (2) *Incalculableness*: Their consequences are in principle incalculable; at bottom it is a matter of “hypothetical” or “virtual” risks which, not least, are based on scientifically induced not-knowing and normative dissent.
- (3) *Non-compensability*: The security dream of 19th century European modernity was based on the scientific utopia of making the unsafe consequences and dangers of decision ever more controllable; accidents could occur as long and because they were considered compensable. If the climate has changed irreversibly, if progress in human genetics makes irreversible interventions in human existence possible, if terrorist groups already have weapons of mass destruction available to them, then it is too late. Given the new quality of threats to humanity, the logic of compensation breaks down and is replaced by the principle “precaution by prevention” (F. Ewald).

It is evident that the nation-state frame of reference, which is still taken for granted – we could speak of “methodological nationalism” in this connection – prevents the social sciences and humanities from understanding and analysing the dynamics, conflicts, ambiguities and new perspectives of world risk society. This is also true – at least in part – of the two major theoretical approaches and empirical schools of research, which deal with risk and uncertainty, i.e. the anthropological tradition and cultural theory of Mary Douglas on the one hand, and the historical tradition and social and political theory of Michel Foucault on the other. These traditions of thought and research have undoubtedly raised key questions and produced extremely rich results as far as understanding definitions of risk and the politics of uncertainty is concerned. However, they suffer both from the same structural defect because they regard manufactured uncertainty more or less (or even exclusively) as an ally, rather than perceiving it as an *unreliable* ally, as a *potential antagonist*, as a force hostile to nation-state power as well as to scientific assessment and to global capital. This shortcoming derives from the theoretical approaches themselves. Surprisingly the research traditions of Douglas and Foucault define their problem in such a way that the battle over risk always comes down to the *reproduction* – and *not* to the transformation – of the social order and political power structure. As a result they are taken in by the only apparently effective surveillance state, by the self-misconception of that state itself. Against this background the theory of reflexive modernization stresses the importance of the potentially transformative power of global risk conflicts and definitions (see below).

2. *Historical Contextualization*

Active engagement with the future, the endeavour to reduce its uncertainty, is called for – and indeed only makes sense – once religion loses its authority to govern all aspects of life. Once Christian salvation has been challenged as a reliable and universal prospect, the need to cope with the uncertainty of the future called for the development of specific instruments for the tackling of the unknown that lies ahead.

Threat: From time immemorial, societies have responded to the challenge of an unknown future by developing a diversity of knowledge practices that attempt to reduce or contain this uncertainty in order to render it more manageable. If we take Europe as an example, the existential threat to individuals, their families and to societies at large through illness, premature death, epidemics and starvation may have been more immediately tangible in the Middle Ages than it is today. However, these ever impending disasters tended to be considered and accepted as divinely ordained. Setting up a regime of preventive measures against future damage would therefore have appeared futile if not sinful in seeking to oppose the will of God. At the same time, the belief in an all-encompassing transcendental master plan meant that even the uncertainty of the future and the vagaries of fortune may have been in doubt, even desperately insecure, with respect to the individual's prospect of salvation, but the possible futures in store for them beyond the ultimate borderline of the unknown – death – were impressed upon people's minds with no lack of clarity and so was the body of rules whose observance or breach were thought to be directly responsible for one's prospects in the beyond. With regard to the future, religion can thus be described as a body of knowledge about the unknown. It is only when this knowledge and its fundamental certainties are contested that the future becomes problematic.

Pre-modern societies, unless they rely on the voluntarism of divine omnipotence or believe in the arbitrary mutability of fortune, seek to tame the future by deducing its shape from eternally unchanging laws as inscribed, for example, in the course of the stars. Advances in the mathematical calculation of the heavenly bodies are employed for prognosticating future events; astrology provides scientific support for politics; the calculation of nativity is supposed to provide information about the character and future fate of the individual at birth. Such attempts to control the uncertainty of the future become obsolete with the establishment of astronomy as a science. Yet they live on in the form of prognostics, peasant calendars, perpetual calendars and suchlike which continued to be published in huge numbers in the 18th century and can still be found today in horoscope literature.

Risk: Once the notion of contingency begins to gain ground, different approaches need to be developed. An important index of a new approach to the future is the emergence of the term “risk.” When we speak of “risk” we refer to a future that is made knowable by measurement, even if this “knowledge” remains speculative. This quantitative knowledge then forms a basis for rational decisions and calculations that are no longer determined by faith or the affective perception of danger. While danger is something we find ourselves (passively) exposed to, risk is something we (actively) take on.

Though originally rooted in a pre-modern belief system (its Arab etymology referring to fortune as given by God), “risk” gains its secular currency in the world of maritime trade denoting an engagement with the unknown which calculates and measures perceived threats. In the widening range of incipient colonialism the increasingly world-wide operations of European trade and travel pose new threats but also offer new chances. This is the origin of modern insurance which is quickly extended to other areas (fire, floods, etc.). Risks and chances are to be shared by insurer and insured by determining the probability of certain events happening in the future so precisely that for the insurer on average and over a long period no economic risk and no financial damage are incurred, while the insured is still safe-guarded against the unplanned and unforeseeable single event.

Assumptions of probability which guarantee this are based sometimes more, sometimes less, on everyday experiences but they have to be made plausible through model calculations. Probabilism holds that no knowledge is ever certain, but can at best lay claim to a high degree of probability. During the 17th and 18th century, this general application of probability extended into ethics, replacing moral certainty with the vindication of any action that is based on a solidly probable opinion. By establishing probabilism as the basis for political and social decisions attempts were made to anticipate future developments. Far from inhabiting completely separate spheres, probabilistic calculation and literary imaginings of the future are indeed intricately bound up with each other and emerge in a shared history.

Since the 19th century statistics have increasingly formed the basis of probabilistic models which can be projected beyond the present by extrapolating the course of the future from past trends. In modernity, statistically grounded planning for the future has tried to interconnect an increasing number of parameters so as to avoid the linear continuation of isolated trends. Despite new forms of falsification, such statistically based prognostication continues to determine economic and social life (e.g. sales opportunities for particular products, price development, traffic density, mass trends in taste, reproductive behaviour etc.).

Manufactured uncertainty: In risk societies the consequences of the achievements of modernization become themselves a reflexive theme because of the speed and radical nature of modernization processes. The two faces of risk – chance and danger – are today particularly relevant and significant in the languages of technology, economics, science and politics. The public dramatization of manufactured uncertainties affects in particular the most innovative branches of the sciences (such as human genetics, reproductive medicine, nanotechnology etc.), because the pace of development outstrips the cultural imagination of society. The resulting fears, which are directed at a (still) inexistent future and are therefore difficult for scientists to rebut, threaten to curtail the freedom of research. Under certain circumstances politicians and states are forced to take such measures because the public risk discourses develop a (hitherto largely unexamined) internal political dynamic. Correspondingly, the conflict over new uncertain risks becomes a “mediation problem” in highly innovative societies, where the division of labour between science, politics and economics breaks apart and has to be renegotiated.

There emerges a new degree of risk because the conditions of its calculation and institutional containment in particular fail. Under these circumstances a new moral climate of politics develops in which cultural perceptions that vary from country to country play a central role and the pros and cons of hypothetical or real consequences of technological and economical decisions are debated publicly. This also changes the functions of science and technology. In the past two centuries in Western societies the judgement of scientific experts has replaced tradition. The more science and technology, however, permeate and reshape life on a global scale, the less, paradoxically, the authority of scientific experts counts. In public risk discourses the mass media, social movements, parliaments, governments, philosophers, lawyers etc. also have a say, and controversial questions of normative (self)limitation are posed. The conflicts lead to new forms of institutionalization. They have even resulted in a new legal field – risk law – which regulates the way risk is handled, particularly in the area of science technology, and is not just applied at the stage of implementation, but increasingly already at the research stage. Of course the decision against research is itself risky with the result that in the public sphere different forms of risk are weighed against each other. The dynamics of manufactured risk to be analysed is not based on the assumption that today or in the future we must live and research in a world of unprecedented danger, but certainly in a world which has to make decisions under the conditions of manufactured uncertainty and in which the institutionalized mechanisms for coping with uncertainty can no longer meet these challenges.

In all decisions about socially relevant major risks, in particular about risks concerning intangible values, it is therefore not a matter of choosing between

safe and risky alternatives, but of choosing between different risky alternatives, often also between different alternatives whose risks concern qualitatively different dimensions and are therefore hardly commensurable. Such decisions cannot be adequately dealt with in prevailing forms of public discourse. A certain temptation to simplify discourse lies in the fact that a decision represented as a decision between safe and risky alternatives can ignore some imponderables while highlighting others.

The social constructions of risk: Modern risks are social constructs in which collective perceptions of the future are envisioned. Their “social construction” comprises four constitutive aspects, which can be construed as answers to the following questions:

- (1) Since risks elude our everyday physical perception, how is the experienceability of risk socially and discursively produced?
- (2) How are risks, which are experienced both individually and collectively, condensed into collective shared patterns of perception?
- (3) What role is played by social constructions of victims, of pity, but also collective pleasure?
- (4) The question of “the power relationships of defining risks”: Who decides in a world of manufactured uncertainties, in which knowledge and lack of knowledge of risks form an indissoluble unity, in a collectively binding way what is a risk and what is not?

Experienceability: The question how (non experienceable) risks are made socially experienceable can first of all be reformulated into the question: how can they be narrated? Are perhaps (apart from significant images) “seismographic” narratives the means by which the socially constructed experienceability of uncertainty is “manufactured”? Literature concentrates the uncertainty of the future into narrations and thereby makes it experienceable and perhaps even biographically and politically understandable. Threat, risk and manufactured uncertainty are put in relation to the past by narrative means (sagas, historical events, biographies, etc.), perspectivized through stories (myths); threats are “humanized,” “played out,” made “conceivable” and thereby socially meaningful. Here a new and very fundamental question arises: Are the social science concept of risk and the philological concept of narration analogously structured and correspondingly analyzable? What becomes experienceable? Who perceives? Who speaks? With what attitude (apodictic, doubting, self-referential, external-referential)? In what time reference? How then does the humanities paradigm of narration relate to the social science theory of risk (and of manufactured uncertainty)?

The social construction of collectively shared perceptions: Experienceability may be a necessary moment for the social construction of risks but it is by no means sufficient. In addition we must include the construction of collectively shared perceptions, i.e. visualization and signification. For example, science and its technologies of visualization have fundamentally transformed the principle of “see-no-evil”/“hear-no-evil” that accompanied the focus on the visible and quantifiable aspects of risks and dangers commonly associated with industrial production. Consequently, the process of generating shared visibility and credibility has to be seen in much broader terms. It involves not only computer science, scenario-constructions, photographs and pictures, but also power, belief, fidelity (B. Latour and K. Knorr-Cetina would mention the “networks” through which they become established). The techniques of visualization are, of course, a condition of the social construction of global anticipations of catastrophes (e.g. climate change, financial crisis). Signification – the entering into a symbolic order – always closely follows visualization, for nothing is merely revealed as itself. With the social construction of visibility and significance (by mass media, science, pictures, narrations, film industry etc.) invisibility is no longer an excuse for non-decision and non-action. The full implications of the catastrophic potential of industrial production are increasingly becoming part of everyone’s experience.

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