

Towards a reopening of risk societies – a contribution to the debate on risk and danger.

The distinction between risks and dangers as distinction of imputation of possible harm to oneself or others can be explained solely from a historical objectivistic and just less than 370 years old understanding of “nature”. In retrospect and *in contrary* to what was asserted again and again, it appears that in the pre-medieval times, the causes of harm were *not* attributed to “external” causes in the sense, that the individual and the group deprived themselves of responsibility. Rather, the reference to a divine principle connoted the *systematic responsibility*, individual and collective. Only against the backdrop of the extensive objectifying of the cognitive world is it possible *not* to ascribe eventual causes of harm to one’s own responsibility. The “autopoietic shutdown” of the “risk society” against its environment is based on this reification. In our days, this shutdown comes with “side effects” and ends up eroding the naturalistic system of concepts. This leads to a broad experience of contingency, which is often interpreted in the literature as return of the uncertainty. But there has never been such uncertainty in world’s history before. Rather, the modernity is challenged by a unique historical form of uncertainty that results from the objectifying of the cognitive world. This uncertainty can only be encountered through the consequent overcoming of the determinist-scientific understandings. Yet, the distinction between risk and danger reproduces extensively this naturalism.

From the indefinite religiously charged notion of danger to the calculable risk

According to the large consent in the literature, the term *risk*¹ is first found in the 12th/13th centuries in Italian seaside towns in trade records, in the context of cruises and the emerging insurance-business (cf. Evers/Nowotny 1987: 34, Bonß 1995: 49 et seq., Luhmann 1991: 17 et seq. and 1993: 140, Japp 2000: 6, Dombrowsky n. J.: 48, Banse 1996: 28). The term characterized a change in structure, a problematic situation that could not be accurately described with any existing term, like for example Luhmann and Banse (cf. Luhmann 1991: 19 and 1993: 140, Banse: 1996: 25) explained: at the time, possible losses were being increasingly attributed to individuals instead of external factors such as the Providence, God, Destiny or Nature. With this structural change on the background of a seemingly increasingly controllable “Nature”, taking

¹ Cf. Banse, 1996: 23 et seqq. provides an excellent overview on the history of this concept.

chances consciously on one's own responsibility, turning them into an economic advantage became possible (cf. Banse 1996: 25f., Häfele, Renn, Erdmann 1990, S. 375, Grymer 1989: 137., Japp 2000: 6). The concept of risk reflected this change in the perception of the world and the accompanying change in the sense of certainty.

The 1987 writing of Evers and Nowotny is of highly importance in the debate on risk and dangers. According to it, the risk got out of "the boundlessness facts that can be connected with uncertainty and possible losses or harms –so out of the shady empire of danger- so it could be made a subject of the social discourse, it got nameable, defined and at least assessable".² Beforehand existed an indefinite and global danger to which one, according to the literature on the subject, fatefully had to give in to. However, from then on emerged ever more comprehensive spheres of relative stability in which one could act and thereby at least positively affect Destiny. This change in structure, the dawn of something fundamentally calculable out of a whole indefinite, indeterminable and therefore incalculable, but religiously meaningful background was extreme profound, crucial and prerequisiteful.

According to that, the concept of risk bears a completely different scientific relation to what we nowadays call "Nature": since the introduction of the peripatetic concept of the matter in the Christian scholasticism by Thomas d'Aquin in the 13th century –or at the latest since Bacon, Locke, Vico, Galileo and Descartes-, the cognitive world appears fundamentally transparent even if, on the famous words of Galileo, the language of mathematics in which the book of Nature is written remains to be learned.³ The confidence in the practicability of the circumstances raises (cf. Luhmann 1991: 21): although miracles could be temporarily regarded as evidence for the existence of God, the limit between the natural and the unnatural had shifted (cf. Daston 2003: 29-76) to that effect that the experiment as systematic planned trial, could become the most important instrument to acquire new knowledge and capacities (cf. Bonß 1995: 254 et seq.). Only

² Cf. Evers/Nowotny 1987: 34.

³ Cf. Galileo Galilei: *The assay-balance (Il saggiatore)*, 1623. p. 631-632. The full quotation is as follows: „Philosophy is written in the grand book -I mean the universe- which stands continually open to our gaze, but it cannot be understood unless one first learns to comprehend the language and interpret the characters in which it is written. It is written in the language of mathematics, and its characters are triangles, circles and other geometrical figures, without these which it is impossible to understand a single world of it; without these media one is reading this book a vain errantry in an tenebrous labyrinth.“ All citations are translated from German by the author.

out of this background of a fundamentally calculable “Nature” can capitalism unfold its dynamic. Through the opening of ever-newer economical chances, it promotes the drive for an ever-rising profit, which demands to take ever-higher risks (cf. Evers, Nowotny 1987: 34). In interaction with science and technique evolves a comprehensive “analytical myth” (cf. Claessens 1993: 309), a superstructure (cf. Arnold Gehlen 1970: particularly 11 et seqq.) of a rational principle that cuts down ever more fields from the indefinite but religious-denoted danger zone and supplies them to the calculation of the risk.

From the Responsibility for the entirety to the calculability of Nature

This calculatory abstraction process increasingly immunizes the decision-making against the perception of failures (cf. Luhmann 1991: 21). Economic calculations supersedes situation- or context-specific “trial-and-error-action”, practical experience is replaced by hypothetical knowledge (cf. Bechmann 1990: 128). The mathematical formula (cf. Dombrowsky n. J.: 49) supersedes the precious carriage supported by the “whole house” (the ecumenism), the plausible justification of the philosophical probabilism developed by Bartholome de Medina (1577) (cf. Gigerenzer. 2004), who judged hazards according to their impiety or moral bearability. Insurance (to the history of insurance, cf. Koch 1988) supersedes the responsibility for the accepted risk which price, independently of the ascertained situation, gives a hint if the risk should generally be taken or not. “Therewith are the field and the claim of abilities massively extended; the old cosmological limitations, the constants of a being and mysteries of Nature are replaced with new distinctions that belong to the realm of rational calculations. The notion of risk still adheres to these today”.⁴ After all, the world appears thoroughly deterministic, describable in scientific law acts and thus calculable. Safety and certainty seem to be globally achievable although temporary risks have to be accepted when absolute certainty does not yet exist (cf. Banse 1996: 27). Indeed, from the beginning of this expansion of fields and capacities of action, “side effects” emerge. The calculatory abstraction, the reduction of ignorance through path dependencies initially immunizes the decision-making process against the perception of failures (cf. Luhmann 1991: 21, Japp 1996:

⁴ Luhmann 1991: 22.

49), until they become irrefutable.⁵ Therefore, it needs centuries for the objectivist-determinist worldview to concentrate into a strong feeling of comprehensive certainty, which crumbles again in a short time.

The fast decline of scientism

One usually associates the universalization of the thought of objectivity and certainty with René Descartes. Here the questionableness of this dating can not be dwelled on (on this, cf. Daston 2003: 127 et seqq.). But even in the case, that what is designated as objectivity would have taken shape in the first half of the 17th century, the predominance of this deterministic belief would have lasted just under two centuries. Sandkühler names four grave discoveries that shook and rocked the positivistic scientific world view since the 1830: “1. science translates the “Real” into signs and symbols; 2. the “facts” of empiricism have a theoretical load; 3. the images of the reality are the results of interpretations; and 4. there is not merely one true theory on given natural phenomena, history or society; several theories can coexist, which provide equally suitable explanations”.⁶ The incipient industrialization process was confronted from its beginning with side effects (e.g. the “social question”) that were concealed through numerous mechanisms.⁷ The quantum theory, explicit the discovery of Max Planck, that energy could only be emitted and absorbed in discrete energy quanta led to questioning the consistent use of the “Laws of Nature”. This notion was not compatible with the knowledge of physical theory (cf. Heisenberg 1987: 3-5). Indeed, according to the Heisenberg uncertainty principle, a location and an impulse, in other words the direction and speed of a particle, cannot be simultaneously assessed. According to Niels Bohr’s concept of complementarity, some phenomena can only adequately be explained by

⁵ Lars Clausen talks in this context of „Alltagsbildung“ as the second of six phases in the model of the process of a catastrophe. The disappearance of complexity, of specialization, the formation of specific specialized personnel leads to the „laities“ to acquit themselves. They forfeit their competence to observe and supervise the environment, because they have other thing to care about. The specialists, in the mean time, become blind to what they have destroyed. Cf. Clausen 1983: 58 and 1994: 30.

⁶ Sandkühler 2002: 34.

⁷ As Thomas Nagel, one could describe these attempts to compensate the side effects as annexation. The divergent experiences that will not comply with the mechanistic-determinist worldview will be at least temporarily overcome by the finding of a compensating relativizing third option, of a social adjustment in this case, as long as the scientism itself does not find the adequate means of this integration according to a universal integrative logic. In Nagel’s abstract conception: „If the subjective cannot be reduced to the familiar objective vocabulary but one also does not want to controvert his reality, one can invent a new element of the reality, which sole purpose will be the assimilation of the unmanageable phenomenon.” Nagel 1991: 122 et seq.

taking in consideration two mutually excluding explanations rather than one self-sufficient theory (cf. Esfeld 1998, particularly 284 et seq.). Thus, with this revolution of quanta mechanism ended the short era of undisputed determinism. Both wars of the 20th century conveyed the commotion of the positivist-mechanistic worldview into the whole society. Industrial catastrophes and the ecological crisis at least resulted -this seems to be consensus in the literature as well- to a “return of uncertainty on a broad level” (cf. Dombrowsky n. J.: 47, Lübke 1989: 15 and 1991: 19 et seq., Stehr 2000: 299 et seqq., Evers and Nowotny 1987: 33, Bonß 1996 and n. J.: 12, Habermas 1996). The fundament of the occidental two-valued rational modern society proves to be unstable, even profoundly fragile, objectivity proves as chimaera. On this background, the term of danger becomes increasingly considered in the scholastic debate as the contrary of risk.

To the difference between risk and danger in the more recent debate

The distinction between risk and danger as divergent sorts of uncertainty was introduced in the more recent German language debate by Evers and Nowotny (cf. Bonß 1995: 50, footnote 58). In reference to Ulrich Beck’s “Risk society” (cf. Beck 1986), Evers and Nowotny affirm that “one is affected by dangers, not by risks; dangers are quasi assigned civilizingly (...)”, whereas risks are individually considered and taken in awareness of possible losses and in the hope of increased financial profit (cf. Evers und Nowotny 1987: 34 et seq.). Niklas Luhmann and subsequently Klaus Peter Japp engross this distinction between risks and dangers and transformed it into a system-theoretical diction. According to Luhmann, modern societies in general are characterized by contingency: Certainty in reference to the non-incidence of future losses doesn’t exist, therefore the opposite term of risk is not security or certainty –security thus being an “empty term”⁸-, but danger (cf. Luhmann 1993: 142). One would talk about risks as well as about dangers in terms of possible harms, but the distinction between the two notions would lie in the ascription of possible harms or losses. According to Luhmann (cf. Luhmann 1993: p. 138 et seqq.), while possible harms ascribed by a system to itself are classified as “risks”, the notion of danger would impute to an environmental cause. As said by Klaus Peter Japp, this distinction refers to the difference between the decision maker and the affected person: “Each side ascribes

⁸ For Japp on the contrary, the notion of certitude matters: „Ingenieurs, statisticians and insurance experts must use it, if they want to approximate what is expected from them (the pursuit of certitude) to it. (...) The way an engineer deals with „security“, compared to a risk sociologist is precisely a socially relevant distinction.“ Japp 2000: 22 et seq.

different: some calculate a risk, others feel themselves as victim of this calculation. Hence, there is so little comprehension for the lack of insight of the other side and so much apparently irrational resistance against the calculus of probabilities.”⁹ Luhmann stresses that the perspective -decision maker or affected person- a priori induces different evaluation of the probability of harm: “The label of a “risk” would lead to ignorance of the danger while the label of “danger”, on the contrary, would lead to ignorance of the profit that one could make out of risky decisions”¹⁰. One would always speak of risk “(...) whenever a potential harm is taken for the sake of a benefit”.¹¹ Luhmann observed that today the risk is still assessed by multiplying the amount if damages and probability of losses¹². From the point of view of the victim who has neither decided, nor profited from the risks that others have taken, the occurrence of a loss is a danger, thus an attribution of the causes to the environment.

Imputation to oneself and others: a non-historical distinction?

One can resume the assumptions in the debate on risks and dangers up to now as follows: until the 12th/13th centuries the imputation of harm to “external” causes such as “God”, the “Providence”, “destiny” or “Nature” dominated. Between the 15th and 17th centuries “Nature” is analytically leavened and gets “objective”, culminating in the structural interruption of the dominant experience of uncertainty and in the dominant expectation of certainty. Now the Sure, the Exact is no longer unlikely, now the unexpected becomes frightening because it “breaks” into an out-and-out certain coherence. Indeed, after closer examination of this basis of the debate, the following neglected matter emerges: how can the differentiation between the imputation of harms to oneself or others be logically assigned to times when the scientific notion of objectivity not yet existed, not even in the early, let alone in the “modern” form? Indeed, in former times, the distinction of subject and object like used to in did not exist, *every* thing was transcendently charged and somehow of “divine” nature. The assumption is that such a transfer is not reliable. It rather obstructs the attention on the several fundamental problems to which the “new ambiguity and uncertainty” drastically and increasingly catastrophically points to. The modern uncertainty,

⁹ Japp 2000: 22.

¹⁰ Luhmann 1991: 33

¹¹ Luhmann 1993: 143.

¹² Luhmann 1991: 22.

as it presents itself to the debate, is something qualitatively new. It is not comparable with the uncertainty of the pre-medieval times. Rather the background of the debate misconceives the pre-medieval times: because everything happens for a reason, the imputation to god, the divine, etc. always means certainty, and because every loss is a punishment by a transcendental power, it always means responsibility for every action.

Presecular and secular uncertainty or: what is “Nature”?

The “uncertainty” of the “world” until the threshold of the modernity was different from the contemporary understanding of uncertainty, inasmuch as each and every event was meaningful in a “transcendental-magical” and always somewhat obscure context. No “natural phenomenon” could irrupt on the “innocent people” against which the victim, in the technical-instrumental sense of the word, could or had to “protect” himself. No “storm”, no flood snapped up innocent victims. Floods were always “deluges”, punishments for misconduct without actually indicating which behavior or which actual cause lead to the punishment. If everything happens for a reason and everything is connected with individual or collective attitude (and this is always certain!), the world is not considered “uncertain” in the modern conception of the word. The flood is a *symbol* of misconduct towards an indefinite and indeterminable environment.

“Environment” must thereby not to be perceived as naturalistic, neither as systemstheoretical in Luhmanns way of thinking. This is worth evocating the notion of environment from Jakob von Uexküll. Von Uexküll came to the conclusion, that living beings are not connected with their environment through causal-analytical action-reaction mechanisms, rather through signs that are *meaningful* to them. Thus, there would be not one, but several environments, each adequate to each species. Each organism creates its own “Schaltkreis” (circuit) with its specific environment. Still according to von Uexküll, the model of the circuit shows “(...) how subject and object fit in each other, constituting an orderly ensemble. (...) All animal subjects, from the simplest to the most elaborate, fit in their environment with similar perfection. To the simple animals matches a simple environment, to the polymorphic an equally structured environment”¹³. For humans, this means that they do not live in a somehow “objective” environment, surrounded by “Nature”. On

¹³ Uexküll 1983 p. 27.

the contrary, they are embedded in “Nature”, “aufgehoben” in the Hegelian sense of the notion, while they “construct” themselves and the environment establishing a relationship of permanent interaction with it, supported by symbolic means, a relationship in which continuous adaptation through trial and error is requested from them. Until the threshold to modernity, the divine constituted the global horizon (it is well known that even Descartes tried to prove the existence of God¹⁴). Nothing could elude an association with the sacred. Any “harm” meant something individual and collective. It challenges each victim as well as the whole group to be critical with their actions in their spatial, temporal and social dimension without providing a precise direction in which they should especially focus the attention on. The divine as generalized designation of an indefinite background appears as a mirror which requests from the individual as well as from the group a reflection on their place in the environment and on their attitude vis-à-vis the fundamental unknown. This reflection is based on evaluation criteria that cannot be described as “rational”, but on criteria that the individual as well as the group “simply has”. As Max Weber said, one could speak of a traditional ethic.

This background clarifies the difference between the modern and “traditional” uncertainty: In the pre-medieval world, uncertainty was synonym of God’s almightiness and in that respect similar to a “divine certainty”. Any stroke of fate would happen for a reason in the overall context and had a meaning, a purpose in the global order. In that respect, the discussion on the imputation of harm to others in relationship with the pre-medieval religious world is totally misleading. Indeed, the imputation to the divine just does not mean the exoneration from one’s liability. In fact, the divine punishment confirms one’s liability, one’s own personal responsibility. Responsibility was the global principle associated with possible harm.¹⁵ Ascribing the responsibility to the “environment” is precisely not to dispose of it. It rather suggests that one’s and the group’s attitude are “needy of improvement” in all “beliefs” and assumed righteousness. The divine demands to reassess what is considered true, to continue the thinking process, to re-include the already excluded into the process of observation.¹⁶ It rather suggests the continuation of a

¹⁴ Cf. For example Winfried Weier 1988 p. 111.

¹⁵ On this, cf. Lipp 1997.

¹⁶ The reintroduction of the purpose of the absorption of the uncertainty is a thoroughly debated problem in the modern and the system-theoretical oriented sociology of the organization. The sociology of the organization could anyway learn a lot from the sociology of religion, as shown by Peter Heintel (cf. Peter Heintel 1995). On the problem of the reintroduction of the excluded (of the re-entry, as system-theoretically called by George Spencer Brown), refer

perpetual adaptation process, whereas in the modern spirit, externalization means autopoietical shutdown against “the” environment, exoneration from any liability indeed.

In the distinction between risk and danger, the notion of environment delimits an area of the modern term of environment that precisely respects the logical laws of nature. Humans can either protect themselves with the help of technique and instruments or surrender to this authoritarian law of nature that can manifest itself also as *force* of nature. Tertium non datur, there is no third. Such a perspective totally obstructs the pre-secular relationship to the environment; obstruct one’s view at the possibility of a logical third option. Technique and helplessness are not the only two options, there has always been a logical third. The logical third means weather believing in the objectivity of “nature”, nor neglecting every consistence in the outer world. It means accepting that *everything*, meaning *each* form, term or category, is somewhat flexible, variable and fixed, somehow “fossilized”; everything is meaningful, symbolically charged; everyone is liable for each “symbolic action”, everyone is responsible to try to understand the symbols that the environment confronts one with. As long as the old objective concept of nature remains unquestioned in social sciences as well as in natural sciences -although maybe only in historical retrospective- as long as the environment keeps being either considered from a technical point of view or exposed to uncontrollable power, so long increases the uncertainty, but of a quality of uncertainty never reached before.

Summary and proposals on the reopening of the risk society to its environment

The uncertainty of modernity is qualitatively different than pre-secular one. To speak with Wolfgang Borcherts words, the deep of this uncertainty is the abyss. But it only remains like an abyss, as long as the scientific observation hinders itself of the possibility of a logical third option. The actual scientific debate, especially in the fields of sociology of science, -knowledge and -technology, announces a reopening of science against the excluded badges: Science is beginning to ask not only in the Kantian way for the condition of the possibility of Knowledge and of certainty, but more and more science asks for the other side of the coin, thus for Non-

to the system-theoretical model of Dirk Baecker 1997: 266 et seqq. and 1999, as well as for the „general sociology“ to Karl E. Weick 1985, particularly 311 et seqq.

knowledge (cf. Bösch and Schulz-Schaeffer 2004, Bösch and Wehling 2004, Japp 2003) and uncertainty and for the *relation* of these dualities. As an example for a new and hopeful approach to overcome the dualism of “Nature” and “Society” or “Culture” in the sense of the reopening of science and by the way of societies to the environment of societies, the actor-networktheory of Michel Callon and Bruno Latour should be pointed out.¹⁷ This approach set “things” in symmetry with living organisms. It peers the “matters” with an actor status (as so-called “actant”). Consequently it keeps the world of artifacts from wallowing in an illusional security. Nevertheless, the perspective of the actor-networktheory on the one hand repeats the distinction of nature and culture, because it does not get about acknowledging different qualities of the actants. On the other hand as they continuously use a strongly socialized language (possibly because they consequently have to), they run the risk of replacing the naturalism by a new sociologism (cf. Bammé 2004: 80 et seqq.).

But what still really lacks is an adequate conceptual terminological fundament, suitable for accepting (relatively, but at least) stable “objective” categories (like “nature”) and simultaneously emphasizing the basically unstable and variable character (even of an atomic power plant), of these forms, therefore their fundamental questionableness. There is a need for an empowered process-related theory on the relative stabilization of the “environment”, a theory that can focus on the fossilizing character of apparently “objective” categories to emphasize this fossilization also as catastrophic¹⁸ process. The systemtheory names this fossilization of “symbolic forms” (Ernst Cassirer) “autopoietical shutdown” of a system against its environment. The sociological theory, as the systemtheory approach, remains in a reifying paradigm until it is radically disengaged by any remaining substantialism from which the debate on risk and danger still suffers. But on the other hand the solution will not be found in a relativism that strictly denies the existence of “objective” forms, meaning of fossilized symbolic meanings, which as social facts of course do exist. Sociology must pick out this factual existence of artifacts as “transfixed couplings” as a central theme on the topic of the risk as it has to reflect on the general process character of all forms. In that sense, the sociological theory on risk needs a terminology that

¹⁷ Cf. For example Callon and Latour 1992, as well as Latour 2000, 2001, 2002. For an in-depth and critical overview of the onset of the actor-networktheory, cf. Bammé 2004.

¹⁸ Cf. Perrow 1992. The book of Perrow on the subject is outstanding and deserves to be reread.

admits the complementarity (as meant by Niels Bohr, previously cited) of two contradictory approaches without giving in to the temptation of trying to bring them together.

If danger only designates the imputation of possible harm to others, the differentiation between risk and danger factors out the possibility of a logical third option. Since an adequate theory of symbolic forms in the sense described above does not exist yet, we would suggest to work with the wider definition of danger as formulated by Elke M. Geenen. Geenen defines the danger similarly to Evers and Nowotny (previously cited) as “the unstructured, still undefined, the indefinite area that has to be stridden (...)”¹⁹. Thus, danger precisely means, that necessarily an uncertain and indefinite, but (for example as the divine) markable background of everything has to be thought, an environment, that always can change every form, however “objective” or not, but that also generates some kind of stability as long, as everybody tries to “read” the symbols given by this horizon. Such a “working-definition” held a split in the door to the inclusion of a third option (indefinite, indeterminable but nevertheless “communicable”), while Luhmann’s differentiation closes the door.

The debate on risk, in the course of the International Decade for Natural Disaster Reduction (IDNDR), has already implemented a change of paradigm. Indeed, it has ceased focusing on technical accomplishment only and it has started to focus on the resilience of the whole ecosystem in a more global way, not at least in the context of the debate on sustainability. But this change of paradigm is far from being achieved, as long as even implicit the debate is still *based* exclusively on an objectivist understanding from risks, danger, certainty and nature. It will not be achieved until the indefinite area of danger, outside the background of which security and even the term “risk” prove as chimaera, is understood as what it is, as a background that can never be defined, which means that there will never be any objectivity, any security, any certainty at all. Accepting this opens the risk society for a third option and by the way to its environment.

¹⁹ Geenen 1996: p. 35.

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