

Risks and Security

Europe in the Face of Diverse Dangers (19th-21st centuries)

Alain BELTRAN

ABSTRACT

For more than two centuries, Europe has been confronted with natural catastrophes and industrial risks, with its reactions to these events evolving over time: fatalism of humans in the face of their destiny, Enlightenment humanism, the scientific certainties of the nineteenth century, and lastly doubt arising from the emergence of the principle of precaution, the goal of zero risk, and the great number of second assessments.

If the Europe of flows was built quite quickly, the Europe of common reflection and comparable legislation regarding risk and security still remains incomplete in the face of broad cultural diversity. A tendency toward convergence, however, has seemingly been taking shape over the last few decades.



Colour engraving of the Lisbon earthquake

The notions of both natural and industrial risk—and hence of the consequences of dangerous phenomena, protection, and population security—have evolved over time not only due to the nature of accidents, but also how European societies have perceived them. Faced with the Four Horsemen of the Apocalypse (wars, epidemics, famine, death), familiar since the earliest Antiquity, people took refuge for a long time in a fatalistic attitude that was linked to the inevitability of destiny in the face of divine will. But with the Enlightenment, a new interpretation saw the light of day, and paved the way for the empowerment of collective civil institutions. The eighteenth

century in Europe therefore marked a major break thanks to the lessons of the philosophers and surely to a new perspective in the face of catastrophes. This same Europe was the first to enter the industrial age, which brought forth new dangers that required the invention of new protective measures. Finally, the eruption of the “nuclear age” (to use Martin Heidegger’s expression) and of a “risk society” (the title of a work by Ulrich Beck) proved to be another major departure, for all of humanity could be confronted with the mortal dangers arising from technoscience. During this evolution, which spanned multiple centuries, European societies were characterized by original reflection and action, and by a sense of what risks were acceptable or not that moved from the desacralization of evil to the principle of precaution. This evolution was not linear, and was sometimes accompanied by debates and challenge, albeit without aporia. It all the same makes it possible to characterize a certain vision of human destiny shared by the majority of inhabitants of the Old World.

From Fatalism to Action

For centuries, natural phenomena represented major risks that, by definition, were difficult to protect against. Venetian merchants, of course, organized very early on an insurance system to respond to maritime risks. Even though there are multiple etymological hypotheses, the word “*risqué*” [risk] apparently comes from “reef,” from “craggy rock” (Littré), which can cut open a ship and send it to the bottom. It relates in a certain way to the ancient notion of “sea fortune,” in which chance dominates and imposes acceptance of one’s fate, however upsetting. However, mercantile risk concerned only a minority, whether on land or sea. The major cataclysms that marked the fate of sinners (epidemics, wars, famine) would repeat themselves, and appeared as a brief but terrible calling into question of the immemorial balance between humans and their fate, before normality returned thanks either to prayer and repentance, or to the punishment of certain groups deemed responsible. These different horsemen of the Apocalypse fell within a terrible but ineluctable affective landscape. Nevertheless, the arrival of the word catastrophe during the sixteenth century clearly emphasizes that certain extraordinary events gave rise to an unprecedented incomprehension. In the etymological sense, a catastrophe is the final stanza of a tragedy. Catastrophe thus implies a break, an end, a final misfortune with tragic and millenarian overtones.

The Lisbon earthquake of 1755 remains a major turning point in the history of risk; according to estimates, it caused nearly 30,000 deaths, and leveled numerous neighborhood. Throughout the continent, a “philosophical revolution” gave rise to new considerations regarding evil: even though theological explanations did not disappear (Jean-Jacques Rousseau was hardly shaken by destruction that he deemed rather opportune), the need for a response and for public prevention, along with the outrage of pure evil, opened the way for another attitude toward risk. Voltaire admitted that he did not understand why the cause of the catastrophe would be divine ire (Voltaire, *Poem on the Lisbon Disaster*, 1756):

*Say ye, o’er that yet quivering mass of flesh:
“God is avenged: the wage of sin is death?
What crime, what sin, had those young hearts conceived
That lie, bleeding and torn, on mother’s breast?
Did fallen Lisbon deeper drink of vice
Than London, Paris, or sunlit Madrid?”* (translated by Joseph McCabe).

A new awareness clearly saw the light of day, attesting to a real anxiety, but in the end indicating that humans must assume their fate with courage. Even in the representation of catastrophes, it appears that the allegorical henceforth gave way to a more precise representation of reality. This evolution toward a controlled or at least contained risk, taking place between the early modern and modern periods, can be illustrated through how floods were faced in Camargue. State and regional authorities began to assert themselves as reducers of uncertainty. Although they could not anticipate the damage, scientific analyses were gradually able to nevertheless provide explanations based on science and expertise, and to provide support for victims. During the French Revolution, to

paraphrase Laplace, society no longer needed the hypothesis of the divine, even though Robespierre advocated the respect due to the Supreme Being, and religion was defined by Napoleon as a moral principle indispensable for social stability.

Progress Through Science

Although England's early entry into what has come to be known as the industrial revolution is well known, it was indeed Europe in the nineteenth century that invented a new way of working, and thereby new risks. Coal, steam, metallurgy, and textiles transformed the conditions of work and circulation. Mills, factories, and industrial concentrations changed the landscape, as well as work itself through their lot of accidents and even catastrophes. Although the myth of Prometheus punished by the Gods for stealing the heavenly fire henceforth took on its full meaning, the deeper explanation nevertheless involved human responsibility, or insufficient knowledge of the laws of nature. Catastrophes were increasingly publicized with the development of media, essentially the widely circulating newspaper, telegraph, or radio. The front pages of such popular newspapers regularly depicted explosions, derailings, and deaths, in which industrial responsibility vied with base news stories. Although public awareness had been raised, public authorities did not remain inactive. The history of legislation against industrial dangers, along with the history of insurance, are indicative in this regard by way of their European diffusion. The 1810 law on unhealthy establishments, and thus on the protection against pollution and accidents, was known throughout Europe due to French predominance during the imperial period. Insurance followed the major changes in technological risk, and sometimes prompted certain transitions, such as the need for electric lighting to prevent fires caused by city gas. During this long industrial nineteenth century, certain catastrophes gave rise, through their scale, to very different reactions in Europe, as with the Courrières mining accident in 1906, which claimed nearly 1,100 victims, and is without a doubt the main industrial catastrophe in French history. Fear, solidarity, compassion, critiques of technology: a wide range of perspectives were present, ones that subsequently reappeared in most catastrophes that had an international impact (the sinking of the *Titanic* is surely emblematic of these sensibilities, which were expressed over the long term). Risk and industrial accidents nevertheless remained scandalous for certain contemporaries, and also sparked political interpretations: denunciation of profit, criticism of negligence, and need to fundamentally change rules for sanitation and work. For reformists, the risks connected to work justified the intervention of the state, as shown by the Bismarckian laws of the late nineteenth century, which aimed to protect against work accidents (1884) and to slow the progression of socialism. The socialists denounced what they called "bumper fodder" (for accidents involving railroad personnel), echoing the expression "cannon fodder." A period marked by scientism, the late nineteenth century nevertheless relied on engineers to prevent industrial catastrophes, and on doctors to roll back natural mortality.

Hope Becomes Threat

This faith in the future was dramatically shattered a first time by the shock of World War One, which was first and foremost a European war. Civilizations knew that they were henceforth mortal (Paul Valéry's expression from 1919). World War Two marked a new phase, with the genocide of the Jewish population of Central Europe, as well as the use of new weapons such as the atomic bomb. For philosophers like Heidegger, the atomic age profoundly changed the nature of risk, thought, and international governance. A few years later, other publications by European thinkers finished undermining the certainties of the scientific nineteenth century. In 1979, the philosopher Hans Jonas developed, in his "principle of responsibility," a rather pessimistic vision of the consequences of technoscience: "The introductory thesis of this book is that the promise of modern technology has inverted into a threat, or that the former is indissolubly linked to the latter." Jonas emphasized our responsibility toward future generations with respect to the future consequences of scientific discoveries, which are little known and potentially apocalyptic. In a sense, priority must be given to the worst conceivable scenario. It is thus clear that the principle of responsibility or of precaution is not reducible to simple prevention; it calls for reflecting on inevitable and impossible to predict catastrophes that could prevent an authentically human life on Earth. Nuclear

energy undoubtedly opened a “new” century, but also generated risks and fears driven by major accidents, beginning with the one at Three Mile Island in the United States. The Chernobyl cloud in 1986 renewed age-old fears of plagues transmitted via air, against which one can do nothing but flee or draftproof one’s home. Yet reactions can also be highly different from one country to another, such as between France and Germany: intense precautionary measures east of the Rhine, calming discourse to the west of the same river...

More recently, Patrick Lagadec has emphasized the notion of “major technological risk” (the title of a book from 1981, followed by *La civilisation du risque*). Aside from the infrastructure created in the nineteenth century (railroads, telegraph, roads), the twentieth century indeed saw the development of major, largely cross-border networks, especially for energy and communication. These could be responsible for cascading collapses that could simultaneously affect multiple countries, which is the case with the electrical “blackouts” that can almost immediately plunge vast regions into darkness. The uncomprehending reactions of consumers are all the more forceful because the interruption of a product that has become indispensable, such as electricity, is considered a scandal. Not yet as visible yet strongly feared, terrorist acts against sensitive installations—from refineries to telephone exchanges—henceforth represent a major danger, especially if the attacks involve dirty bombs or biological weapons. Major technological systems can themselves be the target of large-scale cyber attacks conducive to provoking chaos. The fragility of complex systems has become a fundamental notion of contemporary risk.

Additionally, epidemics (and even pandemics) that seemed to belong to the past have made a pronounced return since the 1970s. Certain epidemic risks, such as HIV or bird flu, have sparked disorganized and spontaneous reactions, driving people toward invective and, in the worst cases, exclusion. Most affairs, such as the polemics surrounding medicine or contaminated blood, are not national, and thus feed on the reactions of neighbouring countries. Genetic experiments or nanotechnology are ultimately becoming a cause for concern. GMOs provide a clear example. The legislation on genetically modified organisms replaced the general law of free enterprise with a special system hitherto reserved for products that had been proven harmful (*Dictionnaire des risques*, 2007). It is henceforth the person offering an innovation that must prove it is not dangerous, whereas previously it had to be demonstrated that the said innovation was dangerous. Numerous European countries of course hold institutionalized public debates intended to inform the public before making a decision. However, these processes sometimes clash with the most hostile of activists, and the public debate ends in an impasse. Finally, there are instances of (marginal) challenges to practices that were nevertheless initiated during the eighteenth century, such as vaccination. With regard to what could be called classical industrial risk, it is henceforth envisioned globally through increasingly strict European legislation. The European Union standardizes certain potentially dangerous sites under the generic name of “Seveso.” This designation is named after an Italian city, which in 1976 was the site of dioxin emissions from a factory belonging to a Swiss company. It was a pesticide production plant, yet the agent orange used in Vietnam was found there. A new geography was thus drawn for high-risk industries (10,000 installations in Europe have “Seveso” designation). Seveso is also the combination of a number of risks: chemistry, with its military offshoots, along with food concerns over the use of pesticides in industrial agriculture. Food concerns are incidentally one of the most recent developments illustrating the principle of precaution and the challenging of companies and experts. Indeed, the notion of experts and expertise, which had served as a protector against risk, is increasingly being questioned. Experts are denounced, since most of the time they are seemingly in the service of a company or a lobby. Should priority be given instead to new experts such as NGOs, whistleblowers, or non-official specialists (such as the non-profit organization in the nuclear sector CRIRAAD, the “I” standing for “independent,” which was created in France in 1986 following explanations for the Chernobyl catastrophe deemed too vague)? These recent initiatives, visible especially in Western Europe, show a certain confusion in public opinion in the face of new risks, which are more unclear and therefore, in a sense, more worrisome. Current trends have also prompted some intellectuals to emphasize the historic weight of industry in the development of pollution and risks since the second half of the eighteenth century. The notion of progress

through science and technology is no longer an assumption, but for some a historical error. The rise of industry is seen through its denials, and not as a motor for progress. It is clear that this retrospective judgment is based on today's climate and planetary risks, with the central role of the steam engine and later liquid hydrocarbons in the warming of the atmosphere. Indeed, the manifestation of the most recent and symptomatic fears of the atomic age concern climate change: humans have symptomatically taken the place of God and nature in the responsibility for current and future scourges. After much scientific discussion, the consequences of an average rise of temperature are at the origin of many EU policies. Although Europe is not the only one responsible for global warming (far from it...), the continent is nevertheless the most receptive and reactive in meeting these new risks, which are explicable both in natural and human terms (the notion of the anthropocene has recently appeared, integrating human responsibility for planetary transformations within a non-geological time-scale, more precisely since the industrial revolution transformed the modes of production, circulation, and exchange). Examination of European directives regarding greenhouse gas emissions, renewable energy, and fuel efficiency shows that the EU-28 is easily at the forefront in terms of the measures to be taken, and could provide lessons to the United States and China. It is without a doubt within this Europe that the principle of precaution is the most fully thought out and put into action in the texts.

BIBLIOGRAPHY

BECK, Ulrich, *La société du risque*, Paris, Aubier, 2001.

BOUDIA, Soraya, JAS, Nathalie, « Risk and Risk Society in Historical Perspective », *History and Technology*, vol. 3, n° 4, 2007, p. 317-331.

DELUMEAU, Jean, *La peur en Occident XIV^e-XVIII^e siècles*, Paris, Hachette (coll. « Pluriel »), 2003.

DUPONT, Yves (dir.), *Dictionnaire des risques*, Paris, Armand Colin, 2004.

JONAS, Hans, *Le principe de responsabilité. Une éthique pour la civilisation technologique*, Paris, Cerf, 1990.

LAGADEC, Patrick, *Le risque technologique majeur*, Paris, Pergamon, 1979.

Source URL: <https://ehne.fr/encyclopedia/themes/material-civilization/risks-and-security/risks-and-security>