This book is an essay about an often mobilized but seldom studied topic: uncertainty. Professor Helga Nowotny invites the reader on an erudite and fascinating journey at the boundaries of current human knowledge: “Uncertainty is the dynamic balance between what we know and do not yet know about the world and about ourselves” (172). By its intrinsic duality, uncertainty is both a source of challenge and inspiration because “[it] tends to undermine subversively what is usually taken for granted” (8) and also can “lead to a reordering of well-established priorities” (35). For Nowotny, “Where uncertainty reigns, its cunning may allow glimpses that enable advanced warning” (72). But uncertainty cannot be taken for granted by itself because “Uncertainty is never completely static but is a process that does not cease to evolve” (ix). Paradoxically, what could be an incentive for humans to challenge their knowledge and certainties, uncertainty also appears to be a cause of fear, facing the incoming unknown. In other words, in place of enjoying the cunning of uncertainty, humans tend to deny it or even suffer it.

Nowotny explains this fear with the fact that humans now confound risk, danger, and uncertainty. To illustrate her point, she reminds the reader that this has not always been the case. For example, the word “risk” comes from the word “rischio,” which refers to a cunning stake being put up for a shipowner in funding a trade maritime expedition. That “rischio” would be for said investor a source of wealth or a cause of his bankruptcy. In other words, it could be positive or negative: “The origins of ‘rischio’ lie on the shores of the Mediterranean in the thirteenth century. Its original meaning was to consciously put something valuable up for disposition, to risk promised desired gains and implied possible losses” (65). However, “[t]oday, the concept of risk has become impoverished and one-sided. It is now generally associated with a potentially negative and unwanted outcome, which is to be avoided or at least to have its consequences minimized” (66). Pursuing that idea, Nowotny notes that the difference between uncertainty and danger is now also blurred: “The ‘grace’ that once was the driving force in [Max] Weber’s spirit of capitalism has been replaced by a self-bestowed confidence to play with uncertainty for the sake of profit” (71). In this state of confusion, humans are now unable to distinguish uncertainty from danger or threat. The consequence is that this misunderstanding distorts the perspective toward the incoming future: “Fear can cloud judgment. Socially induced fear distorts the outlook on the future. It shrinks the horizon to a depressingly small and narrow scale” (22).
For Nowotny, one of the best ways to fix this deleterious behavior is to precisely grasp uncertainty in order to develop new knowledge: “Knowledge generated when confronted with uncertainty has proven to be the most powerful means developed in our cultural evolutionary trajectory so far to assure survival and striving for continuous improvements in material living standards and well-being” (2). In recent history, the role of knowledge creator has been played by science because “[s]cience is one of the few institutions with a genuine long-term vision” (6) and because “[s]cience can teach us to worry better and when to stop worrying” (137). This role can be explained by the cunning of uncertainty that scientists exploit for the purpose of their own works. “The future that scientists seek to bring into the present springs from their insatiable curiosity. It remains a major driving force in science, based on the powerful conviction that it will deliver something of interest and significance” (from Nowotny’s earlier book: Insatiable Curiosity: Innovation in a Fragile Future, 105). But, as with capitalism, science has step-by-step also lost its appeal for common people. “If the belief in progress of science and technology and the possibilities for intervention it opens has never waned in the scientific community, this is not always the case in society” (viii) because in “[s]tripping away the content of many of the previously existing beliefs, science was seen to lead to disenchantment in the world, as forcefully expressed by Max Weber” (79).

Nowotny explains how science itself deals with uncertainty with a relevant but true presentation of what science really is. Inspired by her experience both as a recognized social scientist and a former scientific political maker, these lines should be read not only by young researchers who idolize this “creative activity” (115) but also by experimental scientists who are looking for new inspiration. Despite her realism, Nowotny does not give up her trust in science. Beyond the needs for technology and sophisticated algorithms, she proposes to trust science to also better understand a key element of our world: human action. “At this point of its development as a scientific civilization, humanity faces the necessity of bringing together the understanding and control of nature with an equivalent understanding of the social world” (84). With the proficiency and conviction of someone who knows the matter well, Nowotny explains that “[w]hatever resources science and technology have to offer, they are not sufficient if they do not find their way back into the social context” (xiv). Why? Because science and technology can (must?) balance the lack of knowledge about human nature itself. This last must be properly taken into account to better understand the consequences of our own actions. “The pioneering collaborative work of Daniel Kahneman and Amos Tversky is supported by overwhelming experimental evidence and demonstrates the paucity
of human decision making that is called rational” (110). Such a “rationality” explains why for humans “[w]orrying about risks is another way of coping with uncertainty. Unable to face the complexity that surrounds them, people take refuge in what is familiar. These are the risks they know. Worrying about them provides some comfort” (140).

To break this vicious circle, Nowotny proposes that humans should change the way they ask questions. In place of the theological and bottomless “Why?,” they should prefer a concrete “What?” or even a pragmatic “How?” “The switch to asking “what” and, even more challenging, “how” opens more promising avenues” (47). Once opened, these avenues allow an appeal to be made again by the cunning of uncertainty. However, to enjoy these benefits, humans must accept the necessity of investing time and money in research despite systemic skepticism. “Not only are politicians hard to convince to invest in fundamental research whose outcome is highly uncertain as it cannot be predicted. For them, funding short-term projects with economic impact remains the more attractive item on the political agenda” (xi).

For the author (as for me), fundamental research is the unavoidable condition necessary to open these new and large avenues, some of them being highways to much-liked innovation: “Far from being at the opposite end of a polarized spectrum, innovation is much more closely linked to fundamental research than political rhetoric wants the public to believe” (156). But as often happens in our hurried society, one of the main questions is about identifying the temporality to act: “This cunning of uncertainty entails a temporal dimension which, to use Hannah Arendt’s words, brings the future into the present” (75). Nowotny contemplates questions similar to those in Stuart Albert’s book, When, the Art of Perfect Timing (reviewed in KronoScope 17:1): “Embracing uncertainty through timing, knowing when or daring to act at a specific moment in time, is mainly a response to uncertainty that emerges from interactions in the social world” (163). In short, “[t]he cunning of uncertainty pushes further the exploration of what is not as yet known or understood” (107). “One of the greatest challenges is to extend the range of understanding of the unintended consequences of deliberate human action” (170). From quantum enigmas to social challenges, could there be a better cunning for uncertainty?

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