Coping with Knowledge Conditions: A Reply to Reviewers

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Abstract

This reply to the three reviews serves three purposes: it briefly recapitulates the core points of the book, addresses the specific comments raised by the reviewers, and provides general, forward-looking reflections on research in this field. For each comment raised, the responses offer elaborations and extensions, connecting the discussion to broader questions such as knowledge, truth, and the interplay between subjective and objective uncertainty.

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I have read the three reviews submitted to *Sociologica* by Bruce Carruthers (2024), Tobias Werron (2024), and Andy Alaszewski (2024) with great interest and gratitude. The reviews highlight different aspects of my book, reflecting a diverse range of perspectives. Carruthers provides readers with an excellent summary of the book; Werron emphasizes the societal dynamics of uncertainty creation and reduction; and Alaszewski focuses on more practical approaches to managing uncertainty. Together these reviews offer a well-rounded and fair account of my work and I'm confident, based on their reviews, that any reader of the book will be able to engage with its ideas. In what follows, I respond to their comments and outline what I believe are key directions for future research in this area.

I was pleased to read Bruce Carruthers' review (2024), which provides an informative, clear, and systematic assessment of the book's contents. The book seeks to demonstrate that many of the challenges faced by individuals — whether human actors or organizations — often described as issues of risk are, in reality, problems of uncertainty. While much of the existing research has focused on individual solutions to such challenges, my book shifts the focus to the reduction of uncertainty accomplished by many people doing acting more or less jointly, for the benefit of many, hence the emphasis on public solutions. This issue is also acknowledged in Werron's (2024) engaged and interesting review, which shows that there is considerable agreement on many things, but here I focus on the disagreements.

A broader theme, raised particularly by Tobias Werron (2024) and also touched upon by Andy Alaszewski (2024), is societal development and the role of uncertainty. While I don't explore this aspect in detail, I view uncertainty not merely as a problem but as an existential condition and an inherent necessity in social life. It creates opportunities, fosters dynamism, and is a fundamental condition for a vibrant and evolving society.

1 The Role of Uncertainty in Social Life

In the following, I will focus on key points raised by the reviewers. I begin with the fundamental — and almost philosophical — question regarding the role of uncertainty in social life. This issue is touched upon by all three reviewers but is explored most explicitly and in greatest detail by Tobias Werron (2024). I would like to emphasize that uncertainty is not merely something we seek to reduce. In many contexts, such as in the world of sports, uncertainty is actively cultivated. Organizers and spectators often want uncertainty because the excitement and engagement in sports would vanish without it. Similarly, uncertainty is essential in the economy, where it creates opportunities for profit. On a more fundamental level, uncertainty is an existential condition of life itself.

While uncertainty is sometimes desirable and is a necessary aspect of social life, significant effort is often devoted to reducing it. These two tendencies — uncertainty and its reduction — are frequently intertwined. For example, scientific work serves as a primary social vehicle for reducing uncertainty. However, as Helga Nowotny (2016) points out, science not only reduces uncertainty by generating knowledge but simultaneously creates new uncertainties. Each new discovery raises further questions, highlighting gaps in our understanding in light of the knowledge we have just acquired. Although Nowotny's observations refer to scientific knowledge, I argue that this principle applies more broadly: the production of knowledge, in any form, inevitably generates new uncertainties. This interplay between knowledge and uncertainty is a dynamic and integral feature of social life.

The interplay between uncertainty reduction and uncertainty enhancement is evident in many areas. I agree with Werron (2024), who observes that, for example, "rankings create addi-

tional uncertainty" (p. 87). However, the uncertainties that Werron identifies as "additional", based on his own research, arise within the broader framework of general knowledge and the corresponding uncertainty reduction that rankings generate. I thus see that rankings perfectly illustrate what Nowotny suggests.

2   Is the Uncertainty We Face Diminishing?

Werron (2024) also raises the question of how evaluations — or, in practice, any other forms discussed in my book — can reduce uncertainty. He notes that consensual order is not achieved in the process of university rankings and describes "the competitive environment as dynamic and the assessed units as constantly changing in relation to each other, thus suggesting that change is normal and expected" (p. 87). My argument is that rankings, while admittedly erratic and not yet stable, as Werron points out, nonetheless produce knowledge about the world, especially when compared with a situation in which no rankings exist.

By knowledge, I do not mean a Popperian (1963) notion of absolute knowledge or a concept of verisimilitude. Nor do I align with interpretations of Kuhn (1962) that portray knowledge as entirely socially constructed, dependent solely on perspective or identity, thereby reducing it to a completely relative concept. Instead, I adopt a phenomenologically grounded sociology of knowledge perspective, following the tradition of Husserl, Schütz, Berger and Luckmann. From this viewpoint, knowledge is understood in relation to what we know about one another within a social context. For instance, if we understand that all individuals in "our" society share a set of virtues, we not only know what is expected of us but also have a sense of what others will do. Collectively, this shared knowledge enables us to predict outcomes and plan our actions, significantly reducing uncertainty. In contrast, in a society in which such shared understanding is absent — where one does not know what to do or how others will act — uncertainty is considerably higher.

To apply my approach to the case of rankings, I argue that the outcomes of these forms — ranking being one example, as explored in Part II of my book — do not generate "truths" in an absolute sense. Instead, they produce "knowledge" in the sociology of knowledge tradition, which refers to what is publicly accepted by many (though not necessarily by all). Rankings are forms that can become institutionalized only because we collectively orient ourselves toward them and treat them as meaningful (Aspers, 2024, p. 84). But it is the outcomes of rankings — what I refer to as "states of the world", such as a specific list of ranked universities — that reduce uncertainty because we know that others also orient themselves to these results. It is because of this orientation by many that these public "states of the world", generated by ranking organizations and conceptualized as forms, reduce uncertainty. They do not need to be objectively true; what matters is that many people orient themselves toward them. Nevertheless, there is no doubt that rankings have a significant effect. I argue that rankings, along with other outcomes produced by institutionalized forms, play an important role in reducing uncertainty.

I completely agree with the assumption underlying Werron's (2024) rhetorical question, "How can one be sure that the ranking of today will still be valid tomorrow?" (p. 87) — we cannot, of course, be certain. However, for better or worse, the best assumption is that rankings will remain roughly consistent in subsequent iterations. If actors continue to orient themselves to rankings, and especially if rankings stabilize and their number decreases, they may become even more strongly institutionalized, which is one of the main themes of my book. This, in turn, could contribute to ordering the world and increasing predictability.

It is important to note that the institutionalization of rankings does not necessarily lead to better science, education, or happier researchers. Hence, a low level of uncertainty does not necessarily equate to a "good", "efficient", or "productive" society. While these attributes may correlate in specific instances, reduced uncertainty merely indicates a greater capacity for predictability and coordination, not a normative judgment about the society itself. Uncertainty reduction is not about improving outcomes in these ways, it is solely about reducing uncertainty. That said, it is likely that we, as social scientists, will continue to critically examine efforts to impose decisions on others, as rankings exemplify within the framework of forms I describe. Werron (2024) refers to this critique, and I share his perspective. I do not intend to reify forms; the empirical existence and influence of forms are matters for investigation.

Rankings of universities, programs, and individuals are relatively new phenomena. However, the fact that researchers (Ringel et al., 2021; Ringel & Werron, 2020) study them indicates that rankings — and the tangible outcomes they produce — are not only present but also impactful. On this point, I agree with Werron's (2024) observation that "not only are the rankings institutionalized, but so is the criticism of them" (p. 88). If rankings are indeed institutionalized, however, I find it inconsistent to suggest that their future is highly uncertain. In my view, once institutionalized, rankings gain a certain stability, making their general structure and influence more predictable over time. It should be clear that, when there is a multitude of rankings, none of these "attempts" gains sufficient public recognition. This "inflation" of competing propositions prevents the establishment of a shared understanding or common ground — no clear "states of the world" emerge. In such a scenario, uncertainty prevails because the forms fail to become institutionalized. In this light, and when compared with their complete absence, forms — often interacting with informal and sometimes even formal institutions — tend to reduce uncertainty for actors. Even when imperfect or contested, these forms provide some structure and orientation in an otherwise chaotic environment. Still, I think Werron's research is valid, and also his conclusion that it may appear uncertain to us as academics, not least because we may also be subject to decisions based on these rankings.

3   The Public

Werron (2024) raises the notion of the public, which I see as a crucial condition for transforming "private problems" into "public solutions". In other words, my focus is on reducing uncertainty in ways that extend beyond individual efforts — something widely discussed, for instance, in management research. While I agree with much of Werron's perspective, I struggle with his assertion that "public knowledge is subject to constant change" (p. 88).

My argument, firmly rooted in phenomenology and also stressed by economists (Williamson, 2000), is that both informal institutions and, frequently, formal ones — consider long-standing laws that remain largely unchanged for decades — tend to evolve slowly. In fact, the pace of change can be so gradual that it is almost imperceptible to a single generation. The idea of "constant change" implies some underlying stability; without it, we are left with chaos rather than something we can meaningfully identify as "changing". Put differently, if everything is in a state of "constant change", the term loses its meaning. Change becomes intelligible only when contrasted with a stable framework or order. This is not to deny that one can view the maintenance of the public as a process in which communication obviously is of great importance. Still, such processes nonetheless require a foundation that is more or less taken for granted; not everything can be questioned at the same time.

4   Has Uncertainty Diminished?

Another important point raised by Werron (2024) concerns the extent to which uncertainty, viewed more objectively, has been reduced over time. I agree that my sociology of knowledge-based concept of "states of the world" inherently assumes the coexistence of both certainty and uncertainty. Furthermore, I concur that any claim about the "absolute" level of uncertainty reduction over time must inevitably be made from a particular interpretive standpoint, shaped by the knowledge available to us at the present moment (Gadamer, 1988). Any knowledge base we rely on is open to revision, both theoretically and practically. The essence of science lies not in rigid falsification or verification but in proposing, revising, and resubmitting ideas. While I am neither convinced of nor a believer in an independently existing world against which we can objectively measure and validate our propositions, I see no better alternative than to continue the scientific endeavor that at least implicitly holds that our knowledge and certainty about the world have increased.

However, does this pursuit of knowledge reduce uncertainty in an "objective" sense, or does it instead amplify it? It's easy to identify scientific advancements that have introduced new uncertainties. For instance, nuclear power, which provides both electricity and the potential for devastating weaponry, exemplifies this duality. Yet, it remains unclear whether, on balance, such developments lead to greater overall uncertainty. Moreover, assessing "all things considered" is an exceptionally complex task, given the countless contingencies at play.

I believe my argument — one to which most academics likely subscribe — that science indeed enables progress in knowledge becomes clearer when we consider it from the opposite perspective. Werron (2024) seems to suggest that we should remain ambivalent about "modern science when it comes the reduction or production of uncertainty" (p. 89). In contrast, I align with Nowotny and many others who argue that while certainty (as we define it) can reduce uncertainty, it simultaneously generates new uncertainties — a view Werron also explicitly supports.

Despite this duality of knowledge production, science has been institutionalized as the primary pathway to achieving certainty, albeit provisional and subject to organized skepticism. To argue against science, relativize knowledge, and adopt complete ambivalence toward different types of knowledge is to undermine the entire scientific endeavor. This position effectively places a question mark over all scientific work. Rhetorically, one might ask: is it better to limit our efforts to learning and understanding, resigning ourselves to knowing less? I suspect few would answer in the affirmative. A further complication in any discussion of "comparison" is that there is fundamentally "no way back" to the pristine state of not knowing. We cannot pretend to unknow what we have already come to know. Once we are aware of uncertainties, along with ways of reducing or exacerbating them, this awareness becomes integral to how we interpret both our epistemological and existential conditions.

I remain skeptical of and do not advocate for scientism, but neither do I support abandoning our principles and methods for establishing knowledge as a process of mutual adjustment in the public sphere. At the conclusion of my book, I defend an "antifoundationalist pragmatist treatment of knowledge" that emphasizes its public foundation (Aspers, 2024, pp. 159–160). I am deeply concerned about tendencies to completely relativize knowledge, leading to fragmented subfields or sects with entirely divergent ideas about certainty.

At the same time, Werron's (2024) critical reflections on how we perceive uncertainty — and our inability to determine whether we are better off today in terms of uncertainty than our predecessors — are particularly relevant. I fully acknowledge this challenge and argue that

"subjective uncertainty is an existential constant" (Aspers, 2024, p. 152), even if this claim is not empirically grounded. It is plausible that the subjective uncertainty experienced by individuals in earlier societies was lower than in our contemporary context. This raises the possibility that the mechanisms of uncertainty reduction, as referenced by Alaszewski (2024) and also Werron (2024), may have been more effective than their modern counterparts. That said, these mechanisms must also be contextualized and relativized. A critical issue today is the rise of sectarian tendencies — amplified by the internet — in which individuals create bubbles, echo chambers, or even sect-like groups. In a way this is to reduce uncertainty for the individual by escaping reality as whole and hiding in a hole. While these environments may offer "effective" solutions to reduce uncertainty for individuals, they fail to meet the essential condition of being public in the way I define. This condition, I argue, is crucial for a modern and differentiated society but was not as relevant in the more insular context of a clan-based society. Such fragmentation inherently generates more uncertainty. This is why the solutions to reducing uncertainty on which I focus, in my view, are collective and public rather than individual or sectarian.

5   Informal and Formal Institutions

Carruthers (2024) raises a critical issue regarding the interplay between informal and formal institutions, a long-standing theme in moral philosophy and one that Durkheim also explored. Carruthers rightly observes that I do not fully describe how informal institutions serve as the foundation of social life, nor do I elaborate on the processes through which informal institutions might be codified into formal ones. My perspective on this is as follows: Informal institutions — encompassing practices, virtues, norms, and values — are not merely "objects" external to us; they are integral to our very being. Ontologically, they constitute who we are. While their specific empirical manifestations vary, reflecting cultural differences, they remain inescapable aspects of our existence. Indeed, we are often only partially aware of these informal institutions, which deeply shape both our individual and our collective lives.

While informal institutions vary across different settings, I argue that they form a foundational part of human existence. Over time, and without implying a teleological progression, most societies have formalized some of these informal institutions. However, formalization is not always consensual. In democracies, for instance, decisions have sometimes been implemented against the majority's will but later come to be accepted. The division of Germany offers a yet another striking example of the long-lasting repercussion of institutional change: East and West Germany were governed by two radically different formal institutional systems for nearly 45 years, a non-cultural division with repercussions that remain discernible today.

Carruthers (2024) raises another important question about the relationship between informal and formal institutions:

> If knowledge generally reduces uncertainty, what to make of "informal" or "tacit" knowledge? Does it create certainty in the same way as formal knowledge? What might it mean to codify such knowledge and turn it into formal knowledge? (p. 79).

Informal institutions are a central theme in my work, and I agree with Carruthers (2024) on the significance of this issue. From the perspective of uncertainty reduction, the existence of *some* order is the fundamental condition of reducing uncertainty. Most formalized systems are structured to create predictability and reduce uncertainty, at least until they break down. I

define these as "the result of decisions for others about principles supported by explicitly stated and enforceable sanctions, which lead to predictable behavior" (Aspers, 2024, p. 47). For example, the communist bloc maintained order through formal institutions that regulated behavior. However, when the system collapsed, gaps between formal institutions and practices, norms, values, and sentiments — the informal institutions — became starkly apparent. This underscores a classic Durkheimian insight: formal institutions can sustain order in the long run only if they broadly align with existing informal institutions.

Changes between formal and informal institutions can occur in either direction. For example, as Alaszewski (2024) notes, campaigns during the COVID-19 pandemic aimed to influence behavior without necessarily imposing formal rules. These efforts to effect change must be understood in the context of the informal institutions already embedded within the population targeted by these campaigns.

6 Managing Uncertainty

Management, referring to ways in which actors try to control the things and people around them — for example, inside or outside organizations — is central. The literature, especially the business literature, focuses on how leaders of organizations or organizations as units, manage uncertainty, but there is less focus on public solutions. The role of mutual adjustment leading to less uncertainty is also somewhat neglected. Alaszewski (2024), in his analysis, explores how uncertainty has been addressed and critiques my position, suggesting that I advocate the view that "uncertainty is a universal human challenge that can be addressed through systems of mutual adjustments" (p. 93). However, I must clarify that this is not the position I defend. The preface of my book makes it clear: "This book analyses means of uncertainty reduction based on one key idea: to analyze the making of order as a result of either mutual adjustment or decisions made for others" (Aspers, 2024, p. VII). Throughout the book, I explicitly address various ways of reducing uncertainty that are not rooted in mutual adjustment, beginning with the most obvious: laws. Laws, as well as regulations, are formal institutions. That said, I also dedicate significant attention to the numerous ways of reducing uncertainty through mutual adjustments, informal institutions being one notable example.

While Alaszewski (2024) focuses more on the *management* of uncertainty, my emphasis is on systems of uncertainty reduction that are publicly produced and available for individuals seeking to manage uncertainty. In this sense, my work lays the foundation for understanding how uncertainty can be managed. That said, I agree with Alaszewski that managing uncertainty — whether through coping strategies or other approaches — is a critical and pressing issue. It is also worth noting Ian Scoones' recent book (2024), mentioned by Werron (2024) and published just a few months after mine, which shares many of my ideas but focuses more explicitly on managerial approaches to uncertainty, similar to Alaszewski's focus. However, this literature rarely touches on the aspects I study in my work. In this way I see how my research complements existing research.

7 What Lies Ahead?

A key point raised by Carruthers (2024) concerns the relationship between informal and formal institutions — a topic I plan to explore in greater detail in future research. While this issue is central to the research program of new institutional theory, it has often been addressed with

varying degrees of precision and success (Alvesson & Spicer, 2018). I believe it is essential to maintain an analytical distinction between informal and formal institutions, given their differing rates of change, phenomenologies, and processes of transformation — topics I address in the book and which have been observed by others (Williamson, 2000). However, further research is needed to better understand their interrelations.

Carruthers (2024) also highlights an important, though secondary theme in my book: the fact that uncertainty reduction is not inherently good or bad. Werron (2024) similarly addresses the creation and significance of uncertainty. While my book's primary focus is the reduction of uncertainty, the necessity and value of uncertainty itself are touched upon only briefly. To investigate these relations between uncertainty and other social outcomes, such as social well-being, innovation and profit, are concerns for the future. Carruthers also raises the classic sociology seminar question: "what about power?". I agree that I have not focused on power, but it is implicitly present in the analysis. The two main ways of accounting for social processes on which I draw in the book, mutual adjustment and decisions for others, reflect this. Processes of mutual adjustment mean, typically, that no single actor has enough power to make all calls, though some actors in the field may have more power than others. Attempts to decide for others sheds more direct light on power; either such an attempt is backed up with power to implement the decision, or it is not (ideal-typically). So though I agree that more can and should be done, at least some steps are taken to prepare for that analysis theoretically.

Moving forward, I plan to conduct a systematic analysis of how actors navigate different knowledge conditions across various life spheres. This would include a deeper exploration of uncertainty and its relationship to other knowledge conditions — such as risk, ambiguity, and certainty — in diverse contexts such as business, sports, religion, and, importantly, science. Such a project would need to account not only for these knowledge conditions but also for the differing interests of actors, some of whom may aim to reduce uncertainty while others may seek to amplify it. For instance, in sports, event organizers often thrive on heightened uncertainty, whereas athletes may strive to reduce it through preparation and strategy.

Another crucial aspect for future study is the existential dimension of uncertainty. If one knows nothing, there is little reason to feel regret or responsibility. Uncertainty, after all, is defined as the absence of certainty, and to be certain is to know. Responsibility for actions typically presupposes knowledge, which is why children, especially very young ones, are held to lower standards of accountability. To borrow Donald Rumsfeld's phrase, "unknown unknowns" — what we don't know we don't know — relieve one of the burden of responsibility. This raises important questions about individuals in a knowledge society, in which much is known, much is expected to be known, and yet failure remains a reality. Is failure then purely a matter of personal accountability, or does it reflect broader systemic issues? These questions merit closer examination as we consider the interplay between knowledge, uncertainty, and societal expectations.

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