

1 Introduction

Approaches to uncertainty in global politics

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From the collapse of the Soviet Union to the 1997 and 2008 financial crises to the Arab Uprisings and the European migrant crisis and most recently the COVID-19 pandemic and the 2022 Russian invasion of Ukraine, assessments of many events with lasting consequences on the global order have begun with: why didn't we see this coming? 'The end of the Cold War,' John Lewis Gaddis (1992/93: 6) famously states, 'was of such importance that no approach to the study of international relations claiming both foresight and competence should have failed to see it coming.' Timur Kuran (1991: 7) vividly captures the events:

'Our jaws cannot drop any lower,' exclaimed Radio Free Europe one day in late 1989. It was commenting on the electrifying collapse of Eastern Europe's communist regimes. The political landscape of the entire region changed suddenly, astonishing even the most seasoned political observers. In a matter of weeks entrenched leaders were overthrown, the communist monopoly on power was abrogated in one country after another, and persecuted critics of the communist system were catapulted into high office.

International relations (IR) theory was afflicted with what Benjamin J. Cohen (2009: 437) calls 'a grave case of myopia.' So was international political economy (IPE) in the lead up to the 2008 financial crisis and other expert communities observing the wave of protests demanding political change across the Middle East and the COVID-19 pandemic that unfolded with extraordinary speed and magnitude. 'The economic and financial turmoil engulfing the world marks the first crisis of the current era of globalization,' Jean Pisani-Ferry and Indhira Santos (2009: 8) write of the 2008 financial crisis. Kurt Weyland (2012: 917) similarly characterizes observers' surprise over the Arab Uprisings: 'With its tremendous speed and sweeping scope, the wave of protests and uprisings triggered by the demise of Tunisia's authoritarian regime in January 2011 stunned observers across the globe and scared nondemocratic governments in countries nearby, such as sub-Saharan Africa, and far away.' In 2020, reflecting on the outbreak of the COVID-19 pandemic in 2020, Fed Chairman Jerome Powell aptly summarized the level of uncertainty in his May 21st speech: 'We are now experiencing a whole new level of uncertainty, as questions only the virus can answer complicate the outlook' (see Dave Altig et al. 2020: 1). Samuel Greene (quoted in Peterson 2022) likewise recounts misprediction of the Russian invasion of Ukraine in 2022:

‘There’d be risks in terms of Russian domestic public opinion, which, at least up until now did not look like it was behind the war. It still doesn’t look like it’s really all that interested in the war. There are risks in terms of the war itself, because wars are unpredictable. So with all of those things in mind, plus of course, sanctions and the impact that has on ordinary citizens and on the elite, on whose behalf Putin rules, it just didn’t look like these were risks that would be worth taking. It wasn’t clear what he would get out of it that would be better than what he was already getting out of confrontation without a war.’

What these transformative events have in common is the sheer uncertainty in which they embroil ordinary people living through and participating in these events, policymakers and practitioners within and outside of the state adapting to change, academics grappling with the underlying processes and making predictions of the future, and a range of other actors experiencing the repercussions both directly and indirectly. Uncertainty, however, not only accompanies the events transformative of the global order, such as the collapse of the Soviet Union, but also shapes “normal” politics and everyday life, affecting individual, group, and state choices, decisions, and relationships, recalibrating near- and long-term beliefs and preferences, and triggering a range of responses and emotions. In short, uncertainty permeates every aspect of social activity in profound – and different – ways. As new shocks to human and environmental systems ripple through in unexpected directions and scales, there is much to learn from how phenomena that affect the global order, “normal” politics, and everyday life generate uncertainty and what effects such uncertainty can have on actors and issues of global importance.

The purpose of this volume is to engage scholars in a constructive and practically oriented debate on the nature and effects of uncertainty in global politics. Our underlying questions are: How do we best study, understand, and address political phenomena that are uncertain? Specifically, how do we define and theorize uncertainty in global politics? What can we learn from studying uncertainty in its various forms and how can we use this knowledge to our advantage in individual planning, policy-making, and global problem-solving? Scholars of global politics have widely used the term “uncertainty” but have devoted relatively little attention to examining what uncertainty is, how we can (and should) approach it, and how its different forms affect political actors’ identities, interests, and behaviors in distinct ways. To fill this lacuna, the chapters in this volume present a systematic analysis of the concept of uncertainty in global politics as it manifests itself in various issue areas, with possible practical implications in policy and elsewhere.

In this chapter, we tackle analytical confusion that exists in research on global politics over the meaning of uncertainty and the relationship between this concept and such associated terms as risk, complexity, and ambiguity. The prevailing IR traditions understand uncertainty differently – as a lack of information (rationalism), lack of shared meaning (constructivism), too much information (institutionalism), or multiplicity of interpretations that stem from the frames of reference that are dominant at a particular point in time (critical approaches).¹ In sorting through and presenting these different views of uncertainty in global politics, we reveal the

stories that IR scholars tell about the risky, uncertain, complex, and ambiguous world. We build on these stories to conceptualize uncertainty in IR further – by creating a typology of forms that uncertainty may take in global politics. We maintain that uncertainty can be experienced not only in relation to future outcomes and possibilities (Best 2008: 355) but also in the midst of ongoing events, which themselves may be uncertain. Uncertainty, therefore, relates to experiences and the phenomenon of uncertainty underlying these experiences as well as to our attempts to theorize and analyze them.

Starting from the argument that there are not one but many forms of uncertainty, the chapters in this volume explore the processes associated with different forms of uncertainty in the context of pressing contemporary challenges in global politics, covering topics linked to conflict and security, domestic politics, foreign policy, international law, environmental issues, pandemic governance, potential and possible future problems that we currently have a limited grasp of, and knowledge production itself.

What is uncertainty in global politics?

While uncertainty is by no means an understudied topic, there is a surprising lack of broader conceptual engagement and attempts for systematic analysis of what uncertainty *is* and what it *does* in global politics. Scholars have studied the role of uncertainty in state decisions and policies about security of critical infrastructure (Slann 2015); nuclear power (Kessides 2010); renewable energy sources (Alafita and Pearce 2014; Purkus et al. 2015); climate change impacts and communication (Ho et al. 2016; Koning et al. 2013; Meah 2019; Stern 2008); disease spread and new diseases (Fogarty et al. 2011; Gosling et al. 2012); migration and border security (Del Sarto and Steindler 2015); scientific and technological progress (Weiss 2015); trade negotiations (Oye 2005); private investment (Feng 2001); exchange rates (Leblang 2003); diplomatic relations (Easley 2017); and institutions and governance processes (Ovodenko and Keohane 2012; Van Bueren et al. 2003). These types of studies frequently focus on the uncertainty of some inherent environmental or social processes of global significance. They are often empirical studies that crucially lack a shared understanding (and discussions) of the concept of uncertainty.²

The discussion at the core of this chapter is not meant to be an exhaustive coverage of different understandings of the term “uncertainty” in the study of global politics. Rather, we present the profoundly different ways in which the term has been understood and how our view here builds on and departs from these diverse understandings of uncertainty. In this section we maintain that to understand what uncertainty means in global politics, we need to first position it in relation to the related but analytically distinct concepts of risk, complexity, and ambiguity.

Risk: A lack of information

In IR research, confusion has abounded particularly over the relationship between uncertainty and risk, with the distinction between the two frequently blurred. Much

scholarship in IR has assumed that actors have knowledge of the risks involved in their activities, even in sudden and unexpected events, such as the outbreak of war (Shesterinina 2021). Rationalist theories posit that we live in a world of **calculable risk** and actors make their decisions weighing the costs and benefits of different actions in the context of the specific risks that they face and are able to assess to a greater or lesser extent. As Rathbun (2007: 542) puts it, ‘decision makers are not completely certain of the situation they face, but have enough information based on prior experience to attribute probabilities,’ where information is understood as objective and actors are theorized to evaluate it as such. Uncertainty in this worldview entails *a lack of information*. Hence, as (credible) information becomes available, actors update their assessments of the relative probabilities of outcomes associated with different courses of action and behave accordingly, arriving at the same conclusions given identical information. Information updating constitutes learning from this perspective and helps actors make more effective decisions by improving their understanding of the world.

Rationalist explanations of war illustrate this view of uncertainty. Scholars like Fearon (1995), Fey and Ramsay (2011), Kaplow and Gartzke (2021), Morrow (1989), Reed (2003), Spaniel and Malone (2019), or Trager (2010) see uncertainty as insufficient information over states’ capabilities, resolve, or intentions, focusing on information asymmetries, information concealment, or diplomatic signals.³ James D. Fearon (1995), for example, understands uncertainty as a lack of information about the opponent’s military capabilities and willingness to fight. This type of information is something that rational leaders require to make probability calculations about the outcomes of one course of action versus another, but it is difficult to attain because actors have incentives to hide or misrepresent such information and to renege on their commitments. Others view uncertainty primarily as missing or incomplete information about states’ intentions. For example, the logic of the security dilemma and spiral models relies on the assumption of a perpetual state of uncertainty in which states exist due to international anarchy. In an anarchic world, states’ intentions are hardly knowable and even if known, they are not to be trusted. A solution to this uncertainty is to acquire more information through some form of communication of state intentions (e.g., Jervis 1978; Kydd 1997).

Uncertainty: A lack of shared meaning

This view of uncertainty as a lack of information in a world of calculable risk has fallen under criticism. For example, in their elaboration of the notion of “protean power” – a creative power that operates in a world of **incalculable uncertainty** rather than of calculable risk, where “control power” instead prevails – Peter J. Katzenstein and Lucia A. Seybert (2018) challenge the assumptions underlying the rationalist framework as limited in capturing the ways in which uncertainty manifests itself in global politics. First, that actors should arrive at the same conclusions given identical information appears to be implausible when they are locked in a deadly conflict or in other situations with high stakes, as in trade negotiations, for example. Second, misperceptions and other cognitive limitations may prevent

the emergence of updated expectations regardless of the amount of information presented to actors (see the discussion of complexity below). Finally, there might simply not be enough instances to identify inferior causal models of the world that would help actors make more effective decisions when it comes to rare events, such as wars, regime change, financial crises, or pandemics.⁴

Uncertainty, in this view, arises from different understandings of the world and leads to deviations from risk-based models advanced in the rationalist framework (Scoones and Stirling 2020). Like Katzenstein and Seybert, others have also argued that causal models that are based on probabilities derived from past events can hardly help actors make effective decisions (Brigden 2015; Dumaine and Mintzer 2015; Matejova and Briggs 2021). Furthermore, actors' interpretation of any information – and thus uncertainty – may differ based on their different understandings of the world (Cooper and Pratten 2015; Scoones and Stirling 2020). These different understandings in the constructivist tradition of IR are not shaped by new information but by actors' shared identities and norms, which change over time. Information in this worldview is not objective, but nor is actors' perception of this information merely subjective; instead, it is intersubjective (Finnemore and Sikkink 2001; Hopf 1998; Neufeld 1995). In other words, information has no meaning in and of itself and this meaning is socially constructed in the process of actors' interaction with one another in a particular social context (Checkel 2001; Finnemore and Sikkink 1998; Price 1997; Ruggie 1982). The meaning that actors attribute to any given event may, as a result, vary and actors may arrive at different conclusions equipped with the same information, and differently so at different points in time. Uncertainty from this perspective entails *a lack of shared meaning* absent shared identities and norms that underpin social contexts in which actors interact.⁵

Complexity: Too much information

This notion of uncertainty is different from the related but distinct analytical construct of complexity. In a world of complexity, the problem is 'one of *too much information*, not too little,' and the volume of information, which is exacerbated by the ever-expanding number of interdependent actors, problems, and tasks that decisionmakers have to perform, prevents decisionmakers from fully comprehending any given situation and identifying readily available and appropriate means of addressing it (Rathbun 2007: 546, emphasis added; Haas 1980). Such complex contexts create 'uncertainties, for example about the current state of affairs, the relevant set of decision alternatives, the reactions of other governance actors or the future developments likely to affect the issue under consideration' (Dewulf and Biesbroek 2018: 442). Actors, therefore, use cognitive shortcuts and heuristics, including belief systems and associated biases, to screen and cope with the otherwise unmanageable amount of information (Pidgeon et al. 2003). Here, as in the rationalist framework, information is objective and actors are theorized to evaluate it as such, but the dynamics of learning are different and lead to different outcomes due to the underlying assumption of bounded rationality.

Arriving at the same conclusions even with identical information is not possible in the world of complexity because of the sheer amount of information that decisionmakers face and the different cognitive shortcuts that they use to cope with this information (Yarhi-Milo 2013). While actors process new information through their existing cognitive shortcuts, they can nonetheless learn, for example, from their own experiences and historical lessons (Jervis 1976: 220). It is, however, not information that actors seek, but rather expertise, frameworks, and institutions that could help them synthesize the already existing and overwhelming information (Haas 1992; Moravcsik 1999). In this way, the world of complexity, embraced particularly in institutionalist approaches, differs from the purely rationalist alternative. It also differs from its constructivist counterpart. The problem here is not one of a lack of shared meaning absent shared identities and norms but lack of understanding and actors' attempts to grasp, to the best of their abilities, their objective reality.

Ambiguity: A multiplicity of interpretations

The different notions of uncertainty as *a lack of information* and *a lack of meaning* and complexity as *too much information* also differ from ambiguity, which centers on knowledge production and its implications. The notion of ambiguity plays a central role in critical scholarship, which views concepts like risk and uncertainty as ideas or constructs that help us understand how 'unknowns have come to be represented and governed' (Best 2008: 360). From this perspective, the notion of risk has helped define the world in calculable ways, whereas uncertainty in incalculable ways, but both have been oriented toward what the future might hold, with "risk" offering 'a vision of the future as subject to probabilistic analysis,' whereas "uncertainty" offering 'a vision of the future as so fundamentally and radically indeterminate as to preclude such an analysis' (Reddy 1996: 222).

In a world of ambiguity, it is the present, and particularly present knowledge, that should be problematized and historicized. The intersubjective nature of this knowledge entails *a multiplicity of interpretations* that shape the meanings and practices attributed to any given issue (Ashley and Walker 1990; Larner and Walters 2004). Here, interpretation of the very terms such as risk and uncertainty affects how we understand and act on situations defined in these terms, conferring authority on certain frames of reference and establishing the boundaries of what is legitimate (Campbell 1992; Wedeen 1999). In other words, knowledge production itself is what makes some situations perceived as risky and uncertain and shapes how actors respond to them – often in short-sighted but also strategic ways based on current dominant frames of reference. Peter Katzenstein (2022: 4) amalgamates these frames of reference into the broader notion of 'worldviews,' which 'differ in the salience they assign to risk and uncertainty.' Uncertainty as ambiguity, thus, comes from the process of knowledge production that underlies political actors' attempts to control and manage reality, including by naming and defining it.

Sources of uncertainty

Where does uncertainty come from? The different views of uncertainty as a lack of information, too much information, a lack of shared meaning absent shared identities and norms, and a multiplicity of interpretations point to a variety of possible origins of uncertainty in global politics. At the most basic level, we can differentiate between *external* – natural and physical – sources of uncertainty that are beyond human control and *human* sources of uncertainty that result from actors' behavior. These ideal types are often intertwined as, for example, Kelman (in this volume) demonstrates in the case of disaster diplomacy. Both ideal typical sources can structure the uncertain environments in which actors operate as well as trigger particular moments of uncertainty. For example, the features of electoral autocracies underlie the general fragility of these regimes, but the agency of regime challengers and voters can trigger and intensify uncertainty around particular instances of elections in these contexts (see Bedford in this volume).

Biophysical and social interlinkages generate uncertainty due to their complexity and/or our limitations – we either do not yet know enough or can never know enough about these interlinkages as they manifest in the world (de Marchi et al. 1996; Gustafson and Rice 2019; Zehr 2000). These sources of uncertainty are, therefore, linked to either dearth or wealth of information, such as a lack of information surrounding a novel health crisis or overwhelming information in case of a complex environmental disaster with cascading impacts. They are also associated with a lack of shared meaning absent shared identities and norms that could guide actors' different, even if limited, understandings of associated phenomena or their multiple interpretations. In either case, the result of uncertainty that is produced by external sources is significant difficulty for actors to assess a situation, make predictions, or take action (Marris 2005).

Human activities too generate uncertainty. Two common sources of uncertainty are private information, which actors can withhold or misrepresent to their advantage, and errors from misperceptions that are due to actors' bounded rationality (Bas 2012; Signorino 2003). Related to these sources are actors' capabilities and their distribution as well as the strategic environment in which actors operate (Bas et al. 2017; Bas and Schub 2017; Kaplow and Gartzke 2021). Other activities include framing strategies of different political actors (Boettcher 2004; Entman 1993; McDermott et al. 2002). These actors can directly frame an event as uncertain with carefully chosen words, therefore using uncertainty as a rhetorical strategy, or increase uncertainty through actions like cover-ups and reinterpretation (Bailey et al. 2014). Government agencies, for example, may withhold information for bureaucratic reasons or delay the release of information for fear of legal action (de Marchi et al. 1996). They can censor, destroy, or refuse to collect relevant data (Martin 2007). Both Matchett and Prem (in this volume) discuss this type of uncertainty making.

Disagreement among actors – be it scientists, politicians, journalists, or the public – may also create uncertainty (Boykoff and Boykoff 2004; Gustafson and Rice 2019; Rice et al. 2018). Governments may use the conflicting accounts that

emerge, especially in the current ‘oversaturated high-speed information environment,’ to raise doubts about their opposition (Wedeen 2018: 79). Various withholding, misrepresenting, framing, or fabricating information are all activities that produce environments of lacking or overwhelming information. These activities can be shaped not only by strategic considerations but also by the meanings that actors attribute to associated phenomena given their identities and norms as well as interpretations of these phenomena that dominate the discourse.

The different views of uncertainty that we discussed above thus need to be applied, analyzed, and tested on a case-by-case basis. What these views provide are coexisting sets of assumptions, explanations, and general lenses – or stories that scholars of global politics tell about uncertainty. These stories can be a useful tool for studying, understanding, and addressing uncertainty as chapters in this volume demonstrate in a variety of contexts.

Forms of uncertainty

We draw on these stories to argue that at its core both external and human-generated uncertainty is about the limits of our knowledge and understanding of the past, present, and future in any given domain, be it everyday life, “normal” politics, or unexpected events transformative of global order. These limits entail a multiplicity of meaning that actors may generate in a particular context, regardless of whether there is or appears to be too little, too much information, or both and whether this information is understood and theorized as objective, subjective, or intersubjective. We agree that in some contexts a dearth of information may prompt actors to seek further or better information to make their decisions, whereas in others there may be too much information for actors to process in ways that are familiar to them, and yet in others, some elements of the problem may be in the dark while others are more readily available. The social world brings a variation on the axis of information that we need to grapple with analytically.

In world politics, multiple, qualitatively different forms of uncertainty exist that pose distinct challenges and affect actors in diverse ways. The different IR views of uncertainty that we outlined above help us pinpoint some of these distinctions. These existing stories, however, do not capture the extent of uncertainties that various actors face in global politics.

Rationalist and institutionalist perspectives tend to focus on the uncertainty of future outcomes, such as conflict outcomes, rather than the experience of uncertainty in the midst of conflict, for example (e.g., Bas and Schub 2016). These scholars also tend to be interested in existing and recurring problems, such as war, without paying much attention to issues that appear to be on the periphery – issues that are gradually developing in the present, for instance, in the environmental domain, that might become problems of global significance in the future.

Constructivist and critical approaches to uncertainty offer alternative stories, paying more attention to knowledge production. Yet, like rationalists and

institutionalists, both constructivist and critical scholars focus less on uncertainty that emerges in the process of knowledge production itself – through limitations that uncertain settings create for researchers, for instance (see Noakes in this volume). The uncertainty that researchers experience shapes their identities and attitudes as well as research findings.

Crucially, it is not only researchers or decisionmakers who must grapple with uncertainty in the political world. The prevailing perspectives on uncertainty in global politics fail to recognize the diverse ways in which a range of different political actors experience uncertainty. In IR scholarship much focus has been on decisionmakers and knowledge producers, overlooking the experiences (and influence) of ordinary people who live through uncertain, transformative events, from wars to regime changes to pandemics.

We approach uncertainty in global politics from two angles: by focusing on the various issues that may be perceived as uncertain in global politics, and by examining the ways in which different actors experience these uncertain issues. We identify six different forms that uncertainty may take in global politics (Table 1.1).⁶ At the aggregate level, we divide these forms into two categories: **epistemic** and **ontological** uncertainty.

Table 1.1 Forms of uncertainty.

| <i>Form</i> | | <i>Author</i> | <i>Example</i> | <i>Source</i> |
|--------------------|-----------------------------|----------------------------------|--|----------------|
| Epistemic | <i>Practical</i> | Noakes | Practicalities of fieldwork | Human |
| | <i>Analytical</i> | Krystalli, Tripathi, and Hunfeld | Academic practice | Human |
| | | Hasenkamp | Science–policy interfaces in pandemic governance | External/human |
| Ontological | <i>Inherent</i> | Bedford | Elections in autocratic regimes | Human |
| | <i>Routine</i> | Kelman | Disasters | External/human |
| | | Matchett | State armament | Human |
| | <i>Extreme</i> | Yüksel | International law | Human |
| | | Driscoll and Savelyeva | War | Human |
| | | Swedlund | Unconstitutional regime change | Human |
| | | Moore and Orchard | Sea-level rise induced migration | External/human |
| | <i>Potential / possible</i> | Elliott | Climate change | External/human |
| Bower | | Orbital space technologies | External/human | |
| | Prem | Emerging weapons systems | Human | |

Epistemic uncertainty

Epistemic uncertainty is linked to knowledge production, which is in part addressed by constructivist and critical IR scholars. In our view, however, epistemic uncertainty is also about practical challenges of producing knowledge, whether it is the uncertain circumstances of knowledge production or academic practice more broadly. Specifically, we understand epistemic uncertainty as practical and analytical.⁷

Epistemic **practical uncertainty** refers to the practicalities of conducting academic research – collecting data in conditions that can change unpredictably, for instance, through regime change or tightening authoritarian controls, whereby data collection that may be feasible and ethical at one point in time may no longer be at another (Parkinson and Wood 2015), or generally grappling with the challenge of data availability and data quality (Herrera and Kapur 2007). A vivid example is the Arab Uprisings, which transformed with whom and under what conditions of anonymity and confidentiality researchers could speak and whether researchers could be present in those areas over time. Atef Said (2018) reveals how doing research on the revolution in Egypt, for example, changed in the aftermath of the uprising, especially with regard to interview subjects who were targeted as a result of their activism as well as due to the increasing possibility of being targeted for doing research.

Epistemic **analytical uncertainty** is about broader academic practice; it links to scholarly dissemination of knowledge through pedagogy, public engagement, or the policy–science interface in state or global governance. Nigel Gould-Davies (2017: 446) captures some questions underlying this form of uncertainty: ‘Why do we want to know the future? Who tries to do so? How well can it be done?’ We add to these questions: How do we shape uncertainty by seeing and talking about world politics in particular ways? Interpreting the world through a risk-based, Newtonian lens that rejects uncertainty in favor of risk management, for example, instills the belief in the possibility of control among agents in world politics where such control may not be possible or even desirable (Katzenstein 2022). The mechanical foundations of balance of power theories, for instance, prevented many IR scholars from envisioning the possibility of the Soviet Union collapse, with implications for how policymakers operated at the time.

Ontological uncertainty

Ontological uncertainty is not about analyzing and understanding but rather experiencing uncertainty as an empirical phenomenon. Rationalist, constructivist, and institutionalist scholars tend to work with this category. It refers to the multitude of different ways in which political actors live *with* and *through* uncertainty in specific settings. We identify four categories of ontological uncertainty: inherent, routine, extreme, and potential/possible.

Inherent uncertainty stems from the characteristics of environmental and social systems where at least some elements of these systems are external to human knowledge and control. Inherent uncertainty can have natural or physical origins,

such as the timing of disasters from natural hazards like earthquakes (Kelman 2020). It can also stem from human behavior and specific political systems, such as uncertainty surrounding elections in multiparty systems (Bauer et al. 2022).

Prediction mechanisms have been developed and perfected for both environmental and social forecasting. For example, Peter K. Enns and Julius Lagodny (2021) used thousands of simulations to predict the 2020 US Electoral College winner with great precision. However, uncertainty inherent in environmental and social systems, especially the latter, in general, prevents precise forecasting (e.g., Hong 2022). As John Kay and Mervyn King (2000: 35–36) explain in relation to the 2008 financial crisis, while NASA could predict the path of MESSENGER to Mercury because the solar system does not change in response to human interaction, the economic system changes over time, including in response to our expectations about it. Had the collapse of Lehman Brothers been predicted, it would not have happened at the time and in the way that it did because steps would have been taken to at least minimize that possibility. This does not mean that political actors always take steps to minimize risk when outcomes, such as earthquakes and election victories, are forecasted even with the greatest precision available. Ilan Kelman (2020: 8), for example, shows that little was done to prepare for the Haitian earthquake of 2010 even though knowledge of seismicity, including a historical precedent, existed.

Unlike inherent uncertainty, which we struggle to influence due to various structural limitations, **routine uncertainty** is part of everyday politics. It is common, pervasive, and tolerated as an inevitable condition of sociopolitical existence. It can be found, for example, in mundane processes of interpretation of national or international law or in regular state armament decisions. In contrast to the occurrence of earthquakes or electoral outcomes whose uncertainty stems from inherent characteristics of environmental and social systems and to which we are not exposed at all times, political actors constantly experience routine uncertainty. While there are often precedents for a particular law interpretation or a decision around armaments in a given context, this does not mean that these precedents will be applied precisely or at all, which will have trickle-down effects. For example, armament decisions can raise questions among affected actors about the need for change in their own behavior, be it in the context of crisis or routine decision-making (McDermott, Cowden, and Koopman 2002).

What we call inherent and routine forms of uncertainty have often been subsumed under the category of “operational uncertainty,” which manifests in the world of known unknowns where risk models apply and more information and better knowledge can help address the unpredictability of events and our actions, at least to an extent (Katzenstein and Seybert 2018: 30, 41). The distinction between inherent and routine uncertainty is important because it draws attention to different experiences of agency within this broader category. Whereas political actors generally have little control over the inherently uncertain environmental and social systems within which they operate, their routine decisions matter for the unfolding of “normal” politics. In this latter context, actors themselves can shape and even manipulate uncertainty through the different courses of action that are available to

them (Hassib and Shires 2021). For example, the Biden administration's routine decisions not to inform the Afghan government or forces and even American diplomats and troops on the ground of the evacuation plans generated 'profound frustrations' within the US military in the lead up to the withdrawal from Afghanistan (Gramer and Detsch 2022; Lamothe and Horton 2022).

The world of unknown unknowns has been characterized as that of 'radical uncertainty' where risk models do not apply and no amount or quality of information can help formulate the probability of outcomes (Katzenstein and Seybert 2018: 55). We highlight two distinct forms of uncertainty within this world: extreme and potential/possible uncertainty. **Extreme uncertainty** characterizes sudden, transformative events that rupture everyday lives in major ways, whether they emerge from nonhuman or human sources. Whereas inherent and routine forms of uncertainty are present in everyday life as conditions that structure political actors' activities, extreme uncertainty ruptures 'everyday routines and expectancies' in major ways (Snow et al. 1998: 2). The unexpected onset of war or regime change are clear examples, which unsettle planned courses of action for decisionmakers and ordinary people alike and can undermine existing social and even environmental systems and routines of "normal" politics. Anastasia Shesterinina (2021) illustrates such extreme uncertainty at the onset of the Georgian-Abkhaz war of 1992–1993, which shocked ordinary residents of Abkhazia, forcing people to abandon their anticipated activities and make difficult decisions about whether and how to mobilize in response to Georgia's advance into the territory.

These different forms of uncertainty, both those that permeate everyday life and that rupture it, fall within the realm of the imaginable if rare, as in the case of extreme uncertainty. Even if a war might not have taken place in a particular context before, it is a phenomenon that is familiar and various courses of action are associated with it based on historical precedents. In turn, the last form of uncertainty we introduce here, that of **potential or possible uncertainty**, encompasses the prospect that future issues may become problems in ways that our forecasting methods and ideas, or worldviews, in Peter Katzenstein's (2022) language, may not be able to address. This is perhaps most evident in the emergence of technological innovations like autonomous weapons systems that will require new ways of strategic and normative thinking, but can also be exemplified with such strategically and normatively unthinkable events as nuclear war in the post-Cold War period. Analyses of Russian nuclear doctrine, for example, suggest that Russia's use of nuclear weapons against a NATO state is not unlikely regardless of how mutually destructive and generally unbelievable this possibility seems (e.g., Schneider 2018).

As noted in Table 1.1, the chapters that follow explore these forms of uncertainty in depth. However, it is important to stress that the forms frequently overlap, with some factors serving as a structural background while others triggering uncertainty in a given context. The inherent uncertainty surrounding climate change – a structural feature of current life on the planet – can be experienced in extreme ways, for example, at the moment when sea-level rise in low-lying areas triggers displacement of populations, rupturing their existing livelihoods (see Moore and Orchard in this volume). Similarly, while multiple actors have been

dealing with various activities in orbital space or in the area of weapons systems – the activities that are constitutive of the international security environment – new technologies are emerging that we do not know how to address and that trigger a different form of uncertainty around potential and possible futures in these areas (see Bower’s and Prem’s contributions in this volume). What Table 1.1 reflects, therefore, are examples of the forms of uncertainty that can be found in the chapters, even though individual chapters can cover different, overlapping forms.

Viewing uncertainty as an empirical phenomenon, Jesse Driscoll and Natalia Savelyeva explore the war in the Donbas region of Ukraine that broke out in 2014 as a case of extreme uncertainty. Such uncertainty stems from acute crises that put in flux constraints on human agency and engender contingency of political identities and ideologies. In this context, the contestation of meaning feeds into action, highlighting the power of emotions in human decision-making. The authors analyze original interview data gathered from ordinary individuals who volunteered to fight on the separatist side in the war and demonstrate the prevalence of hate, resentment, and fear as powerful emotions in this case. The chapter has implications for Russia’s use of warfare techniques designed to sow uncertainty.

Sofie Bedford advances the discussion of the ordinary people’s roles in politics of uncertainty by analyzing the interaction between the ruling elite, regime challengers, and society in the 2020 presidential election in Belarus. She draws attention to the inherent uncertainty in electoral authoritarian regimes where elections create windows of opportunity for political change despite the absence of competition or fundamental freedoms and rights necessary for voters to have a choice. Bedford argues that elections create risks for authoritarian leaders, as their ambition to uphold a democratic facade affects their ability to control the electoral process. Oppositional actors take advantage of the various instruments provided by the electoral platform to question the legitimacy of the regime and convince the citizens to become active voters. The chapter highlights even fraught elections as moments that can propel processes of change in authoritarian states.

Leah Matchett and Haley Swedlund shift the focus from ordinary people’s experiences of uncertainty to different actors within the state. Matchett discusses one of the fundamental decisions that states face in the international system: when and how much to arm. She problematizes the distinction between uncertainty over adversaries’ intentions and over the relative offensive advantage of weaponry commonly used to analyze armament decisions and instead focuses on the process by which state actors come to understand and incorporate new information into their belief systems when making armament decisions. In such situations of routine uncertainty where shared meaning is lacking, politicians make decisions and advance their political agendas based on motivated reasoning. This argument is supported by a quantitative analysis of the US Congress voting on missile defense from 1980 to 2017 and a case study of the First Gulf War. The chapter shows that cognitive factors can be a source of uncertainty in the political process of decision-making on armament.

Swedlund further opens the black box of the state and looks at a largely understudied actor in global politics: ground-level diplomats. She finds that paradoxically

moments of extreme uncertainty generated by unconstitutional regime change in receiving states create opportunities for ground-level diplomats to influence foreign policy decisions. This is chiefly because time pressures and a lack of information force politicians to rely on diplomats who have grounded knowledge and links to local actors, other states, and multilateral organizations. At the same time, these moments disrupt highly routinized bureaucracies, in which ground-level diplomats are embedded, constraining their ability to effect change. Extreme uncertainty thus creates both opportunities and challenges for foreign policy actors, which helps better understand inconsistencies in these actors' rhetoric and behavior in such conditions.

Umut Yüksel similarly highlights opportunities and constraints that legal uncertainty creates for actors in the international system, moving our discussion to questions of international policy and law. Here the diffuse nature of lawmaking authority and the lack of a clear hierarchy among the sources of international law make legal uncertainty a routine feature of state choices and interstate relations. Focusing on the drawing of common maritime boundaries between neighboring states, Yüksel assesses the degree of consensus in a range of legal sources on maritime delimitation and in interpretations of rules emanating from these sources. He traces the events that changed the degree of consensus over time. The chapter draws implications of legal uncertainty for state behavior as well as for conflict and cooperation outcomes between states, suggesting that legal uncertainty can make cooperation more difficult but not impossible.

Moving the discussion from problems that arise between states in the international system to paramount international policy problems of our time, Miaoling Lin Hasenkamp addresses the science–policy interfaces in the governance of the COVID-19 pandemic, with a focus on its gender-specific effects in the United Kingdom, Germany, and Sweden. Analyzing policymaking through the integrated complexity theory, and feminist and policy-learning framework, she highlights the commonalities and differences in national pandemic responses in these democratic contexts that resulted from their specific institutional settings, arrangements, and knowledge production processes. The chapter proposes a model of deliberative policymaking that is adaptable, resilient, socially distributed, and gender-sensible and relies on anti-disciplinary research.

While the COVID-19 pandemic presents one of the major contemporary challenges worldwide, Christian Elliott turns to the profoundly uncertain future defined by human environmental impact. He conducts a discourse analysis of the financial sector's response to climate change, relying on primary documentary evidence and secondary research on the Climate Finance Leadership Initiative (CFLI). Elliott argues that choices about how to frame policy problems underpinned by political interests shape policy solutions in profound ways. The chapter demonstrates that a reckoning with the uncertainty over possible and potential environmental consequences of anthropogenic climate change would threaten the interests of financial actors and their associated industrial sectors. As a result, these unknown consequences are presented as risks to be measured and managed to the neglect of their underlying uncertainty.

This discussion serves as a bridge to related key challenges – climate mobilities and disasters – that require global-level norms and action. Liam Moore and Phil Orchard explore the challenge of climate mobilities in the case of Fiji where climate change poses an existential risk, particularly to populations in low-lying coastal areas and the nature of response is uncertain. Unlike the sources of law on maritime delimitation discussed by Yüksel, which have varied but have nonetheless generated different degrees of consensus over time, Moore and Orchard show that global norms around climate mobilities have been unclear, complex, and at times lacking global leadership. In this context, the authors argue, small states such as Fiji can establish themselves as leaders and introduce policies that shift global normative agendas. Uncertainty can, therefore, create space for agency of otherwise overlooked actors by opening normative opportunity structures and enabling normative contestation.

Ilan Kelman expands the lens to look at disaster diplomacy in a range of cases from human-caused climate change, including sea-level rise and ecosystem impacts of ocean acidification, to outer space threats, such as solar flares and gamma-ray bursts. He argues that disaster “un”-ness – the uncertain, unexpected, unprecedented, unpredictable, unusual, and unstoppable qualities attributed to disasters – is often used as an excuse for inaction around disaster risks at the global level, including within the United Nations (UN). Instead, instituting long-term political processes to tackle fundamental causes of disasters can reduce uncertainties in global disaster-related action should a disaster occur.

Adam Bower and Berenike Prem continue the discussion of possible and potential challenging environments, delving into questions of space technologies and emerging weapons. Bower looks at actor capabilities, operations, and intentions in the case of space technologies, specifically satellites and their associated ground-based infrastructure. He argues that while information from space technologies can help reduce uncertainty on Earth, uncertainty in orbit emerges from the combination of the physical properties of orbital space, the diversity of actors and activities, and the technical, political, and human limitations on information transparency. Intersections between commercial and national security activities in orbit make it difficult to determine whether a particular technology or behavior is threatening or benign, which offers new insights for the analysis of security dilemmas, crisis escalation, and deterrence in international relations, particularly in the context of a prospective arms race in outer space. The chapter highlights the importance of transparency surrounding space activities for mitigating uncertainty in this domain.

Prem shifts attention to future technologies, focusing on the case of autonomous weapons systems where conventional modes of knowing through observation and documentation do not apply. Based on the analysis of the ongoing ban deliberations within the UN Convention on Conventional Weapons, she argues that in this context, actors engage in anticipatory norm-building through assessing weak signals, using imaginations and analogical reasoning, and tests and evaluations for making future problems present. Uncertainty in this case is both a limit to and an object of governance that actors shape in order to drive or contain normative change. This chapter powerfully demonstrates that uncertainty itself is not an objective fact but is socially constructed through political processes in issue-specific domains.

Stephen Noakes differentiates between the empirical phenomenon of uncertainty that most chapters in the volume explore and the practical, methodologically oriented understanding of the term centered on how researchers carry out their work. He focuses on practical dimensions of conducting fieldwork under uncertainty, particularly in authoritarian contexts, and argues that there are different uncertainties that can arise for researchers working in such contexts, drawing on his own fieldwork experience of studying human rights nongovernmental organizations (NGOs) in China. The sources of these uncertainties range from restrictions on personal safety to problems ensuring the secure storage of data. The chapter concludes with implications for preparedness and training of scholars embarking on fieldwork. It makes the case for adaptability as a necessary and underappreciated virtue in social science research.

Drawing on critical, feminist, and decolonial perspectives, Roxani Krystalli, Shambhawi Tripathi, and Katharina Hunfeld push the boundaries of our understanding of uncertainty by introducing a different strand of epistemic uncertainty: analytical uncertainty in academic practice. Reflecting on this form of uncertainty in the study of IR, the authors argue that the field has been dominated by intellectual expectations of prediction, certainty, and fixity, with uncertainty viewed as something to measure, manage, minimize, and control. Instead, they call on scholars to embrace uncertainty as a research ethos and epistemological practice that can shape knowledge, knowledge-making practices, and the knowledge creators themselves. Doing so can help unsettle hierarchies of knowledge creation and move toward a more inclusive field of study and research.

Miriam Matejova and Anastasia Shesterinina conclude the volume by bringing insights from individual chapters together using the framework developed in this introduction. The conclusion discusses the questions of the effects of uncertainty and responses to uncertainty that contributors to the volume collectively raise. This, in turn, helps address the initial question of the volume – why didn't we see this coming? – and enrich practices surrounding uncertainty in global politics.

Notes

- 1 Here we echo Brian Rathbun (2007) who outlines in detail the distinctions between different worldviews' understandings of uncertainty. He then goes on to elaborate on responses to uncertainty as per these different understandings: fear (realism), ignorance (rationalism), confusion (cognitivism), and indeterminacy (constructivism).
- 2 Some scholars of resource management and environmental governance have devoted a lot of attention to defining uncertainty albeit not in the context of global politics. See, for example Brugnach et al. 2008; Dewulf et al. 2005; Dewulf and Biesbroek 2018; Funtowicz and Ravetz 1990; Janssen et al. 2005; Kwakkel et al. 2010; van der Sluijs et al. 2005; Walker et al. 2003.
- 3 Bas and Schub (2016) add uncertainty over conflict outcomes, which prevails even in contexts of complete information, and stress system polarity and distribution of capabilities as key factors affecting such uncertainty. On system polarity, see, for example, Deutsch and Singer (1964) and Waltz (1979). See Bas and Schub (2017) for an overview of approaches to uncertainty and international conflict.

- 4 The emphasis on the rarity of some events in global politics is central to the distinction between risk and uncertainty that Katzenstein and Seybert (2018) and others have drawn. Scholars have traced the roots of this distinction to the writings of Knight (1921) and Keynes (1936), for whom risk was calculable, whereas ‘uncertainty was found in moments that agents subjectively defined as unique events where there were no priors to rank, and thus no basis for probabilistic calculation’ (Blyth 2006: 495). We adopt a broader view of uncertainty that incorporates not only rare events but also those of “normal” politics and everyday life.
- 5 Rathbun (2007: 534) highlights the importance of norms and identity and a lack of shared meaning absent these ideational phenomena in relation to uncertainty but views uncertainty in the constructivist tradition as indeterminacy. We find that a lack of shared meaning is a defining feature of uncertainty in this tradition, whereas indeterminacy is a broader concept that subsumes uncertainty, risk, complexity, ambiguity, and other terms used to describe the difficulty we have with grappling with potential and possible futures and current events, in other words, with the unknown (Best 2008).
- 6 Reviews of various classifications of uncertainty in different issue areas have been offered, for example, by Walker et al. (2003) in model-based decision support, Bas and Schub (2017) in conflict studies, and Dewulf and Biesbroek (2018) in environmental governance. Our aim is to depart from issue-specific classifications to provide a typology that would be relevant across issue areas in global politics.
- 7 This differs from a narrower view of analytic uncertainty discussed, for example, by Iida (1993) as incomplete information about how any given system, such as the world economic system, operates.

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