

The book that leaves nothing to chance
How *The strategy of conflict* and his legacy normalized the practice of nuclear threats

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Comments, critiques and suggestions are most welcome

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Robert O'Neill: "Your interest in the question of nuclear policy. Was that prompted by the idea that that was just a morally important question or was it the [...] intellectual problem that fascinated you was it a combination of both?"

Thomas Schelling: I think it was the belief that I had something to contribute, that I understood something about it that wasn't perhaps generally understood."³

At the time this paper was written (October 2016), the 1980 edition of Thomas C. Schelling's 1960 collection of essays *The Strategy of Conflict* had been quoted more than 14,314 times, 492 of them in 2016 alone.⁴ In spite of his profound disagreements with the Nobel Laureate, Keith Payne unambiguously wrote: "Thomas Schelling was the single most influential Western strategic theorist of the Cold War."⁵ Authors within the U. S. defense policy community and analysts within the tradition of strategic studies are still avidly seeking the endorsement of the great man, now in his mid 90s. In the policy community, a decade ago the Kennedy School of Government at Harvard University tellingly created a "Thomas C. Schelling award," which "is presented annually to an individual whose remarkable intellectual work has had a transformative impact on public policy."⁶ Indeed, both crisis management scholars and nuclear weapons policy experts advising the U.S. government today might be described as Schellingian.

Schelling's theory of bargaining and in particular the notion of the "threat that leaves something to chance," which is the focus of this essay, is widely remembered as one of his crucial contributions. This has been true from the 1960s onwards and cannot be reduced to the popularity of game theory. It was specific to Schelling's approach on bargaining and was recognized by Hedley Bull as early as 1972. He wrote that: "Schelling's ideas about threats of force and the dynamics of bargaining, [...] the manipulation of risk and the art of commitment

³ Thomas Schelling, "[Harvard Kennedy School Oral History: Thomas Schelling](#)", minute 18.

⁴ These numbers derive from a search on Google Scholar and only include the English version. One should add that the book has been translated into several languages, notably Russian and French. Steve Clemons labeled *Strategy of Conflict* as one of the 100 most influential books in the West since 1945 in a meeting at the *New America Foundation* featuring Thomas Schelling on "[Thinking the Unthinkable](#)" on April 16, 2010. This is based on an assessment from the *Times* of London in 1995, referred to in Robert Dodge, *The Strategist. The life and times of Thomas Schelling*. Hollis, NH: Hollis Publishing, 2006, p. 80

⁵ Keith B. Payne, *The Great American Gamble. Deterrence Theory and Practice from the Cold War to the Twenty-First Century*, Fairfax, VA: National Institute Press, 2008, p. 31. Robert Ayson, the author of the most complete study on Schelling's work to date, specifically claims that: "it is hard to dispute the conclusion that Thomas Schelling has made an original (and very important) contribution to the study of strategy." Robert Ayson, *Thomas Schelling and the Nuclear Age. Strategy as Social Science*, London: Frank Cass, 2004, p. 113.

⁶ Harry Rowen, [Thomas C. Schelling symposium](#), University of California, Berkeley, 4 March 2008, available at minute 29; Robert Ayson, 2004, p. 52. Schelling himself identified the *Strategy of Conflict* as his greatest scholarly contribution, in "Harvard Kennedy School Oral History: Thomas Schelling", minute 66.

– as exposed in *The Strategy of Conflict* (1960) and *Arms and Influence* (1966) – have not merely profoundly affected thinking about international relations, they have become part of the general intellectual culture of the time.”⁷ He added, revealingly: “It is not the case, as is sometimes argued, that these ideas are derivable from formal game theory, or that in Schelling’s case they have been in fact derived in this way: they represent an *imaginative*, conceptual exercise.”⁸ *Arms and Influence* will not be the focus of this essay as it builds on *The Strategy of Conflict* and is significantly less cited.

Schelling has consistently been very explicit about his goal to make deterrence work – and to make it safe – at the time. In a 2000 interview with Robert Dodge about his RAND years, he said: “I think we thought of ourselves as interested in anything that would make deterrence work and be safe.”⁹ He is equally clear about his intellectual claim that uncertainty and uncontrollability can be used to solve the credibility problem. In an article written in 1961 and published the following year in *World Politics*, he wrote about “the strategy of risky behavior, of deliberately creating a risk that is credible precisely because its consequences are not entirely within our own and the Soviets’ control.”¹⁰ Both supporters and critics of Schelling understood that the invocation of the “threat that leaves something to chance” was intended as a solution to the credibility problem of nuclear threats, one that turned uncertainty from a liability to an asset.¹¹ If this is indeed Schelling’s main contribution in *The Strategy of Conflict*, the popularity

⁷ Hedley Bull, “The theory of International Politics 1919-1969” in B. Porter (ed.), *The Aberystwyth Papers. International Politics 1916-1969*, Oxford, Oxford University Press, 1972, reproduced in Andrew Linklater, (ed.), *Critical Concepts in Political Science*, London: Routledge, 2000, p. 66.

⁸ Ibid. Philip Mirowski’s comment that Schelling’s *Strategy of Conflict* was crucial to legitimize game theory as an approach suggests that the Schellingian gesture is indeed meaningful in what would happen to game theory. Mirowski writes that: “*The Strategy of Conflict* (1960) did more for the intellectual legitimacy of game theory than the entire stable of RAND mathematicians combined.” Philip Mirowski, *Machine Dreams. Economics becomes a Cyborg Science*. Cambridge: Cambridge University Press, 2002, p. 330. Paul Erikson shares this assessment and writes: “game theory proper became a high profile aspect of these debates [on nuclear strategy] especially after the publication of Thomas Schelling’s *The Strategy of Conflict*.” *The World the Game Theorists Made*. Chicago: University of Chicago Press, 2015, p. 21. However, the game theory that Schelling proposed in his early article “The Strategy of Conflict: Prospectus for a Reorientation of Game Theory” had “almost no content at all, whether normative, predictive, or descriptive. Indeed, just about all that remained of ‘game theory’ in Schelling’s article was the game matrix for notating payoffs to players.” Erikson, *The World the Game Theorists Made*, p. 193. Studying Schelling’s specific intellectual gesture becomes even more important in such a context.

⁹ Dodge, *The Strategist*, p. 60.

¹⁰ Thomas C. Schelling, “Nuclear Strategy in Europe”, *World Politics* 14 (April 1962), p. 424.

¹¹ On the critical side, one of the strongest early critiques came from Philip Green, who writes: “Schelling is thus implicitly suggesting that deterrence will not look like an impossibly bad strategy if we can learn how to use threats properly; “brinkmanship” is the general theory of crisis threats that he develops. The idea of crisis threats as developed by Schelling has two elements that may seem separate but are ultimately related: the notion of an “irrevocable commitment” and of a “threat that leaves something to chance.” Philip Green, *Deadly Logic. The Theory of Nuclear Deterrence*, Ohio State University Press 1966, p. 142 Much later Bruce G. Blair and Scott Sagan built on this critique of the threat that lives something to chance as turning a danger into a virtue. Bruce Blair, *The Logic of Accidental Nuclear War*. Washington D.C.: Brookings Institution Press, 1993, p. 5 and Scott Sagan regards *The Strategy of Conflict* as pioneering a problematic tendency which turns a risk into a virtue; Scott D. Sagan, “Organized for accidents,” *Security Studies* 3(3), 1994 fn 8 p 516. The recognition of Schelling’s

of this collection of essays is puzzling. It is puzzling for at least four connected reasons. First, Schelling's writings in the late 1950s are very dependent on the context, the state of the technology, and the policy problems of the time.

Second, those writings were explicitly in support of a series of principles to decide the adequate force posture for the US nuclear arsenal which have since been contested.¹² Schelling, followed most prominently by Robert Jervis in the 1980s, explicitly supported a policy that would later become labelled as mutual assured destruction (MAD) and that was opposed by the proponents of a first strike capability around Herman Kahn and his followers Colin Gray and Keith Payne.¹³

Third, Realism, which has in large part dominated IR theory and, a fortiori, the study of problems related to nuclear weapons, has largely downplayed or been indifferent to the variables mobilized by Schelling. It has focused on competitions of force/power, whereas Schelling focused on competitions of resolve and risk taking. For instance, leading offensive realist John Mearsheimer simply dismissed the signalling issue and did not even engage with Schelling as a counter-argument in his 1983 study of conventional deterrence, while Daryl Press derives credibility not from resolve but from the power of the adversary.¹⁴

Finally, if one considers Schelling's writing within the literature on deterrence, as suggested above, he is a representative of the "second wave," which has been strongly criticized by its successors for excessive emphasis on rationality and lack of empirical evidence.¹⁵ Given

intellectual move, whether one supports it or not, is widespread and enduring: Payne 2008: 31-35 and Lawrence Freedman, "Disarmament and other nuclear norms," *The Washington Quarterly* 36:2, Spring 2013, p. 101.

¹² Following Robert Jervis's famous pronouncement, MAD seems to have remained "a fact" for at least fifty years. Kier Lieber and Daryl Press, "The end of MAD? The Nuclear Dimension of US Primacy," *International Security* 30(4), Spring 2006. Robert Jervis, *The Meaning of the Nuclear Revolution*, Ithaca, Cornell University Press, 1989, chap. 3.

¹³ Schelling's support for MAD is well established. "Harvard Kennedy School Oral History: Thomas Schelling", 28-29 and 34 minutes. For a contrast between Schelling and Kahn as supporters of MAD and NUTS, see S. M. Amadae, *Prisoners of Reason*, Cambridge: Cambridge University Press, 2016, pp. 79-93 and Keith B. Payne, *The Great American Gamble*, chapter 1. Daniel Deudney describes the Schelling/Jervis approach as "institutional deterrence statism," which accepts the nuclear revolution, MAD, and a mediated system of deterrence between states, whereas he characterizes Herman Kahn and Keith Payne as proponents of "nuclear strategism" who refuse the nuclear revolution, reject MAD, and value nuclear superiority, a position that leads them to contemplate the possibility of winning a nuclear war. See Daniel Deudney, *Bounding Power*. Princeton University Press, 2007, chapter 9. The first exposure of Jervis' belonging to a Schellingian approach is *The Illogic of American Nuclear Strategy*. Ithaca: Cornell University Press, 1984.

¹⁴ John Mearsheimer, *Conventional Deterrence*. Ithaca: Cornell University Press, 1983; Daryl Press, *Calculating Credibility*. Ithaca: Cornell University Press, 2005; Brian C. Rathbun, "Uncertain about uncertainty. Understanding the multiple meanings of a crucial concept in international relations theory," *International Studies Quarterly*, 51 2007, pp. 541, 543.

¹⁵ On Schelling as part of the second wave of deterrence research and the critiques addressed to it, see Amir Lebovici, and Jeffrey Knopf, "The Fourth Wave in Deterrence Research", *Contemporary Security Policy* 31:1, 2010, p. 7 and Amir Lepovici, "The Emerging Fourth Wave of Deterrence Theory—Toward a New Research Agenda," *International Studies Quarterly* 54 (2010), pp. 706-708.

all those obstacles and limitations, the exceptionally enduring popularity of the *Strategy of Conflict* and its author is indeed puzzling.

The puzzle gets even deeper when one notes that US strategists and policymakers who clearly disagree with Schelling's prescription of developing the US nuclear arsenal according to the requirements of MAD and who instead support nuclear superiority refer to him or the mechanisms of the threat that leaves something to chance as authorities.¹⁶

This essay contends that the centrality of the spectre of "the threat that leaves something to chance" in contemporary nuclear studies and policy discourse cannot simply be explained by the contemporary triumph of Schelling's paradigm, "rationalism," in IR¹⁷ or simply by the elegance and seductive clarity of his writing style.¹⁸ It has to do with the fact that Schelling claims to consider a world made of both uncertainty and risk.¹⁹ As I will explain further below, a world of uncertainty is the opposite of a world of risk: the range of possible outcomes is not knowable ahead of time so that probabilities cannot be allocated to each of them by carefully imagining a process; such a world is uncontrollable as a result of being unknowable. But Schelling wrote in a way that suggests that uncertainty is reducible to risk and therefore manageable, even if he rarely says so explicitly. Schelling gives the impression that the range of phenomena that his theorizing can account for expands to include the realm of a world of uncertainty, but treats the latter as an extension of the familiar world of risk without ever fully acknowledging it. Such an unacknowledged move has fundamental ethical and political implications that have not been identified in previous scholarship.

The analysis offered here contributes to the existing critique of Schelling's work and legacy and follows a recent effort to understand the reception of classics of international relations by investigating how they met the ideological, political and disciplinary expectations of their time.²⁰ Existing scholarship engages with Schelling on four fronts: his lack of

¹⁶ Payne, *The Great American Gamble*, p. 31; Matthew Kroenig, "Nuclear Superiority and the Balance of Resolve. Explaining Nuclear Crises Outcomes", *International Organization* 67:1, January 2013, pp. 144, 145, 150.

¹⁷ Jonathan Kirschner, "The Economic Sins of Modern IR Theory and the Classical Realist Alternative", *World Politics* 67(1), 2015.

¹⁸ Schelling's elegant and clear prose has a lot to do with the reductive nature of his legacy. As Robert Dodge notes: "he wrote descriptively, filling his work with metaphors. The metaphors were often more easily recalled than the points they supported but the messages were clear and the points they made were very often obvious" or, I would add, seductively sounded as if they were obvious. *The Strategist*, p. 74.

¹⁹ On this distinction and its implications in IR and IPE, see Peter Katzenstein and Stephen Nelson, "Reading the right signals and reading the signals right: IPE and the financial crisis of 2008", *Review of International Political Economy* 20(5), 2013, pp. 5-7; Jonathan Kirschner, "The Economic Sins of Modern IR Theory and the Classical Realist Alternative".

²⁰ Good recent critical engagements with Thomas Schelling's work include Phil Williams, "Thomas Schelling" in *The Makers of Nuclear Strategy*, London: Palgrave MacMillan, 1992 pp. 121-134; Craig, *Destroying the Village*, p. 153-7; Bruce Kuklick, *Blind Oracles. Intellectuals and War from Kennan to Kissinger*, Princeton: Princeton University Press, 2006: 136-142; Richard Ned lebow, "Thomas Schelling and Strategic Bargaining," in *Coercion*,

consideration for the ethics of the actions he is writing about, his limited knowledge of and consideration for history, his focus on coercive impact at the expense of minimization of risk, and his unrealistic assumptions about strategic behavior. I contend that a stronger ethical and political critique of Schelling, which will be presented here, needs to incorporate his treatment of risk and uncertainty and investigate its ethical and political implications, acknowledged or not.

One immediately has to add that Schelling's treatment of uncertainty and risk in practice was neither the only possible one nor the only available one in the US intellectual world. Frank Knight published his classical account of uncertainty, *Risk, Uncertainty and Profit* in 1921, the year Thomas Schelling was born, and he was clear that uncertainty was not quantifiable and could not be bounded. The same year, John Maynard Keynes' *Treatise on Probability* wrote about the limits of the realm of the probabilistic world.²¹ In the 1980s, Charles Perrow introduced a role for uncertainty and luck in the sustainability of complex and tightly coupled systems, among which nuclear weapons feature prominently, with his Normal Accident Theory.²² The core of his argument has to do with the inevitability of this type of accident, which escapes circumscription within a risk approach, i.e., the exact opposite of what Schelling suggests.

This essay contributes to a growing literature in IR about both the difficulties of taking uncertainty seriously at the policy and planning level and the historical flaws of economics and IR in grasping those phenomena. As Michael Fitzsimmons has shown, "acknowledging the importance of uncertainty does not quite equate to accepting its practical utility, much less its centrality to strategic planning."²³ Patrick Porter found that the British *Strategic Defense and Security Reviews* (SDSR) and *National Security Strategy* from 2010 and 2015 similarly

Cooperation and Ethics in International Relations. London: Routledge, 2007: 255-276; Esther-Mirjam Sent, "Some like it cold: Thomas Schelling as a Cold Warrior," *Journal of Economic Methodology*, 14:4, 2007; Nicholas Guilhot, « Cyborg Panthocrator: International Relations Theory from Decisionism to Rational Choice », *Journal of the History of the Behavioral Sciences* 47:3, 2011; Harald Müller, "Icons off the Mark. Waltz and Schelling on a Perpetual Brave New World", *Nonproliferation Review* 20:3, 2013; Amadae, *Prisoners of Reason*, pp. 79-93; Ayson, *Thomas Schelling and the Nuclear Age*. Daniel Bessner and Nicolas Guilhot offer an eye-opening reinterpretation of the reception of *Theory of International Politics* within the framework of American liberalism. "How Realism Waltzed off. Liberalism and Decisionmaking in Kenneth Waltz's Neorealism," *International Security* 40:2, Fall 2015.

²¹ I am not claiming that Schelling actually read either of those texts. He might not have read them. I assumed that he if he ever encountered such classics, he would have encountered them as a graduate student but when I asked him what his main readings in economics were as a graduate student at Harvard, he gave me three titles and did not mention either. Correspondence with Thomas Schelling, 10 July 2016.

²² Scott Sagan applied Normal Accident Theory to nuclear weapons in a systematic fashion in his *Limits of Safety. Organizations, Accidents and Nuclear Weapons* in which he concluded that: "It was less good design than good fortune that prevented many of those accidents from escalating out of control." (p. 267)

²³ Michael Fitzsimmons, "The problem of uncertainty in strategic planning," *Survival* 48:4 2006 p. 133-135.

acknowledged uncertainty as unpredictable in theory, while effectively reducing it to risk. Porter writes: “Despite protective clauses about the likelihood of surprise, each claims to know a great deal about the future, making contentious claims as though they are axiomatically true. Each elides two concepts, ‘uncertainty’ and ‘risk’, that are distinct.” He goes on to note that “[t]he problematic approach to uncertainty in SDSR is part of a wider problem in national security bureaucracies on both sides of the Atlantic.”²⁴

Beyond the inconsistencies between theory and planning in the treatment of uncertainty, recent literature has established that the conflation of risk and uncertainty is a frequent flaw in international relations scholarship as well as international political economy. This is particularly true in Schelling’s intellectual tradition, rationalism. As Brian Rathbun shows, for rationalists, “Uncertainty as a lack of information about intentions without fear is captured by the concept of ignorance. This term, [...] is similar to what Knight (1921) calls, in perhaps the most familiar conceptualization of uncertainty, ‘risk.’”²⁵ This confusion is widespread beyond Schelling’s original tradition though. Fifty-five years after Schelling’s writing, Stephen Nelson and Peter Katzenstein can still write: “We observe abundant research in IR and IPE that either neglects or dismisses the conceptual distinction between risk and uncertainty.”²⁶ This essay connects those literatures with the treatment of the problem of nuclear weapons in particular. It identifies Schelling as pioneering the pretense that the world is made of both risk and uncertainty, both of which can be incorporated in a single theoretical construct. It further argues that Schelling claims to account for uncertainty while reducing it to something else in practice.

The early years of Schelling’s involvement with policy have been well documented²⁷ but the long-term effects of this influence are worth questioning, particularly as Schelling’s

²⁴ Patrick Porter, “Taking uncertainty seriously. Classical realism and national security,” *European Journal of International Security*, 1:2, 2016, pp. 247, 250.

²⁵ Brian Rathbun, “Uncertain about uncertainty”, p. 542.

²⁶ Katzenstein and Nelson, “Uncertainty, Risk and the Financial Crisis of 2008”, p. 365. They have an abundant indeed list of references to support their claim. See also Kirschner, “The Economic Sins of Modern IR Theory and the Classical Realist Alternative”.

²⁷ At the policy level, Schelling’s influence is disputed, but one can at least document an effort to consult with the policymaking elites in the US in the late 1950s and early 1960s and a very significant impact on nuclear weapons expertise within US government circles. Marc Trachtenberg, Richard Betts, and Francis Gavin are much more sceptical of Schelling’s influence and critical of his overstatement on this issue. See Marc Trachtenberg, “Social Scientists and National Security Policymaking,” paper presented at Notre Dame University, 22-23 April 2010, p. 8, available at [http://www.sscnet.ucla.edu/polisci/faculty/trachtenberg/cv/notre%20dame\(2010\).pdf](http://www.sscnet.ucla.edu/polisci/faculty/trachtenberg/cv/notre%20dame(2010).pdf); Richard Betts, “Should strategic studies survive?” *World Politics* 50:1, 1997, pp. 9-11; Francis J. Gavin, *Nuclear Statecraft. History and Strategy in America’s Atomic Age*, Ithaca: Cornell University Press, 2012, p. 4 and chapter 6 on the limited impact of game theory on American policymakers.) As far as the practice of deterrence is concerned, Bruce Kuklick notes: “In 1964 Schelling was consulting with the Defense Department officials whom his ideas of deterrence had shaped.” (Kuklick 2006, p. 141) Schelling chaired a committee on “war by accident, miscalculation or surprise” as early as 1961, got his papers into the Presidential briefings and consulted with the White House during the Cuban Missile Crisis. (Erhard Friedberg et Martha Zuber “Un economiste en dehors des sentiers battus. Entretien avec Thomas Schelling,” *Critique internationale* 12, 2001 p. 62; Thomas Schelling, “[Harvard Kennedy](#)

popular legacy seems to be that of a man whose brilliant mind allowed for nuclear war to be avoided and who took the possibility of accidents seriously.²⁸ This deserves to be rectified, not so much to correct our image of the man himself, but more importantly for the legacy of a body of thought which has had underrecognized ethical and political consequences and is remembered as taking the possibility of accidents seriously, when in fact it mischaracterizes such a possibility by its very claim to be able to delimit it. Moreover, the only full-fledged study of Schelling's thinking about nuclear strategy is now more than a decade old; it belongs to the tradition of strategic studies and does not address the ethical underpinnings and implications of Schelling's thinking or his treatment of the distinction between risk and uncertainty. Since this publication, Schelling has written more on issues related to nuclear weapons and has been very vocal about the genealogy of his thought process and his own intellectual legacy.²⁹ A biography and an analytical work on his theory of games have also appeared.³⁰ This gives the scholar new primary and secondary material to work from, some of which, as I hope this essay will show, is very revealing.

This essay proceeds in two steps. It will first flesh out the idea of the “threat that leaves something to chance” as a central piece of Schelling's legacy, with the implicit effect of reducing uncertainty to risk. In other words, I will show how Schelling operates a reduction of uncertainty that dares not speak its name. Second, I will lay out the strategic and ethical implications of this intellectual move. Strategically, “the threat that leaves something to chance” gives the impression that the problem of accidental use of nuclear weapons has been solved, transformed into a possibility that can be manipulated but will never materialize and excludes the possibility of omnicidal nuclear war. Ethically, it disempowers moral critique by unduly claiming to have solved the moral paradox of nuclear deterrence.

[School Oral History: Thomas Schelling](#)”, 21 minute; Dodge, *The Strategist*, p. 85. Dodge calls it “White House Committee on War by Accident, Surprise and Miscalculation,” and the 2001 interview was “war by accident, miscalculation and surprise.” On the briefings and the Cuban Missile Crisis, see Campbell Craig, *Destroying the Village. Eisenhower and Thermonuclear War*. New York: Columbia University Press, 1998, p. 153-7; Paul Erikson, Judy L. Klein, Lorraine Daston, Rebecca Lemov, Thomas Sturm and Michael D. Gordin, *How Reason almost Lost its Mind. The Strange Career of Cold War Rationality*, Chicago: Chicago University Press, 2013, p. 13.)

²⁸ Tim Harford's popular program “pop-up economics” in the UK makes this claim in the episode entitled “[Thomas Schelling's nuclear deterrent role](#)” aired on January 29, 2013. Michael Nacht similarly mentioned Vietnam in the [Thomas C. Schelling symposium](#), University of California, Berkeley, 4 March 2008, minute 56, asking whether he was irrelevant or misapplied. The systematic critique of Schelling's involvement in Vietnam is Kuklick, *Blind Oracles and Lebow*, “Thomas Schelling and Strategic Bargaining.”

²⁹ References follow throughout the text.

³⁰ Dodge, *The Strategist and Schelling's Game Theory. How to Make Decisions*. Oxford: Oxford University Press, 2012.

Putting chance on the deterrer's side by reducing uncertainty to risk without acknowledging it

As already discussed, uncertainty and risk can be taken to mean many different things and it has been clearly established that each IR theory treats uncertainty in one particular way.³¹ However, for the purposes of this argument, I will go back to the foundational distinction between the two categories by Frank Knight, in 1921, who stressed that “true uncertainty” is “unmeasurable” and “must be taken in a sense radically distinct from the familiar notion of risk”. [...] “It will appear that a measurable uncertainty, or “risk” proper, as we shall use the term, is so far different from an unmeasurable one that it is not in effect an uncertainty at all. We shall accordingly restrict the term “uncertainty” to cases of the non-quantitative type.”³² In a nutshell, uncertainty is unmeasurable and unquantifiable, which means that it cannot be turned into probabilities while risk is indeed measurable and quantifiable and can be turned into probabilities of a range of outcomes. In what follows, I radicalize this distinction by noting that deep uncertainty has to do with the impossibility of knowing the boundaries of the possible outcomes of a given situation. Uncertainty includes a component of uncontrollability that results in part from unknowability.³³

Schelling, by contrast, writes as if one can put chance on one's side by reducing uncertainty to risk, without himself seeming to recognize what he is doing. In other words, he writes about a world of uncertainty and risk but treats it as if it was only made of risk. This illustrates an established tendency in Schelling's writing, best captured by Phil Williams: “he did not always follow through and accept fully the implications of the qualifications that he himself had made in passing.”³⁴

Machiavelli, who warned against the illusion that *fortuna* is knowable and controllable, gives us an early sense of how problematic the reduction of uncertainty to risk is. “So as not to eliminate human freedom, I am disposed to hold that fortune is the arbiter of half of our actions, he wrote, but that it lets us control roughly the other half.”³⁵

³¹ Rathbun, “Uncertain about uncertainty”. A good overview of the possible connexions between risk and uncertainty in different disciplines can be found in Gabriele Bammer and Michael Smithson (eds.), *Uncertainty and risk. Multidisciplinary perspectives*. London: Earthscan, 2008, in particular chapter 2.

³² Frank Knight, *Risk, uncertainty and profit*, New York, Sentry Press, 1964 [1921], pp. 19-20.

³³ This distinction is particularly well exposed in Mark Blyth, “Coping with the black swan. The unsettling world of Nassim Taleb”, *Critical Review* 21:4, 2009.

³⁴ Williams 1989, p. 133.

³⁵ Niccolò Machiavelli, *The Prince*, Cambridge, Cambridge University Press, 1988 [1513], chap. XXV, p. 85, translated and edited by Quentin Skinner and Russell Price.

Schelling claims to grasp and do justice to this dynamic. In a letter to Bernard Brodie explaining the “threat that leaves something to chance,” Schelling wrote that he needed some kind of mechanism “involving uncertainty and unpredictability, of a potential progressive loss of control by both sides in order to make any connection between the strategic background and the local foreground.”³⁶ In *The Strategy of Conflict*, he describes his bargaining theory as relying on “a risk that one does not completely control,”³⁷ and when describing the threats at stake, he restates: “the key to these threats is that, though one may or may not carry them out, *the final decision is not altogether under the threatener’s control.*”³⁸

Nonetheless, Schelling goes on to treat the outcomes of the strategic interactions he studies as always favorable.³⁹ He pretends to account for the whole of *fortuna* while in fact reducing it to its knowable and controllable side and then deduces prescriptions as if the other side did not matter. This is made possible by Schelling’s substitution of a language of risk for that of uncertainty, which implicitly operates a reduction of the latter to the former, losing the unmeasurable and uncontrollable parts of *fortuna* in the process. As a matter of fact, Schelling claims to address “the threat of inadvertent war [...] through some kind of accident, false alarm or mechanical failure,”⁴⁰ but does not really mention uncertainty or luck in *The Strategy of Conflict*. The word “luck” appears only once and “uncertain” or “uncertainty” only ten times, whereas there are no fewer than eighty-seven invocations of “risk.” “Chance” appears fifty-eight times, but I would contend that Schelling equates chance and risk. By using the word “chance” and mentioning several times that things could spiral out of control, he merely gives the impression that his theorizing accounts for uncertainty as well as risk. Significantly, Schelling’s list of the causes of inadvertent war appears to be finite, and all the behaviors included in it read as if they can be managed. The quote above continues to describe inadvertent war “through somebody’s panic, madness or mischief; through a misapprehension of enemy intentions or a correct apprehension of the enemy’s misapprehension of ours.”⁴¹ The shift that

³⁶ Letter from Thomas Schelling to Bernard Brodie, 22 February 1965, Box 2, file “Schelling,” cited in Marc Trachtenberg, “Strategic thought in America 1952-1966,” *Political Science Quarterly*, 104(2), Summer 1989, p. 310.

³⁷ Schelling, *The strategy of conflict*, p. 200.

³⁸ Schelling, *The strategy of conflict* p. 188, emphasis in original. One has to recognize that the role of uncertainty in reinforcing deterrence had been recognized by strategists in the nuclear age. [Is this your comment (in which case, perhaps it doesn’t matter what Schelling did if people ignored it) or Schelling’s?]

³⁹ This once again may derive from his focus on processes rather than outcomes, as “his view is that rational choice theory provides a starting point, not that it gives assurances of how things will end.” Robert Dodge, *The Strategist*, p. 66. In spite of Schelling’s ambiguities on this, his legacy was much more confident.

⁴⁰ *The Strategy of conflict* p. 188.

⁴¹ *The Strategy of Conflict*, p. 188.

Schelling operates is extremely significant: claims to reduce uncertainty to risk or that such a reduction is possible are based on the sense that one can bound possibilities, or possible outcomes, ahead of time and attribute probabilities to those possible outcomes.

Given Schelling's training as an economist and his immersion in a "problem solving" intellectual environment at RAND,⁴² this is not entirely surprising. – Schelling is clear about the fact that he developed the idea of "the threat that leaves something to chance" while at RAND in 1958-1959 and the influence of this intellectual environment on his thinking is well-established – but its implications need to be outlined fully.⁴³ Quite significantly for nuclear weapons scholarship, even Scott Sagan, who played a decisive role in bringing the need to take seriously nuclear weapons accidents and the limits of controllability of those weapons back into scholarship, ends up adopting the risk language, and with it, Schelling's implicit reduction of uncertainty to risk.⁴⁴ Sagan writes that "some rational deterrence theorists turned the *risks* of accidents and false warning into a virtue since they could save the credibility of the extended nuclear guarantee to US allies," citing Schelling's essay on "the threat that leaves something to chance" in *The Strategy of Conflict* as pioneering this tendency.⁴⁵ Sagan sees only half of the issue and, insofar as he writes about the risk of accidents and false warning, inadvertently participates in the problem. Indeed, turning risk into a virtue is only the second consequence of Schelling's intellectual move. Treating the possibility of accidents as a risk is the first, and Sagan, in this particular piece, perpetuates the risk language. This reveals a tendency of the literature to embrace Schelling's notion, whether explicitly or implicitly.

⁴² Robert Ayson had observed this in *Thomas Schelling and the Nuclear Age*, p. 24.

⁴³ See his biography on the website of the Nobel Prize for the birthplace of "the threat that leaves something to chance" http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2005/schelling-bio.html. As for the impact of RAND on Schelling's thinking, Robert Dodge writes that: "Schelling's interaction with this elite group and their acceptance of him inducted the young economist into an elite fraternity. [...] Kahn, Wohlstetter, Brodie and Hitch all took Schelling seriously from the beginning." *The Strategist*, p. 57, 59. And Daniel Ellsberg, who is often credited as the father of the "madman theory" said "our minds were intellectually dancing together." Telephone interview with Robert Dodge in July 2001, cited in *The Strategist* p. 60.

⁴⁴ This is true most of the recent scholarship. For example, Zach Zwald tries to understand the role of accidents in the formation of deterrence preferences and distinguishes between calculated and autonomous risk, identifying accidents with a form of risk. Zachary Zwald, "Imaginary Nuclear Conflicts: Explaining Deterrence Policy Preference Formation", *Security Studies* 22(4), 2013, p. 656. This same idea of accidents as autonomous risks can be found in Glenn Snyder and Paul Diesing, *Conflict Among Nations: Bargaining, Decision Making, and System Structure in International Crises*, Princeton, NJ: Princeton University Press, 1977, p. 210 and Robert Powell, *Nuclear Deterrence Theory: The Search for Credibility*. New York: Cambridge University Press, 1990, pp. 18-25.

⁴⁵ Scott D. Sagan, "Organized for accidents" fn. 8, p. 516. Emphasis added.

As Mary Douglas aptly wrote, “risk is not a thing, it’s a way of thinking.”⁴⁶ Most important, this way of thinking is oriented towards a desire for control and faith in that control.⁴⁷ The existing critical literature on Schelling has perfectly identified his emphasis on the manageability of risk and on his constant quest for stability but the implications have not been fully understood.⁴⁸ The irreducibility of uncertainty to risk is another qualification that Schelling poses but does not follow to its logical conclusions, as noted above. While claiming to give uncontrollability its due, Schelling’s theorizing in terms of risk reaffirms the controllability of strategic interactions.⁴⁹ The total absence of space for the uncontrollable in his framework of analysis is most obvious in a research memorandum for RAND, published in 1960, a few weeks before *The Strategy of Conflict*, in which he writes about “a controlled loss of control.”⁵⁰ One of the most perceptive readers of Schelling, Robert Ayson, also comments on this full controllability, which Schelling assumes to be restored by nuclear weapons while maintaining the claim that he accounts for the uncontrollable. Commenting on Schelling’s view of bargaining with nuclear weapons Ayson writes that: “with bargaining power in ‘its purest form,’ there would seem to be every reason to be confident about the prospects for coming to a tacit agreement.”⁵¹ In such a scheme, nuclear weapons indeed appear as this *perfectly controllable instrument* to use to manipulate the other’s expectations, while still claiming that there is room for the uncontrollable.

⁴⁶ Mary Douglas, “Risk and Danger.” in *Risk and Blame. Essays in Cultural Theory*, London: Routledge, 1994, [1992], p. 44.

⁴⁷ Esther Eidinow aptly summarizes the problem when she notes that “the concept of risk, which flourished particularly during the latter part of the twentieth century, although at first sight chiefly concerned with the vagaries of chance, is revealed as a language of control, and faith in that control.” *Luck, Fate and Fortune. Antiquity and its Legacy* (Oxford: Oxford University Press, 2011), p. 158. For evidence of a desire for control as predictability as a reason why economists and political scientists treat a world of uncertainty and risk as if it was only made of risk, see Blyth, “Coping with the Black Swan.”

⁴⁸ Bruce Kuklick can, for instance, write that “Schelling recognized that the international world was dangerous, yet assumed diplomatic risk was manageable.”, *Blind Oracles*, p. 138. The core argument of Robert Ayson’s monograph on Schelling has to do with the centrality of the concept of stability in his theorizing. Robert Ayson, *Thomas Schelling and the Nuclear Age*. Notably, commenting Schelling’s 2009 article, Harald Müller reaches a similar conclusion at the temporal level: he characterizes Schelling’s attitude as a belief in “stasis.” Harald Müller, “Icons off the Mark,” *The Nonproliferation Review*, 20:3, 2013, p. 554.

⁴⁹ Schelling’s 2005 Nobel lecture can be read as an acknowledgement that he never really accounted for such uncontrollability, understood as luck in this particular context. About the reluctance to use nuclear weapons that he calls a taboo he says: “How the inhibition arose, whether it was inevitable, whether it was the result of careful design, whether luck was involved [...] is worth examining.” p. 366. http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2005/schelling-lecture.pdf. If Schelling thought his existing writings had accounted for it, he would have said as much, as he is not shy about his achievements in interviews. In a [2013 interview](#) in which he looked back at his scholarly body of work, he concluded: “There are very few things that I am a little bit embarrassed about and I won’t tell anybody what they are. [...] Mostly I am satisfied.” “Maybe I wouldn’t confess if there were more,” he adds. minute 2.

⁵⁰ Thomas Schelling, “The Role of Theory in the Study of Conflict,” RAND Research Memorandum, RM-2515-PR, 13 January 1960, p. 28, cited in Trachtenberg, “Strategic Thinking in America 1952-1966”, p. 311.

⁵¹ Robert Ayson, *Thomas Schelling and the Nuclear Age*, p. 105.

Quite tellingly, Kenneth Waltz, born only three years after Schelling, acknowledges fully the inability of rational choice theory, which is the basis of risk analysis, to account for the accidental, in spite of Schelling's continuous claim that he does. In response to Morgenthau's critique that "his appreciation of the role of the accidental and the role of the unexpected dampened his political ambitions,"⁵² Waltz acknowledged that "theory obviously cannot explain the accidental or account for unexpected events. It deals in regularities and repetitions and is possible only if these can be identified."⁵³ Most interestingly, Waltz, like Schelling, does not conceive of an outcome that is not caused by a decision in his discussion of nuclear weapons.⁵⁴ His definition of an accident remains deliberate. In the section on accidents in his debate with Scott Sagan, Waltz can thus write: "Are hardy political survivors in the Third World likely to run the greatest of all risks by drawing the wrath of the world down on them by accidentally or in anger exploding nuclear weapons they may have?"⁵⁵ One page later, he concludes that "nuclear weapons dominate strategy. Nothing can be done with them other than using them for deterrence," an assertion that clearly neglects the possibility of accidental or unauthorized use. Schelling's theory suffers from the same limitation; what makes this neglect more serious is that it goes unrecognized.

What Schelling has to say about the ending of the movie *Dr. Strangelove* compared to the book *Red Alert* illustrates how this desire for control reasserts itself in spite of claims to recognize uncontrollability.⁵⁶ This deserves to be quoted in full, as it suggests that Schelling resists or simply does not fathom the possibility that his recommended strategy might indeed fail, and that whether it fails will not be a function of rational choice alone. Those two features

⁵² Kenneth N. Waltz, "The Origins of War in Neorealist Theory," *Journal of Interdisciplinary History*, XVIII:4 (Spring 1988), p.615.

⁵³ Kenneth N. Waltz, "The Origins of War in Neorealist Theory", *Journal of Interdisciplinary History*, XVIII:4 (Spring 1988) p.615. Schelling also recognizes that his theory of decision does not require full rationality but requires consistency. As such, the accidental as possibly unprecedented is out of what can be conceived of by the theory. Erikson et. al., *How reason almost lost its mind*, p. 50.

⁵⁴ A lot of literature has already discussed the inconsistencies between Waltz as he deals with nuclear weapons and Waltz's grand theorizing about international politics. Daniel Deudney, "Dividing Realism: Structural Realism versus Security Materialism on Nuclear Security and Proliferation", *Security Studies* 2(3/4) and Campbell Craig, *Glimmer of a New Leviathan. Total War in the Realism of Niebuhr, Morgenthau and Waltz*. New York, Columbia University Press, 2003, chapter 6 and 7. Contrary to the instrumentalism and focus on decisions displayed in the realm of nuclear weapons, Kenneth Waltz subscribed to a cybernetic theory which allowed him to do away with the decisionmaker in his *Theory of International Politics*. This is convincingly demonstrated by Bessner and Guilhot in "How realism waltzed off", p. 110.

⁵⁵ Sagan and Waltz 2012, p. 88. This sentence was already in the original version of the debate in 1995, pp. 97-98.

⁵⁶ Gregg Herken interprets Schelling's discomfort with the ending of the movie as a discomfort with the critique of civilian expertise in *Dr Strangelove*, in which the lead character is from the "Bland Corporation". *Counsels of War*, p. 214.

of his attitude suggest that he does not account seriously for radical uncertainty and uncontrollability in the social world. He says:

The only thing about *Strangelove* that disappointed me. [Pause] In the book, the entire squadron with the exception of three planes is finally shot down because somebody got word to the President and he [...] notified the Soviets that the attack was on the way so that their anti-aircraft were ready and they shot down all but three aircrafts and one of the aircrafts got the word and turned around, [...] one crashed and there was a nuclear explosion but it crashed in the forest and did no damage and the third airplane saw the one that crashed [...] in the forest so there is no damage and the third one managed to radio home that no damage had been done in the Soviet Union and meanwhile the chairman of the communist party USSR on the telephone with the President said: 'if any of your bombs goes off in this country we are going to destroy one US city.' [...] And the President [...] called him and said: we know now that none of your cities are going to be hit. We've got one returning bomber and the other one crashed in the forest. And the chairman of the USSR says: 'sorry, we are not sending bombers; we have a submarine off your coast only ten minutes away from its target.' And they argue for a few minutes and finally the chairman of the USSR says: 'M. President, we are not going to do anything. We just wanted you and your entire cabinet to know what it feels like that we have been going through and let's hope from now on that we don't have any more episodes like that.'

I thought that was a better ending. Because *Strangelove* ending; you're not sure what the ending is because somebody goes down with a bomb and then the movie is over and then there are mushroom clouds all over the place and you don't know whether that's meaning 'and so war occurred' or this just emblematic and you don't know what the outcome is.⁵⁷

Schelling does not explain why the peaceful outcome of the brinkmanship makes for a better ending except to say that the process leading to it is more precisely traced in the book. I interpret this as a most revealing manifestation of the desire for control in risk thinking. Existing studies have also shown that Schelling focused on the process of decision-making, in particular in crisis situations, and much less on possible outcomes.⁵⁸ By doing so, he simply leaves the uncontrollable part of *fortuna* and the possibility of catastrophic failure outside of the conversation – without recognizing what he is doing. This retrospective account of Schelling's work might not reveal his intentions at the time of writing, almost half a century ago, but it is very revealing in my perspective about Schelling's legacy and the uses of his writings.

Another way of characterizing this implication of Schelling's writings about "the threat that leaves something to chance" is as a masquerade of probabilistic thinking in the dress of possibilistic thinking. Against Frank Knight's original warning that uncertainty cannot be bounded, risk thinking reintroduces boundaries by assigning probabilities. Lee Clarke identifies the problem very well: "We need to think in terms of chances and odds and likelihoods. But we shouldn't concentrate so much on probabilities that we forget the possibilities."⁵⁹ As a matter

⁵⁷ Thomas Schelling, "Harvard Kennedy School Oral History: Thomas Schelling", 40 to 43 minutes.

⁵⁸ Dodge, *The strategist*, pp. 61, 65. Schelling is explicit about his focus on bargaining processes when he remembers his career and says, about 1953: "I went to Yale and decided that I would make bargaining theory, bargaining *processes* my main interest because I had spent so many years negotiating with European countries." Thomas Schelling, "[Harvard Kennedy School Oral History: Thomas Schelling](#)", minute 11. Emphasis added. Obviously those negotiations were always based on the survival of all participants.

⁵⁹ Lee Clarke, *Worst Cases*, Chicago: University of Chicago Press, 2005, p. 41.

of fact, Schelling and its followers do more than forget the possibilities: they pretend to take them into account – as a starting point or premise of their theorizing – but end up forgetting them by reducing them to a bounded set of probabilities. In his essay on bargaining in *The Strategy of Conflict*, Schelling explicitly looks for the right tactics to “squeeze the range of indeterminacy down.”⁶⁰ Many years later, in his biographical sketch for the Nobel Prize website, he recognizes that “the threat that leaves something to chance” is “a probabilistic threat.”⁶¹ What is lost here is not only the prospect that accidental nuclear use does happen but also that no one survives the war that follows. This is clear in the way Schelling construct his stylized illustration.

“If I say ‘Row or I’ll tip the boat over and drown us both,’ you’ll say you don’t believe me. But if I rock the boat so that it *may* tip over, you’ll be more impressed. If I can’t administer pain short of death for the two of us, a ‘little bit’ of death, in the form of a small probability that the boat will tip over, is a near equivalent. But to make it work, I must really put the boat in jeopardy. Just saying that I may turn us both over is unconvincing.”⁶²

Schelling’s narrative vividly illustrates how his claim to account for uncertainty and the possibility that things might spiral out of control always assumes the possibility of defining the range of possible outcomes and assigning a probability to each of them. It is “a small probability” of disaster and “a little bit” of death. Robert Ayson captures this well when he writes that “in cases where nuclear weapons are directly involved, there seems to be some real problems with the notion of bargaining” and that “the extreme consequences of the use of any number of [nuclear weapons] suggests that there is no real range of bargains from which to select.”⁶³ Maybe such a range exists, but we cannot know it in advance, and Schelling pretends that his theory does not define a range of possibilities when it actually implies that this would be possible since he assumes that uncertainty can be reduced to risk.

Morton Kaplan gives us a clue about what might have allowed Schelling to make this move and convince his audience that uncertainty is indeed reducible to risk when he notes that “he [Schelling] doesn’t develop the important repeated play aspect of game.”⁶⁴ This is crucial: the aspect is not absent from the text but it is not properly developed. In other words, the game of coercive bargaining remains a game that one can play again if the outcome is not what was expected. That makes the theorizing of the threat that leaves something to chance acceptable because of the assumption that there will still be players alive and available to play if the

⁶⁰ Thomas Schelling, “An essay on Bargaining”, p. 283; Ayson, *Thomas Schelling and the Nuclear Age* p. 18.

⁶¹ http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2005/schelling-bio.html

⁶² Schelling 1980, p. 196.

⁶³ Ayson, *Thomas Schelling and the Nuclear Age*, pp. 107, 200.

⁶⁴ Morton A. Kaplan, “Review: Strategy and International Politics”, *World Politics* 13:4, July 1961, p. 652.

outcome of the first iteration of the game is not satisfactory. The fact that it is not further developed helps obfuscate a massive assumption. I do not have direct evidence of Schelling's assumption that the game of coercive bargaining will be repeated but it is implicit in the example he chose. In the above mentioned example of rocking the boat, the reader imagines a clever individual who does put the boat in jeopardy but is so deeply lucky and in control that the other person will "be impressed" and both of them will remain alive. If *fortuna* hits in the form of a large unexpected wave at the moment when the Schellingian character rocks the boat, both parties may drown even before anyone has time to be impressed. But this outcome is beyond Schelling's framework of analysis. The only options are either an empty threat or a dangerous gambit that is hoped will send the right signal and demonstrate the skill of the signaler. As a result, both characters are assumed to be able to play the game again, which shows that the possible worlds Schelling thinks about are seriously bounded and constrained by probabilistic thinking that only masquerades as possibilistic.

Given Schelling's audience of policy practitioners, the problem is even more significant. He writes as if chance will always play in our favor – resolving the credibility problem – and suggests that policymakers should act as if this were the case. In other words, he writes as if luck were reducible to a manageable risk and set of bounded probabilities, while claiming that he, of course, takes into account the possibility of accidental launches and accidental war. As I have indicated, he claims to take such a possibility seriously but does not and ends translating an assumption into a finding. This is how, I would argue, Schelling carved out the intellectual space for a normalization of nuclear threats. As I will show in the next section, he compels his readers to accept the series of ethico-political bets on the future that he makes when he operates this unacknowledged reduction from uncertainty to risk.

The political and ethical implications of Schelling's twist from uncertainty to risk: Inoculating nuclear threats against nuclear accidents and moral critique.

Political and moral critique of Thomas Schelling's work has been conducted for almost six decades. Critical responses began with the publication of *Strategy of Conflict* and, in recent years, criticism has not waned. Ned Lebow notably wrote that "Schelling's writings are intellectually elegant but morally flawed."⁶⁵ Instead of assessing the ethics of Schelling's

⁶⁵ Lebow, "Thomas Schelling and Strategic Bargaining", p. 255. [The essay was originally published in 1996]. The most powerful early critique was probably Philip Green, *Deadly logic. The theory of nuclear deterrence*. Columbus: Ohio State University Press, 1966. Green approaches deterrence as a moral theory, for example, and

bargaining theory, this section focuses on the political and ethical implications and consequences of his unacknowledged reduction of uncertainty to risk, irrespective of Schelling's intentions at the time.

First, Schelling's theorizing of "the threat that leaves something to chance" creates the illusion that he takes into account the possibility of accidental use of nuclear weapons while, by shifting the analysis from uncertainty to probabilistic risks, effectively treats the unpredictable accident as something that will never happen. Still possible in theory, unpredictable accidents disappear from the realm of practice. In Schelling's writings, the autonomy and uncontrollability of accidents is no more than a theoretical possibility, reducible to a decision to create and manage risk in a particular fashion. As he writes: "The point is that accidents do not cause war. *Decisions* cause war."⁶⁶ Accidents remain possible theoretically and they may in principle escape control, but in the end they never materialize and are ultimately controllable since, as the previous quote suggests, Schelling does not believe in the possibility of an accident that does not result from a decision. "Accidents can trigger decisions," he continues, "and this may be all that anybody meant. But the distinction needs to be made, because the remedy is not just preventing accidents but constraining decisions. If we think of the decisions as well as the accidents we can see that accidental war, like premeditated war, is subject to 'deterrence.'"⁶⁷ From then on, politically, the autonomous possibility of an accident,

engages with it as such in chapter 6. For an explicit statement of his approach, see p. 215. See also Anatol Rapoport, *Strategy and Conscience*, New York: Harper and Row, 1964.

⁶⁶ Thomas C. Schelling, "Meteors, Mischief, and War," *Bulletin of the Atomic Scientists* 16 (1960): 292. Interestingly, Schelling adopts the same attitude five decades later when asked to discuss the Iranian nuclear threat at the New America Foundation. "Since I don't believe Iran would dare to attack the United States, it would be suicidal," he commented, "I don't know why we need to worry so much about theater defense or homeland defense against Iranian missiles." Thomas Schelling, "[Thinking the Unthinkable](#)", *New America Foundation*, April 16, 2010, at one hour. This statement suggests that an intentional launch on the part of the Iranians is the only mode of launch that Schelling considers to be possible. It is true that he does not say that we should not worry at all about other possibilities, but this is another instance in which he treats them as inconsequential from the point of view of its policy implications.

In an article published in 1986 in the *Bulletin of Peace Proposals*, Ned Lebow characterized Schelling's approach to crisis stability as focused on this element of deliberate decision and re-emphasized the importance of its legacy in the literature about crisis stability. He wrote that: "Until quite recently, most of the literature on crisis stability conceived of it in terms essentially similar to Schelling. Analyses of this kind for the most part ignored the possibility that wars could break out in the absence of any deliberate decision by leaders on either side to fight it." In "Nuclear Crisis Management: A Dangerous Illusion," *Bulletin of Peace Proposals* 17:2, 1986, p. 110.

An important element of background that might help understand Schelling's attitude here is the simulation game he participated in in late September/early October 1961 in which the participants did not manage to get a war started. See Kaplan, *The Wizards of Armageddon*, p. 302. Schelling recounts that he had the same problem in his discussions with the screenwriter for Stanley Kubrick's *Dr Strangelove* in Thomas Schelling, "[Harvard Kennedy School Oral History: Thomas Schelling](#)", minutes 39 and 40; Dodge, *The strategist*, pp. 82-83. See also Trachtenberg, "Strategic thought in America", p. 310.

⁶⁷ Schelling, "Meteors, Mischief, and War", p. 293. This was clearly the objective of Schelling and his RAND colleagues at the time, as he has affirmed ever since.

or uncertainty in the form of uncontrollability, is washed away. The political need to address the problem remains in force, but, ultimately, the possibility of an accident has been reduced to the preface of a decision. Instead of acknowledging that the limits of rational choice theory do not allow it to account for autonomous accidents, Schelling artificially brings these accidents back into the remit of the theory. “Deterrence, it is usually said, is aimed at the rational calculator in full control of his faculties and his forces; accidents may trigger war in spite of deterrence. But it is really better to consider accidental war as the deterrence problem, not a separate one.”⁶⁸ From here on, Schelling treats deterrence as the all-encompassing frame within which one can engage with accidents, when in reality it is simply a practical translation of an assumption – an assumption that does not acknowledge the possible autonomy of the problem of accidents.

This is not to say that Thomas Schelling himself believes that nuclear deterrence works perfectly. He is on record as saying: “nuclear weapons have not always deterred. They did not deter North Korea, they did not deter China when it entered North Korea with such devastating effect. [...] They did not deter Argentina [...] Nuclear weapons did not deter Egypt or Syria in 1973.”⁶⁹ Suffice it to say that his theorization of “the threat that leaves something to chance,” the heart of a theory of bargaining which is widely recognized as his most important legacy, does normalize the practice of nuclear threats in one very specific way: Schelling claims to accept the possibility of accidental nuclear use or nuclear war but treats it as something that never happens.

Scott Sagan and Marc Trachtenberg, who disagree about the possibility of nuclear accidents, illustrate the enduring influence of Schelling’s shift on the thinking about accidents. Both scholars treat Schelling as taking this possibility seriously, and at best they underplay the fact that his framework of analysis does not allow for accidents ever to happen. On the one hand, Sagan, who claims that his research “demonstrated that such accidents were not impossible,” treats Schelling as “one important exception” to “most traditional deterrence theorists,” who “simply ignored these kinds of problems because they believed such accidents were impossible.”⁷⁰ To be sure, Schelling does not ignore these problems, but he tackles them in such a way as to implicitly affirm their impossibility. On the other hand, in his paper arguing

⁶⁸ Schelling, “Meteors, Mischief, and War”, p. 293.

⁶⁹ “[Thinking through the Thinkable about a Nuclear Iran](#)”, minutes 28 and 31. He made similar observations on Capitol Hill in 2010, on a panel on “[Thinking Through the New Security Puzzle](#)”, minute 3, adding Vietnam and Afghanistan.

⁷⁰ Sagan, “Organized for accidents” fn. 8, p. 516. Sagan cites Edward Rhodes’ book’s *The Power of MADness*, New York: Columbia University Press, 1989, as continuing this tradition.

against the idea of inadvertent war, Marc Trachtenberg similarly chooses Schelling as emblematic of those who believe that such an eventuality is possible. “Bernard Brodie,” he writes, “was very skeptical of the view that ‘the outbreak of war between major powers’ could be ‘as accidental’ as people like his friend Thomas Schelling and many other people seemed to believe.”⁷¹ In a nutshell, one single intellectual move claims to solve the most significant problem of the policy of nuclear deterrence, i.e., the problem of the credibility of the threats, as Schelling’s earliest critiques had observed, and at the same time disqualifies arguments against nuclear threats in the name of accident avoidance and safety.

Second, the logical implications of Schelling’s argument exclude omnicidal nuclear war from the realm of possible outcomes. By reducing a world of uncertainty to a world of risk, Schelling identifies the set of possible outcomes, and total annihilation is not one of them.⁷² The implicit assumption that the games he writes about are expected to be played again, as shown in the previous section, is additional evidence that his framework of analysis does not allow for the possibility of total extinction. The historical context in which Schelling wrote his essay on the “threat that leaves something to chance” gives this inference even more plausibility. It was written in 1959 while at RAND.⁷³ Daniel Ellsberg, who wrote his dissertation under Schelling, told me that in the late 1950s and early 1960s, the community to which he and his mentor both belonged did not think about the possibility of the end of the world.⁷⁴ Once omnicidal war is made impossible, the ethical imperative of action that would come from the recognition of its being an ethically substantively different disaster than the one in which only a few human beings survive, is gone. The reason for that substantive difference is that an omnicidal nuclear war would kill everyone alive on the planet but also, with them, the

⁷¹ Marc Trachtenberg, “[The Accidental War Question](#)”, paper was presented at a workshop on Organizational Theory and International History, held on March 2-4, 2000, at the Center for International Security and Cooperation at Stanford University, p. 2.

⁷² I am not claiming that Schelling’s work would lead to predicting that nuclear weapons would never be used. That would be inaccurate as he joined for other scholars in the Fall of 1975 to claim that it would happen by the end of the century. Thanks to Milton Leitenberg for sharing this newspaper clip with me. Reference to be added.

⁷³ Charles Wolf, “[Thomas C. Schelling symposium](#)”, University of California, Berkeley, 4 March 2008, minute 42 ; See also Schelling’s biography on the [website of the Nobel Prize](#) for the birthplace of “the threat that leaves something to chance.” By contrast, much of the text [of *The Strategy of Conflict* was written] while on leave in London, where he spoke to several retired military officers interested in theories of limited war.” Erikson et. al., *How Reason Almost Lost Its Mind*, p. 13.

⁷⁴ Interview of Daniel Ellsberg with the author, Kensington, California, 2 July 2014. Typically, Herman Kahn was very strongly focused on fallout shelters as instruments allowing survivability in his last years at RAND before he resigned to create the Hudson Institute. See Herken, *Counsels of War*, p. 189. Freeman Dyson, a physicist of Schelling’s generation has shared this belief in the impossibility of an omnicidal nuclear war for three decades. In 1984, he wrote: “I am unable to imagine any chain of events by which our existing nuclear weapons could destroy mankind and leave no remnant population of survivors.” *Weapons and Hope*, New York: Harper and Row, 1984, p. 22. When I interviewed him in November 2015, he still believed that to be true. Interview with Freeman Dyson, Princeton, 11 November 2015.

memory of any human being that ever lived and died before and the possibility of any future human life.⁷⁵

Third, the pretense that risk accounts for the whole of uncertainty has ethical effects. The ethics of uncertainty differ from the ethics of risk and, as Sven Ove Hansson argues, “the disciplines that systematize our approaches to risk and uncertainty, such as decision theory and risk analysis, have very little to say about moral issues.”⁷⁶ Moreover, taking a decision or imposing a risk has ethical aspects that are independent from the realization of its possible outcomes, so that one cannot simply rely on a division of labor between moral analysis and decision theory in which the latter would optimize risk and uncertainty once the moral theorizing has been done.⁷⁷

By putting the credibility question in the hands of uncertainty, Schelling’s intellectual move weakens one of the most powerful moral condemnations of nuclear weapons from a deontological perspective, which has been commonly called “the moral paradox of nuclear deterrence.” It can be summarized as follows. In deontological terms, the intention to carry out the threat of retaliation is morally equivalent to the act, and the practice of nuclear deterrence forces the deterrer to convince the other side that he has such an intention. This is why it is morally objectionable even if the retaliatory threat is never carried out: the bluff has to be made credible by forming and communicating an intention to retaliate. If there is no need to form and communicate such an intention, the moral paradox of nuclear deterrence disappears and ethical critique on this ground becomes moot. When he suggests that the deterrer does not need to assert an intention to retaliate in order to make the threat credible, the implication is to remove the ethical ground for opposing nuclear deterrence from a deontological position. The deterrer, according to Schelling, need only convince the deterree that retaliation will take place independently from his will. The extreme version of this, which would claim to move beyond the moral paradox of nuclear deterrence entirely, would consist in saying: “I really do not want to retaliate; but if you attack, retaliation will happen in spite of my will.” Of course, the moral objection could still be maintained: if this is official policy, the leader who accepts the rules of

⁷⁵ A classical formulation of that distinction can be found in Derek Parfit, in *Reasons and Persons*, Oxford, Clarendon Press, 1984, 154, in his aphorism that “how both the history of ethics and human history, may be just beginning.” He focuses on preventive killing of future generations. The combined focus with killing the dead a second time can be found in Gunther Anders’ idea of the “united generations”, in “Theses for the atomic age”, *The Massachusetts Review* 3: 3, Spring 1962, pp. 495-496, and was made famous by Jonathan Schell *New Yorker* article on “[The Fate of the Earth II: The Second Death](#),” February 8, 1982.

⁷⁶ Sven Ove Hansson, Preface, *The Ethics of Risk*, London: Palgrave MacMillan, 2013, p. viii.

⁷⁷ On the limits of a division of labor approach to the issue, see Hansson, *The Ethics of Risk*, p. 2.

such a game becomes an accomplice of the system of supposedly automated nuclear retaliation. However, the point is that Schelling makes it more difficult to oppose the endless reliance on nuclear deterrence even on moral ground since this moral objection is based on the quest for credibility. This implication of Schelling's theorizing was understood by philosopher Gregory Kavka, who had exposed the moral paradox of nuclear deterrence in 1978 and, two years later, used Schelling's notion of chance to propose a solution to it.⁷⁸

Overall, Schelling unduly disempowers many critiques of the practice of nuclear threats and makes it much easier to support the endless perpetuation of these threats. Somehow, the only group that would find it harder to support the perennial reliance on nuclear threats as a result of Schelling's intellectual moves are the apocalyptic millenarians who are hoping for the end of the world and see nuclear weapons as the best way to bring about their desired outcome as soon as possible.⁷⁹ They would have hoped that the consequences of the catastrophic failure of nuclear deterrence would be maximal, exactly the possible future that Schelling excludes through his assumptions about the conceivable and reduction of uncertainty to risk. One could argue of course that in spite of this disappointment, apocalyptic millenarians might still regard nuclear weapons as the best way to achieve their goal. Schelling simply makes them see the means as much less effective than they would have hoped.

Conclusion

In spite of the historically contingent character of Thomas Schelling's writing from the late 1950s, and notwithstanding ample criticism – of his conception of deterrence (charged with over-rationalism and lack of empirical evidence); his conception of credibility (centered on resolve, whereas the dominant realist tradition in IR treats it as a matter of power only); and his support for a nuclear force structure that arguably lost the battle for policy in the 1970s – his contribution in *The Strategy of Conflict* remains decisive. Scholars have continued to maintain that Schelling offered an elegant solution to the credibility problem of nuclear threats, and his early critics, who emphasized the dangers of this solution, have largely been forgotten. I have argued in this essay that the implications of Schelling's treatment of the distinction between uncertainty and risk in this book, which had been insufficiently explored, can play an important

⁷⁸ Gregory Kavka, "Deterrence, utility and rational choice", *Theory and Decision* 12(1), 1980. I owe Kavka's example to Amadae, *Prisoners of Reason*, p. 137.

⁷⁹ Martin L. Cook, "Christian Apocalypticism and Weapons of Mass Destruction," in Solhail Hashmi and Steven P. Lee, (eds.), *Ethics and Weapons of Mass Destruction*. Cambridge: Cambridge University Press, 2004.

role in explaining the enduring appeal of Schelling's thought, in particular his reflections on "the threat that leaves something to chance".

Schelling's legacy seems to confirm that his work accounts for the role of uncertainty – as unknowable, unquantifiable, and as a result uncontrollable – but he actually writes much more about chance than uncertainty, and he treats chance as risk. As suggested in the introduction, this cannot be explained away by the absence of a better understanding of uncertainty at the time he was writing.

The unacknowledged reduction of uncertainty to risk allows Schelling to bring the possibility of accidental use of nuclear weapons back under the remit of manageable deterrence. Schelling does far more than offer a seductive solution to the credibility problem of nuclear threats. By treating uncertainty as *de facto* reducible to risk without acknowledging the implications, he creates a framework in which he cannot account for the possibility of accidental nuclear use but instead, audaciously, takes this unacknowledged assumption and limitation of his framework as a finding. While most deterrence theorists simply ignored such accidents because they thought they were impossible, Schelling seductively gives the impression that they can now justify why they ignore them.

Another possibility that becomes inconceivable on Schelling's account is omnicidal nuclear war. Moreover, a successful invocation of uncertainty would solve the credibility problem of nuclear threats while removing the need for an intention to retaliate as a condition for credibility. In staking out this position, Schelling unduly removes the core ground on which the most serious moral objections to nuclear deterrence have been raised. The political and ethical implications of this intellectual construction are not obvious because Schelling focuses on processes much more than outcomes and does not engage in ethical discussion.

Most important, by providing a framework that turns nuclear weapons into perfectly controllable instruments and giving the impression that the possibility of accidents can be managed away, *Strategy of Conflict* offers an invaluable authority for those who support the endless perpetuation of nuclear threats. This is why the book has remained massively popular despite the criticisms of the second wave of deterrence research, despite realism's emphasis on sheer power rather than resolve as the determinant of credibility, and despite the political defeat of MAD over NUTS in the 1970s. It is unsurprising that Keith Payne can portray Schelling as "the single most influential Western strategic theorist of the Cold War," even as he favors the doctrine of US nuclear superiority that Schelling opposed and does not believe in the nuclear

revolution, which was central for Schelling; and it is unsurprising that Matthew Kroenig can draw on Schelling to make his case for nuclear superiority, against Schelling's own recommendations, by conflating risk and uncertainty.⁸⁰ Divergence in terms of nuclear policy recommendations is irrelevant, in this sense: Schelling's intellectual construction of uncertainty reduced to risk offers anyone who supports the endless perpetuation of nuclear threats a peerless authority, allowing them not to think about problems that might otherwise jeopardize their nuclear weapons policy preferences.

⁸⁰ Kroenig, "Nuclear Superiority and the Balance of Resolve", pp. 144, 145, 150.