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STRATEGY AS INTELLECTUAL HISTORY

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Ron Robin, *The Cold World They Made: The Strategic Legacy of Roberta and Albert Wohlstetter* (Cambridge, MA: Harvard University Press, 2016)

S. M. Amadae, *Prisoners of Reason: Game Theory and Neoliberal Political Economy* (Cambridge: Cambridge University Press, 2015)

The world of grand strategy is not one to which intellectual historians have devoted a great deal of attention. Matters of interstate economic competition and imperial rivalry have, of course, long been at the center of histories of early modern political thought. Yet, when these currents in the history of political thought narrow into nineteenth-century *realpolitik*, and then turn toward the professionalized contemporary discourses of international relations and war studies, intellectual historians have, for the most part, left the matter to the experts. The strategic maxims of Clausewitz and Liddell Hart may fascinate IR theorists, political scientists, and military historians, but they seldom fire the imaginations of tender-minded historians of ideas.[1] The two books under review challenge such preconceptions. They ask us to consider the history of Cold War strategic thought in a wider conceptual frame. Buried in the history of strategy, they suggest, are some of the central themes of postwar social and political thought.

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Ron Robin's *The Cold World They Made* is the more straightforward of the two books. It offers a vivid portrait of two of the most influential theorists of American national security, Roberta and Albert Wohlstetter. Albert, preening egotist that he was, hogged most of the limelight, but Robin reminds us that his marriage to Roberta was an alliance of two equally powerful and pugnacious

[1] Signal exceptions include Nicholas Guilhot, *After the Enlightenment: Political Realism and International Relations* (Cambridge, 2017); and Duncan Bell, "Writing the World: Disciplinary History and Beyond," *International History* 85/1 (2009), 3–22.

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intellects. Indeed, Roberta may fairly be said to have possessed the more original mind. In her seminal mid-1950s RAND report (later published as the Bancroft Prize-winning book) *Pearl Habor: Warning and Decision*, she established a framework for assessing security threats, which Albert subsequently translated into debates about nuclear deterrence in the 1950s and 1960s. The Wohlstetters are remembered for shifting American strategic thinking away from the assumptions underpinning mutually assured destruction. They proselytized an alternative, offense-minded vision of security strategy to a new generation. Robin weighs the careers of the three most prominent Wohlstetter disciples: Paul Wolfowitz, Zalmay Khalilzad, and Richard Perle. It is natural to associate this trio above all with the George W. Bush administration and the Iraq War: what now seems, in the Age of Trump, to be a long-distant past. On the contrary, however, an important lesson of Robin's fine book is that the obsession with surprise attack that gripped the Wohlstetters and their circle—in particular their insistence that only an unremittingly aggressive posture toward the outside world could keep the (imagined) worst at bay—has left its mark on the even more unpredictable United States of today, whose president stands ready, with Twitter feed to hand, to see terror threats around every corner.

While Robin focusses on geopolitics, Amadae's *Prisoners of Reason* seeks to show how the no-holds-barred, collectively harmful strategic thinking enshrined in the famous prisoner's dilemma (PD) shaped not only the geopolitics of the last half-century, but also the political economy and subjectivity of those who live under neoliberalism. Following in the footsteps of writers such as Elaine Scarry and Richard Tuck, Amadae argues that the Cold War marks a decisive break with earlier traditions of political thought.[2] Unlike those authors, however, she maintains that the game theorists' obsession with the prisoner's dilemma played a central role in this transformation. Here we need only recall the key lesson of the PD: under certain circumstances, rational individuals will fail to cooperate even though all would be better off if they did. As is well known, those circumstances can be represented as a payoff matrix, which is set up so that the uncooperative action "dominates" the cooperative action (i.e. is better whatever the other player does). Given the PD payoff structure, it is individually most "rational" for each prisoner to rat on their partner, even though both would be better off if they kept schtum. It is important to stress that game theorists need not assume that agents *must* be uncooperative in their interactions with one another: the level of cooperation or conflict in a game always depends, in part, upon the payoff matrix facing the players, and this can, for the purposes of the theory, be altered at will. What makes the PD such a challenge to social theorists is its stability: the

[2] Elaine Scarry, *Thermonuclear Monarchy: Choosing between Democracy and Doom* (New York, 2014); Richard Tuck, *Free Riding* (Cambridge, MA, 2009).

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individually rational choice in the PD is also the choice in which one no longer has to guess at the beliefs and motives of the other players, with all of the uncertainty that brings. One simply has a dominant strategy, and can bracket out the problem of anticipating one's partner's action. As we shall soon see, strategic encounters for which there is no dominant strategy may easily collapse into the stable, but mutually harmful, solution of the PD: defection instead of cooperation. This is what, for Amadae, gives the PD its gravitational pull on Cold War-era social and political thought.

Amadae builds some large claims on top of this insight. Insofar as we have come to view social interactions through the prism of the PD, she maintains, we neoliberal subjects have naturalized a host of ugly assumptions about social life: the necessity of threat-based bargaining, the pursuit of self-interest even at the price of harming others, the belief that in any strategic interaction there will be winners and losers, the rejection of the possibility of joint action in the name of the common good. For Amadae, these attitudes, which have been promulgated under the auspices of game theory, embody the wholesale repudiation of what she calls "classical liberalism": the liberalism of Smith and Mill, founded on the bedrock of individual rights and the no-harm principle. *Prisoners of Reason* traces the dissemination of PD-oriented game theory from international relations theory through political science and into the life sciences. Amadae paints us a picture of an anarchic world of warlike intent: a struggle for survival encompassing everything from geopolitics to genes.

To fully appreciate the contributions these books make to scholarship on American political and intellectual history, we need to consider what makes questions of strategy so important in the first place. One of the major lessons that both Amadae and Robin teach us is how strikingly protean strategic thinking has been over the past half-century. On the one hand, its protean character can be seen in how easily strategic theories were drawn into damaging, delusional, or extreme scenarios, even when their premises appeared relatively simple. On the other hand, the shape-shifting quality of strategic thinking is evidenced by its applications to a remarkable range of problems, from nuclear deterrence to political economy to evolutionary biology. What explains these knotty, slippery attributes of strategic thought? Part of the answer was given by one of the great theorists of games of strategy, Thomas C. Schelling: games of strategy turn on the problem of *interdependent decision*.[3] In a strategic encounter, each player's best choice depends upon what they expect the other players to do. That much is obvious. But note that this fundamental feature of a strategic encounter is known to all players: it is common knowledge. It is this *publicity* of the strategic dilemma

[3] Thomas C. Schelling, *The Strategy of Conflict*, 2nd edn (Cambridge, MA, 1980). See also, for a pithy definition, Ken Binmore, *Rational Decisions* (Princeton, 2009), 25.

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that creates all kinds of fruitful problems and paradoxes in games of strategy. Each player knows that their best move depends on what others do; but each player *also* knows that the other players know this too, *and* they know that the other players know that they know, and so on, in a potentially infinite regress.[4]

Common knowledge of interdependent decision, then, creates a powerful, potentially dizzying, kind of mutual dependence among decision makers. In strategic situations, agents are likely to find themselves in a cycle of compounding expectations: what Player A expects of Player B depends in part on what A expects B will expect of *them*, but what B expects of them depends, in turn, on what B expects A will expect of B—and so on, potentially without end. Strategic agents may therefore have no firm ground on which to base their judgments of what others will do. Many kinds of strategic encounter admit of no clear solution: for the agents involved, no decision rule can be applied mechanically everywhere and under all circumstances. That is why the strategic dilemmas of warfare or political action have gripped humankind's attention from the ancient world to the present. It is also why works of history or fiction are often better guides to our thinking in strategic situations than formal decision rules.

As recent scholarship has shown, the resistance of strategic encounters to treatment in terms of a formal theory of rational choice presented a special challenge to many thinkers in the Cold War era. During the interwar years and into the Second World War, economists, statisticians, and philosophers assembled a theory of rational choice that did not rely on problematic assumptions about agents' inner psychological states or the epistemic warrant of their beliefs. Figures such as Frank Ramsey, Paul Samuelson, and Bruno di Finetti showed how one could infer the preferences and (probabilistic) beliefs of agents from their choice behavior alone, thereby allowing the theorist to treat individuals as a certain version of *homo economicus*: agents optimizing under constraint.[5] L. J. Savage's *The Foundations of Statistics* (1954) crystallized the new approach, now widely termed a "neo-Bayesian" theory of decision.[6]

So far, so clean. Yet this new theory of individual rational choice—designed to handle situations of certainty *and* risk—faced serious difficulties in handling strategic encounters, where common knowledge could make the identification

[4] For a general introduction to the problem of common knowledge see Jean-Pierre Dupuy, "Common Knowledge, Common Sense," *Theory and Decision* 27/1–2 (1989), 37–62. The canonical statement is David Lewis, *Convention* (Oxford, 2002), 52–60.

[5] For historical background see Ivan Moscati, "How Economists Came to Accept Expected Utility Theory: The Case of Samuelson and Savage," *Journal of Economic Perspectives* 30/2 (2016), 219–36; Alberto Feduzi, Jochen Runde, and Carlo Zappia, "De Finetti on Uncertainty," *Cambridge Journal of Economics* 38/1 (2014), 1–21.

[6] L. J. Savage, *The Foundations of Statistics*, 2nd ed. (New York, 1972).

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of one's best strategy all but impossible.[7] In modern decision theory, rationality is defined as choice based on the principle of maximizing expected utility. This model rests on three core assumptions: that agents have complete and transitive preferences (represented as numeral payoffs) over a set of outcomes; that they assign probabilities to those outcomes; and that they choose that option which, on the balance of probabilities, will yield the highest payoffs.[8] In a game of strategy, however, the outcome is *not* independent of an agent's own actions, since (as we have seen) what an agent expects of others will depend on what those others expect of the agent. Decision theory assumes it will be possible for an agent to discern which available choice maximizes expected utility, but when expectations are caught in an endless spiral of mutual anticipation, it may not be clear to an agent which choice offers the highest expected utility. Agents in strategic encounters understand that their choices have some causal effect on the outcome of the game, whereas in its earliest form decision theory skirted the issue of an agent's causal power over outcomes by treating events as external variables with fixed probabilities—an evasion that came back to bite it in the controversy over Newcomb's problem.[9] For our purposes, the key point is simply that the expected-utility approach to rational choice runs into problems when it turns from the decisions of an isolated agent to game-like interactions among two or more persons.

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7 Cristina Bicchieri, *Rationality and Coordination* (Cambridge, 1993), 8.

8 All of these assumptions are, of course, contestable. On the difficulties faced by the treatment of preferences in rational choice theory see Michael Mandler, "A Difficult Choice in Preference Theory: Rationality Implies Completeness or Transitivity but Not Both," in Elijah Millgram, ed., *Varieties of Practical Reasoning* (Cambridge, MA, 2001), 373–402. On a critique of the assignment of numerical probabilities to events in decision making under uncertainty see Daniel Ellsberg, *Risk, Uncertainty, and Ambiguity* (London and New York, 2001).

9 On Newcomb's problem and the dispute between "causal" and "evidential" versions of decision theory see Robert Nozick, *Socratic Puzzles* (Cambridge, MA, 1997), 45–84; David Lewis, "Causal Decision Theory," *Philosophical Papers*, vol. 2 (New York, 1986), 305–37. The shunting aside of the question of causation in standard decision theory is of a piece with the attempted neutralization of the problem of oligopoly in neoclassical economics. Neoclassical theorists cling to the model of perfect competition because it allows them to treat prices as exogenous variables facing an actor in the marketplace. Whereas the problem of oligopolistic competition is necessarily indeterminate—as is true of many strategic situations—the assumption of perfect competition allows for formal modeling of equilibrium conditions in markets. Eventually, political scientists cottoned on to the benefits of this sleight of hand, and imported the assumption of perfectly competitive conditions into their treatment of collective action. For the full story, and a philosophical critique of this move, see Tuck, *Free Riding*.

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The theory of strategic interactions therefore took on special importance during the postwar decades, as rational-choice theory was absorbed into the core of modern economic theory and statistics. Game theory was not just a conceptual challenge; it encapsulated a political one, too, since theories of rational decision making were intended, in part, as balms to worries about the putative irrationality of modern democratic states.[10] Many British and American policymakers—from generals and scientists to politicians and industrialists—put their faith in the creation of technologies of choice that could (in Hunter Heyck's phrase) "produce reason" among fallible choosers. Decision technologies offered the hope of rational, efficient action in state bureaucracies and corporations, even when democratic passions or conformist thinking led mass man astray. This technocratic vision was imperiled by the indeterminacy of choice in strategic encounters of certain kinds.

This worry about the irrational tendencies of mass democracy was further intensified by the matter of rational control over the deployment of nuclear weapons, and by the strategic calculations entering into the Cold War standoff with the Soviet Union. On this issue, there was a keenly felt need for a rigorous approach to strategic thinking about the Soviet threat. Part of that problem involved the search for a firm process for decision making in the event of nuclear war—a question to which the young Daniel Ellsberg devoted himself when he joined the RAND Corporation as a young decision theorist.[11] American social scientists, statisticians, and policy intellectuals had proven themselves adept at breaking down complex choice problems and adducing the rules of rational choice that would or should guide agents in their decisions. Deliberation was to be replaced with an algorithmic rationality, which could stipulate the automatic rules of decision making. Given these commitments of "Cold War rationality," the problem of rational choice in strategic interactions would have to be faced.[12]

Fortunately, the news facing the Cold War rationalists was not all bad. Ever since John von Neumann and Oskar Morgenstern began work on their monumental *Theory of Games and Economic Behavior* (1944), games theorists began to draw distinctions between various kinds of strategic encounter, and to show how some of these encounters admitted of a solution (in that they

[10] Hunter Heyck, *Age of System: Understanding the Development of Modern Social Science* (Baltimore, 2015); William Thomas, *Rational Action: The Sciences of Policy in Britain and America, 1940–1960* (Cambridge, MA, 2015).

[11] Daniel Ellsberg, *The Doomsday Machine: Confessions of a Nuclear War Planner* (New York, 2017).

[12] Paul Erickson, Judy L. Klein, Lorraine Daston, Rebecca Lemov, Thomas Sturm, and Michael D. Gordin, *How Reason Nearly Lost Its Mind: The Strange Career of Cold War Rationality* (Chicago, 2013).

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would yield a definitive equilibrium point in which all agents could identify their best choice given the circumstances).[13] Game theorists distinguished strategic situations by the degree of conflict or cooperation they involved, by the number of "players" involved, by the "payoffs" involved, or by the number of iterations of the game. There was plenty of work to be done cutting the vast field of strategic interaction down to size.[14]

Here we can return to Amadae's and Robin's books, for we have reached an inflection point in Cold War thinking about the rationality of strategic choice. The earliest adopters of game theory—notably Thomas Schelling—quickly realized that there were serious limits to the pruning exercise they wanted to perform on games of strategy. They found that the problem of strategy stubbornly resisted being cut down to size. These authors noted that many strategic situations had more than one solution; in some strategic situations, there were no solutions at all, while in yet another important class of cases, apparent "solutions" were inherently unstable. Volatilities of this kind were a recipe for trouble, as far as formal modeling was concerned. Indeed, it came to be seen that some strategic situations were so unstable that they induced agents with a common interest to choose actions that neither would consider their best choice.[15] In these cases, strategic encounters were always prone to lapse into the sort of mutually harmful (though "stable") conflict that the prisoner's dilemma so starkly displayed. Both

[13] John von Neumann and Oskar Morgenstern, *The Theory of Games and Economic Behavior*, sixtieth-anniversary edn (Princeton, 2007).

[14] Schelling, *The Strategy of Conflict*, 83–118.

[15] In *Strategy of Conflict*, Schelling presented an example of how a mixed game, involving elements of cooperation as well as conflict, has an unstable solution that can lead to a dramatic breakdown. A homeowner hears a noise at night, grabs her gun, and heads downstairs, where she encounters a burglar, who is also armed. Each prefers that the burglar withdraws with no shots fired: this is much preferred to either getting shot oneself (obviously) or having to shoot someone. Homeowner and burglar have a common interest in a peaceable solution. Will they achieve their common goal? Here the rationality of the agents would seem to militate against the preferred outcome. For suppose that the burglar thinks that the homeowner wants to shoot. Given that the results of a surprise attack are so catastrophic, the burglar therefore has a strong incentive to shoot first in "self-defense" (in scare quotes here because he has not been attacked, and never will be if he is first on the trigger). By the same token, however, the homeowner will be aware that the burglar may reason in this way, and so, even though the homeowner does not want to shoot, she now feels that she must strike first, also in "self-defense." But in turn, the burglar will know that the homeowner may reason in this way, which means he must shoot because he thinks that the homeowner thinks that he thinks that the homeowner will shoot. And so on, without end. Here the fact that it is common knowledge among the homeowner and burglar that their choices are interdependent seems to give each of them infinitely many reasons to believe that the other will decide to shoot—and so good reason to shoot first.

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Amadae and Robin take their point of departure as precisely this problem of unstable—and potentially destructive—strategic situations. Neither author is as interested in the utopian enthusiasm of high Cold War rationalism as much of the recent scholarship has been. Rather, both are concerned with moments in which the guarantees of that kind of rationalism began to break down under the pressure of strategic interactions, and faith in rationality inverted itself into dangerously destructive fantasy.

The problem of games gone bad was more than theoretical. Debates about nuclear deterrence in the 1950s and 1960s hinged on whether mutually assured destruction (MAD) provided the standoff between the United States and the Soviet Union with a stable—that is, peaceful—solution. According to the proponents of MAD like Schelling, the incentive to launch a surprise attack would be enormously reduced by the knowledge that the enemy possessed the capability for a retaliatory strike that would destroy the aggressor.[16] By the early 1960s, the capacity of an assured (and devastating) second strike was to all intents and purposes secure on both sides: the Americans and the Soviets could call on an apocalyptic trifecta of airborne bombers, intercontinental ballistic missiles, and the nuclear submarine fleet. With their opponent's missiles pointed at large cities, the bombers constantly circling, and the submarine fleets roving the open ocean, a prospective aggressor could never hope to eliminate the threat of catastrophic retaliation with their first strike. To strike first was to sign one's own nation's death warrant. The Soviet and American leaderships knew this—so the reasoning went—and knew that their opponents knew this too. Therefore they could expect that the probability of irrational behavior was low on both sides, given that both faced guaranteed extinction if they attacked. This was the basis of MAD: a balance of terror premised on the deterrence effects of the common knowledge that neither power "in striking first, can destroy the other's ability to strike back."[17]

Enter the Wohlstetters. In a famous RAND memo of 1958, "The Delicate Balance of Terror," Albert vehemently rejected the claim that MAD could sustain a durable armed peace. This belief was crucial to removing the incentive for either superpower to strike first; without it, there was nothing to stop either power supposing that their opponent might strike first, in the belief that a nuclear war was in fact winnable (or survivable) so long as one struck first. (All one needed to believe, of course, was that this was what one's *opponent* thought—at that point one would be set on the downward path toward a conflict that neither power preferred to a truce.) But Albert maintained that there was in fact no reason to think that the Soviets did *not* believe that a nuclear war with a Soviet

[16] For more detail see Schelling, *The Strategy of Conflict*, 207–54.

[17] Ibid., 232.

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first strike was winnable. After all, he suggested elsewhere, the Soviets had lost twenty million souls fighting the Second World War, and not only survived but rebounded to become the dominant power on the Eurasian landmass. It was natural, Albert continued, to assume that the Soviets viewed losses in the region of twenty million in any nuclear war as sustainable.[18] Could the Americans be sure that their second-strike capacity would kill that number, or more? Albert expressed serious doubts on this score, but of course that was not the most important consideration: what mattered was whether *the Soviets* were sure that an American second strike could kill twenty million or more. If they were not—and Albert's reflections on the vulnerability of the Strategic Air Command bases for the nuclear air fleet in Europe indicated that their capacity, in a second strike, was not assured to be devastating—then the Americans were not in a stable standoff at all, but in a state of pronounced vulnerability, without understanding just how grave their situation was.

By putting all of its eggs in the basket of second-strike capacity, and by talking up its retaliatory threat rather than developing its more general offensive capabilities, American leadership had left the nation and its armed forces passive, vulnerable, and without a credible threat. For the Wohlstetters, this was Pearl Harbor all over again. The primary lesson of Roberta's Pearl Harbor study was that American failure to anticipate the Japanese attack was the product of a natural human inclination toward self-deception or self-delusion in the face of uncertainty about whether and where an attack would come. In other words, it was wrong to rest the blame on failures of intelligence information (which would inevitably be filled with "noise") or of military organization. Instead, Roberta concluded that "fundamental lacunae in the human psyche, rather than individual lapses in judgment, were responsible for the surprise ... Warnings that conflicted with well-entrenched beliefs, Roberta explained, would always be ambiguous, if not deceptive, even without elaborate deception on the part of the enemy" (Robin, 58). Accordingly, American leadership had also systematically underestimated the aggressiveness and recklessness of the Japanese enemy: they simply could not imagine that the awe-inspiring concentration of the Pacific Fleet at Pearl Harbor presented the Japanese not, as they had thought, with an overwhelming deterrent, but rather with an irresistible target. Yet, to an enemy bent on the destruction of its opponent's will to fight, that is just what Pearl Harbor represented. The point of *Pearl Harbor: Warning and Decision*, as well as Albert's RAND reports on security strategy, was that just these problems of self-deception, and the misguided attempt to understand as rational the actions of an inherently aggressive enemy, were marring efforts to think clearly about the

[18] Ellsberg, *The Doomsday Machine*, 39.

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Soviet threat. In Robin's words, "The retrospective analysis of the Pearl Harbor debacle and Albert's futurist construct of the "Delicate Balance of Terror" were both derived from the same pool of sociological and psychological insights: the lure of self-deception, on the one hand, and, on the other, the dangers of an insatiable predator when left unchecked by a vigilant West" (14).

On these Wohlstetterian premises, it was always better to plan—and, if needed, act on—the worst-case scenarios. Given the tendency to over-rationalize the enemy's sense of their options, Albert argued, "a prudent country should prepare itself for all possible enemy capabilities—no matter how fantastic—rather than planning for the great unknown of an adversary's intentions." This "focus on imaginative possibilities, rather than reasonable probabilities—one of Roberta's central insights—would become Albert's hallmark and the battle hymn of the RAND Corporation" (Robin, 11). According to Albert, the empty posturing of MAD was bound to make the Soviets—ready as they were to sustain enormous losses to win a war—more rather than less likely to attack. For the Wohlstetters, the balance of power was thus, in fact, inherently unstable. To make it more stable, one had to match the Soviet "willingness" (as adduced by Albert) to consider warfare, up to and including nuclear warfare, winnable. That meant bolstering the armed forces and making plans for the use of "tactical" nuclear weapons in conflicts with other states. That also meant rapidly upgrading the second-strike threat represented by SAC (and later augmented by ICBMs and the nuclear submarine fleet). The Soviet leadership would have to believe that the United States could and would fight a war involving nuclear weapons, and that it believed it could win. Only this could deter them from the surprise attack that was surely possible under the aegis of MAD.

It is difficult to know quite what to make of the Wohlstetters' stance. In a sense, it was a posture, a pretense, just like MAD. Even if they wished to make nuclear war a winnable proposition, American preparations for such a war were part of a broader strategy to intimidate the Soviets and force them into quiescence or obsolescence. Robin presents evidence that strongly suggests that Albert, at least, was fully aware that his depiction of an aggressive and ruthless Soviet Union—the premise of his claim that the USSR was much more of an immediate existential threat than the proponents of MAD imagined—was a pretense. In an oral-history interview for RAND given in 1985, he admitted that he knew very well that the Soviets were much less aggressive and adventurous than his public prognostications had asserted. The purpose of a US build-up of nuclear arms, he declared, was not to prepare for war, but to bring about the Soviet Union's economic implosion.

Albert's advocacy for a U.S. nuclear spending spree, his RAND interview suggests, was driven by his acceptance of Soviet limitations, rather than, as he had always publically

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[*sic*] claimed, his sober assessment of the enemy's predatory nature. His strategy's implicit objective was to provoke the Soviets into feckless financial hemorrhaging in their pursuit of macabre and mostly useless military accessorizing. (Robin, 173)

Perhaps Albert was right to claim credit for Reagan's military Keynesianism in the 1980s. What is undeniably true is that the Wohlstetter doctrine was necessarily more than a posture. To credibly pretend to be a behemoth, it turns out that one has to actually become one. Following the Wohlstetter doctrine rendered the United States a war-minded military superpower, armed to the gills and seemingly intent on finding and eliminating threats to its security wherever they might be found. After the collapse of the Soviet Union, Robin tells us, American security wonks like Wolfowitz and Perle convinced themselves that the endless cycle of existential threats to the Western nations could be permanently ended by the imposition of peace-loving democracies across the globe. The terrorist attacks of 9/11 gave the Wohlstetters' disciples an opportunity to realize this vision, with all of the disastrous consequences we have seen across the Middle East. The difference between merely faking the desire to assert full-spectrum dominance and actually having that desire may be no difference at all. In *The Cold World They Made*, Robin has given us a powerful and sobering account of the disastrous conclusions to which the Wohlstetters' vision of international relations has led.

One of Amadae's major arguments in *Prisoners of Reason* is that the deeply antagonistic, wholly uncooperative strategic worldview of the critics of MAD such as Albert and Roberta has become ubiquitous in our understanding of social relations under neoliberalism. That ubiquity, says Amadae, is the product of the way in which the logic of the prisoner's dilemma, as the archetype of a strategic encounter in game theory, has been disseminated within IR theory, policy science, strategic studies, political science, and the life sciences. Amadae notes that the PD need not have become a paradigm for understanding social interaction: the game theorists' proposal that "strategic rationality captures the only available logic of action for explaining behavior" need not have been conflated with the claim that "the security dilemma, social contract, arms race, and collective action have the structure of a Prisoner's Dilemma" (65–6). Nevertheless, according to Amadae, there has seemed to be among Cold War theorists of strategic rationality a dissatisfaction with the more benign, jointly maximizing kinds of coordination game. There has instead been a virtual obsession with instability and breakdown, and the corresponding rush to do the best one can for oneself, even at the cost of harm to others. As this model has been applied across the modern human and life sciences, the result is "a mentality whereby every decision is evaluated on a cost–benefit analysis basis of how it promotes individual interest in accordance to [*sic*] a fungible rewards scheme" (10).

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For Amadae, the paradigm case of this kind of declension into the PD is Schelling's doomed attempt to defend MAD. Schelling had argued that, under the right conditions, the balance of terror under MAD could indeed be stable, and that common knowledge of the certainty of a deadly second-strike capacity on both sides would prevent the nuclear standoff between the United States and the Soviet Union from becoming a PD, in which the interests of both sides would be to strike first, even though both preferred peace. As we have seen, the Wohlstetters (along with other RAND theorists such as Herman Kahn) believed that MAD was a much less stable situation than one in which the United States planned for, and armed itself to fight, wars up to and including nuclear wars. The "game" in which the two powers were involved, in other words, was not one of mutual assurance, but one requiring coercive bargaining and the threat of "escalation dominance." No space was left for doe-eyed appeals to the absurdity and callousness of mutual acts of enormous harm. As a matter of policy, Amadae shows, Schelling lost the argument to his hawkish brethren—a shift that was sanctified in government policy in the Carter administration, when the principles of MAD were formally abandoned. In Amadae's telling, "Schelling's defense of MAD necessarily failed because of the logical structure of strategic rationality" (101). Schelling was employing the framework of game theory to defend a "classical liberal" vision of politics, in which agents, however limited in benevolence, believed in the possibility of collective action to realize the common good, and in the no-harm principle governing social interactions. But this effort was doomed to fail, because the premises of game theory allowed for the kind of turning of the tables that the Wohlstetters carried out on the defenders of MAD. There could never be any firm guarantee that the inherently unstable solution to the nuclear standoff would not degenerate into a rush to a first strike—and, as Albert Wohlstetter showed, many reasons could be adduced for the claim that what looked like an assurance game was really a prisoner's dilemma: "From within the paradigm of rational deterrence, the only means of resolving the paradoxical Prisoner's Dilemma of mutual mishap was to move away from assuring peace for peace and war for war to a posture of deterrence through demonstrating the intention and capability to prevail in military conflict at all levels including even prolonged nuclear war" (101).

The shift from MAD to a more aggressive American security policy provides the hinge of Amadae's whole account. For it was a real-world policy issue, and it showed how inexorably strategic thinking could get sucked into PD-based beliefs in the inevitability of coercive bargaining, zero-sum interactions, and the acceptance of the purported inevitability of harm in social interactions. And Schelling's inability to resist the logic of the PD opened the way to the rise of game theory across the disciplines: "Rational decision theory, first solidified as rational deterrence theory in the 1960s, was integrated into evolutionary biology and analyses of political economy and finally became mainstream in economics

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in the 1980s" (11). Just as importantly, the transition into PD-style reasoning marks for Amadae a radical break with the liberal tradition, and ought to serve as the basis for understanding neoliberalism as a form of political economy. "[G]ame theory has come to shape the unique practices of contemporary late-modern capitalism" (xvi). No one, as far as I am aware, has pushed this line about the links between game theory and neoliberalism so strongly. But Amadae is unabashed about asserting game theory's priority in understanding neoliberal political economy:

> Elite institutions of higher education in the West treat orthodox game theory as a canonical statement of instrumental rationality. It thus seems a mere truism to observe that contemporary citizens and consumers must either conform to its dictates or risk acting "irrationally." Yet, if game theory shapes actors' subjective awareness of the meaning of their interactions; alters their behavior; and informs public policy, laws, and institutions, then we must examine the possibility that late-modern capitalism enacted by strategically rational actors is distinct from its earlier forms. If indeed so, it would not be surprising that game theoretic models both analytically predict outcomes consistent with neoliberal theory and that these analytic conclusions directly correlate with contemporary empirically evident neoliberal practices. (xix)

It is important to grasp what is vitally right, and what potentially problematic, about these bracing and also sweeping claims. While one may doubt that there is much use in trying to distill an essence out of so varied a conceptual stew as "neoliberalism," Amadae has put her finger on a crucial shift in the intellectual history of the past half-century. *Prisoners of Reason* provides one of the fullest accounts we have of the emergence of what we may call postclassical social theory. As it took shape at the end of the nineteenth century, classical social science was rooted in the formation of distinctive disciplines, as these broke off from philosophy, political economy, and the moral sciences. Economics, sociology, anthropology, psychology, political science: each became more or less autonomous fields defined by their own methods and ontologies. Postclassical social theory is a combination not of these disciplines, but of forms of analysis that are said to cross disciplinary boundaries altogether: decision theory, game theory, statistics, evolutionary psychology, neuroscience, complexity theory, behavioral economics, and artificial intelligence. Historians of science have proven adept at recounting developments in these fields taken singly, but we have fewer studies of how they have transformed the social sciences as a whole. Amadae's book gives us just such an account of this transformation, especially as it has touched politics, IR theory, and social theory. Indubitably, postclassical social theory provides legitimacy and guidance for current forms of liberal-capitalist social policy, economic management, and national security strategy. In that sense,

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Amadae's general argument about the connections between game theory and (a loosely defined) "neoliberalism" is well taken.

On the other hand, even if one were to take to heart the project of showing that game theory defines subjectivity under neoliberalism, one would need a book other than the one Amadae has given us to prove it. The tying together of Schelling's conceptual failure (if such it is) with the Carter administration's embrace of a more hawkish approach to national security is one of the few attempts to show that game theory has systematically shaped the consciousness and behavior of "neoliberal" subjects, or that it has transformed our very laws and institutions. For the most part, *Prisoners of Reason* keeps its focus on authors and texts: James Buchanan, Mancur Olson, Russell Hardin, and so on. The debate is purely academic. Do "elite institutions of higher education in the West" treat game theory as the ur-human science? No doubt there are many economists and practitioners of the "hard" sciences who suppose so, or would like it to be so, but it seems to me that that battle is not yet entirely lost to the postclassical theorists. In any case, Amadae makes no attempt to demonstrate the truth of her claim about the contemporary human sciences. Her discussion of the "pedagogy" of the PD offers only a summary of how select texts have discussed it: no attempt is made to track the actual appearance of game theory on university curricula, or responses of students to its characteristic situations. We are very far from seeing game-theoretic subjectivity in the making—unless a capable reading of Mancur Olson's *The Logic of Collective Action* can count as such.

One is tempted to conclude that the prisoner's dilemma has become Amadae's King Charles's head. Despite caveats like the one quoted above concerning the contingent connection between game theory and the worldview of the PD, Amadae's account often appears to assume that rational decision theory, game theory, and the PD are synonymous with one another. Do rational choice theory and game theory generally lead to the conflict-ridden, mutually harmful vision of social life encapsulated by the PD? There are reasons for doubt on this score. One objection to Amadae's claims about the ubiquity of the PD is that both exponents and critics of postclassical social theory often set the problem aside. For many champions of this approach, the PD is far less important than the study of how stable forms of cooperation emerge among (even very large) networks of individuals. This is an emphasis on natural sociability and the emergence of social norms one finds in the work of postclassicals such as Jon Elster, Elinor Ostrom, Samuel Bowles, and Herbert Gintis.[19] Meanwhile, critics of the rational choice approach to politics, like Richard Tuck, have pointed out that the free-riding

[19] Jon Elster, *Solomonic Judgements: Studies in the Limitations of Rationality* (Cambridge, 1989); Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge, 1990); Samuel Bowles and Herbert Gintis, *A Cooperative Species:*

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problem is explicitly *not* a prisoner's dilemma—something that James Buchanan recognized in his earliest work on the free-riding problem. This is because the purported rationality of free riding (on Olson's terms) rests precisely on the putative negligibility of one's contribution to a collective enterprise involving a large group of individuals: the PD, by contrast, is a small-group scenario—the decision of any one player always has a material effect on the outcome of the game.[20]

There are also some in-principle objections to assimilating game theory and rational choice to the PD. We have already seen that game theory makes no assumptions about human sociability or lack thereof: cooperativeness and conflict are inferred from payoff matrices, and these can be altered as the theorist wishes. It is not game theory *in general* that is culpable of the kind of pessimism that Amadae finds in Cold War strategic thought. Equally, game theory is not the same as rational choice theory, since it requires a much richer set of theoretical assumptions than models of rational choice in economics.[21] For these reasons, one cannot assume that the PD embodies a logic found everywhere in game theory and rational decision theory. As we have noted, Amadae does sometimes mark these distinctions, but the thrust of the book—as made clear in its subtitle—is to lay the blame for neoliberal political economy at the door of game theory. That judgment, it seems to me, is not fully borne out by the history of game theory or the history of neoliberal political and economic thought.

None of these doubts, if they carry any weight, should detract from the impressiveness of Amadae's achievement. Taken in tandem with Amadae's first book, *Rationalizing Capitalist Democracy: The Cold War Origins of Rational Choice Liberalism*, *Prisoners of Reason* gives us as rich and challenging an account as we currently possess of how theories of rational choice and strategic interaction have shaped American political and social thought since the Second World War.[22] One must certainly agree with Amadae that postclassical forms of analysis such as rational choice theory and game theory have been much more central to neoliberal conceptions of state and market than other accounts of neoliberal thought have allowed. It is forgivable to stretch one's argument when trying to cover some serious gaps in the literature. The task before us is to follow in Amadae's footsteps and explore further the history of postclassical social science. Such a history will need to have the problems of strategic thinking at its centre, and we are in Robin's and Amadae's debt for showing us why this must be so.

Human Reciprocity and Its Evolution (Princeton, 2011); Samuel Bowles, *The Moral Economy: Why Good Incentives Are No Substitute for Good Citizens* (New Haven, 2016).

[20] Tuck, *Free Riding*, 19–29.

[21] A point forcefully made in Bicchieri, *Rationality and Coordination*.

[22] S. M. Amadae, *Rationalizing Capitalist Democracy: The Cold War Origins of Rational Choice Liberalism* (Chicago, 2003).

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