
Classical Precariousness vs. Modern Risk: Lessons in Prudence from the Battle of Salamis

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On September 19, 480 B.C., the ancient world faced a pivotal battle. Under the command of the despotic King Xerxes, a fleet of Persian warships had converged off the Greek coast near Piraeus, the port city that served Athens. Known as “triremes” because they were propelled by three tiers of oarsmen, the ships could achieve unprecedented speed, maneuverability, and ramming power. Some 600 to 1000 of them waited at the entrance to the narrow channel separating the Island of Salamis from the Greek mainland.

Already Xerxes’ land forces had conquered the mainland, plundering Athens and destroying its temples. In anticipation of the Persian conquest, Athenian citizens had evacuated to Salamis. Within the narrow strait, Athens and allied Greek city-states sheltered only about 300 triremes, on which their hopes lay for safety from the Persian invaders. If Xerxes’ navy entered the channel and successfully overcame the defenders, it would meet up with the invading land forces and vanquish the refugees on Salamis, nearly completing the conquest of the Greeks. On the mainland, within sight of the narrow channels, Xerxes himself had his minions erect

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a tall throne, from which he could view the sea battle expected the next day.¹

The protagonists in the impending battle were faced with momentous decisions under difficult conditions that I shall call *precariousness*. I do not mean what many readers may be inclined to presume—I do not mean that they faced complex risk under uncertainty. Had they faced only *risk*, their sole option for rationally responding to it would have been probabilistic risk assessment. Their failure to rely on risk analysis would, then, merely have reflected the ignorance we are led to expect of people of their times. I contend, however, that they faced not risk as we usually think of it, and not even risk under extreme uncertainty and complexity, but rather precariousness. Precariousness has constituents—volition, fortuity, particularity, and others—that modern risk analysis does not help us elucidate. Using the Battle of Salamis as my ongoing example, I shall argue that precariousness provides the rationale for the exercise of the classical virtue of prudence (alongside modern analytical skills) in decision making. The ancient Greeks and especially Aristotle recognized prudence as a mode of ethical leadership adapted to precariousness. Through the whole essay, I mean to lend credence to the proposition that, in the face of the catastrophic threats we now face, we can once again find direction in the enduring prudential tradition.

Returning to the Persian threat to Greece, let's put ourselves in the position of an Athenian leader sincerely agonizing over what must be done to protect fellow citizens from catastrophe. We should envision him either on the eve of battle, when decisions had to be made under immediate duress, or some years before, when steps could still have been taken to avert war or to strengthen defenses. For that earlier decision point, we can focus on 483 B.C., three years before the Persian triremes loomed near Piraeus, when a newly discovered load of silver had just enriched Athens' coffers. How should the windfall be invested, perhaps to make the city safer from future threats? And on September 19, 480,

¹ Peter Green, *The Greco-Persian Wars* (Berkeley: University of California Press, 1996); B. Bury and Russell Meiggs, *A History of Greece to the Death of Alexander the Great*, 4th ed. (New York: St. Martin's Press, 1975), ch. 7, 167-199; and J. S. Morrison, J. E. Coates, and N. B. Rankov, *The Athenian Trireme*, 2nd ed. (Cambridge, England: Cambridge University Press, 2000), 56-57, from which I have drawn the estimates of the number of ships on each side.

the eve of the potentially catastrophic battle, our decision maker would have to agonize again. What tactics would protect Athenians from further loss or even regain their freedom?

In our times, under the influence of the doctrine called “risk analysis” (and its variants), the advice to Athenians would likely take the following form: Figure out the likelihoods of various enemy actions, assess the costs and benefits of courses of action to be taken against enemy moves, and thereby pick the most advantageous course. This advice would not have served Athenians well enough, nor would it for the great dangers we now face. In our time, threats from weapons of mass destruction in the hands of terrorists similarly subject us to extreme indeterminacies. The decision-making dilemmas they pose are not resolved by modern risk analysis, for reasons that Aristotle’s monumental work sets out.

Writing more than a century after the incident described above, Aristotle puzzles over our capability of making a true statement today about a contingent future event. His example is a sea battle tomorrow. Possibly he was thinking of that very eve, when Europe’s future hinged on the culminating engagement in the Greco-Persian War.² Aristotle writes that “it is necessary for there to be or not to be a sea-battle tomorrow.” That’s plain and unremarkable. Yet there is something curious about it: a statement that there will be a battle tomorrow is not true today; at the same time, a statement that all will be peaceful tomorrow is not true today. September 20 arrives and a battle takes place. Does the statement of September 19 suddenly become true? Aristotle says no. “Here both possibilities are open. . . .”³ The state of the world is compatible with either of two futures, one containing the battle and the other not; the future is yet undetermined.⁴

Whether in battle or in other practical situations, we must make decisions in the face of such indeterminacy. It may be that

² In making this connection to Aristotle, I am heavily indebted to a web page run by a member of the Oxford philosophy faculty, Bob Hargrave, at <http://users.ox.ac.uk/~ball0888/salamis/>, consulted on June 22, 2004. Hargrave writes that the Battle of Salamis occupied such a distinctive place in Greek thought that even casual mentions of sea battles in later writings would remind audiences of this pivotal moment.

³ *De Interpretatione* 19a8-22.

⁴ See Richard Taylor, “The Problem of Future Contingencies,” *Philosophical Review*, Vol. 66, No. 1 (Jan. 1957), 1-28, 13.

we are unsure of what will happen because we lack enough reliable knowledge. But this is not what Aristotle appears to mean. He seems to mean that, even with lots of good information at our disposal, there are situations in which the possibilities remain open. What's more, our decisions today could in themselves influence the eventual outcome. The future is yet unresolved. Were it not so, Aristotle writes, "there would be no need to deliberate or to take trouble (thinking that if we do this, this will happen, but if we do not, it will not)."⁵

As a start, this is what I mean by precariousness: the predicament we face in a dangerous situation, in which outcomes are indeterminate, or at least are indeterminate as far as we know, and our own volition can influence the outcome. But that is only a start. In search of a fuller description, let's examine the Battle of Salamis, which did indeed take place on September 20.

The battle turned out to be the decisive event at which a fractious alliance of Greek states led by Athens and Sparta turned back the Persian tyrant's invading forces, saving Europe from foreign domination and setting the stage for the Greek golden age and the flowering of democracy. For generations to come, right down to Aristotle's establishment of his school 150 years later, this battle would be regarded by Athenians as a crucial moment in their history.⁶ The very purpose of the prudential tradition is to prepare men and women with the deliberative capacity to decide how to act in such situations.

Battle of Salamis a crucial event in Greek history.

Aristotle and Prudential Thought

Aristotle's theory⁷ of decision making appears mainly in *Nicomachean Ethics*, a compilation of ideas arranged in somewhat haphazard fashion after his death (possibly by his son,

⁵ *De Interpretatione* 19a8-22.

⁶ Once again, note Hargrave's web page at <http://users.ox.ac.uk/~ball0888/salamis/>, consulted on June 22, 2004.

⁷ It's worth making clear that I am using "theory" in the modern sense in which a coherently organized set of ideas can guide action. Within Aristotle, "theory" was usually reserved for reflection about universal truths and contrasted with practice. For example, see *Nicomachean Ethics* (henceforth, "NE") 1103b26-30. Because of the many translations, it is customary to cite the page, column, and line number in an 1831 compilation in Greek. So the citation here refers to *Nicomachean Ethics*, page 1103, column b, lines 26-30, in the 1831 edition. Most English translations have these 1831 cross-references in the margin.

Nicomachus).⁸ Though the work is applicable to many kinds of decisions, including decisions for oneself and one's household, Aristotle is especially concerned about decisions on the community's behalf, "for while it is desirable to secure what is good in the case of an individual," he writes, "to do so in the case of a people or a state is something finer and more sublime."⁹

For Aristotle, decisions on behalf of whole community or state most important.

Aristotle seems especially to have in mind decisions on which life and community existence hinge. "Of what, then, are the terrors with which the courageous man is concerned?" he asks.¹⁰ He may have to "endure dreadful experiences," such as death at sea or terrible illness, or conditions in which danger is the greatest, as in warfare or outbreaks of disease¹¹ or in earthquake and inundation.¹² Ancient Athenians had much reason to have to come to terms with the possibility of disaster.¹³ Wars were frequent, rarely more than ten years apart. Defeat could mean the city's destruction, the looting of its treasures, and its citizens' subjugation or enslavement.

As thoughtful Athenians realized, a war's outcome depended on military intelligence, strategy, and relative power, but also on chance. It could be a chance storm driving a fleet off course, a chance forest fire that reveals your troops' strength, or a wartime outbreak of pox in the city, with its terrifying pustules and enormous toll in lives, destroying the citizens' morale.¹⁴ Oracles could be consulted and gods propitiated to guard against such misfortunes, but the oracles were not about to be pinned down to specif-

⁸ Many translations are available. For easier reading, I prefer the J. A. K. Thomson translation revised by Hugh Treddenick (London: Penguin Books, 1976). I have checked it against the technically more accurate translation by Christopher Rowe, with commentary by Sarah Broadie (Oxford, England: Oxford University Press, 2002). I shall specify which translation I use as I go along.

⁹ NE 1094b5-10, Thomson tr.

¹⁰ NE 1115a24-25, Thomson tr.

¹¹ NE 1151a25-b2, Thomson tr.

¹² NE 1115b25, Thomson tr.

¹³ I am much influenced by Martha C. Nussbaum, *The Fragility of Goodness: Luck and Ethics in Greek Tragedy and Philosophy*, rev. ed. (Cambridge, England: Cambridge University Press, 2001). She writes (p. xxviii) that her book is above all about "the ways in which ethical thought comes to terms with disaster." I am further indebted to John Forester's *The Deliberative Practitioner* (Cambridge, Mass.: MIT Press, 1999).

¹⁴ These are episodes in Thucydides, *The Peloponnesian War*, IV, 30; II, 47-54. I used the Rex Warner translation (Middlesex, England: Penguin Books, 1972).

ics and the gods were caught up in their own intrigues, whose outcomes mortals might well fear. Though there was a belief in destiny, it was not thought to be settled once and for all by an omnipotent and eternal being, but was subject to Luck, herself a deity who could be supplicated but, even then, couldn't quite be relied upon. Facing danger, a human agent is left to his or her own devices, making tough decisions under harsh constraints.

Despite the difficulties of decision, Aristotle believed that there were leaders who were models of prudent conduct.¹⁵ Such a leader knew when to invest in temples to uphold the city's honor even in tenuous peace, but also knew when to send out his fleet to protect the city from enemies bent on its annihilation and when to rally the citizenry during devastating plague.

Before proceeding, let's step back, as Aristotle does. Decisions are not always made under precariousness. Even ancient Greeks had (or thought they had) reliable general knowledge about logic, the calendar, the rising and setting of heavenly bodies, mathematics, the training of athletes, laws and government institutions, and to some modest extent nature and even health.¹⁶ Some of it was rudimentary scientific knowledge. Aristotle, who was quite interested in the science of medicine, could confidently advise what many of us still have not learned, that it is bad to overeat but healthful to take long walks for exercise. When reliable knowledge was available on the future consequences of one's actions, one could make confident choices about how to act.

Then as now, however, we sometimes face weighty decisions in which scientific knowledge does not suffice. I do not just mean that we face high stakes without knowing the odds. Probabilities *are* a form of scientific knowledge. Rather I mean that the very conditions that would generate odds are yet indeterminate and modifiable through our own actions. It's a world in which, as Aristotle tersely puts it, outcomes "can be otherwise."¹⁷

To the distinguished French scholar Pierre Aubenque, the tradition of prudential thought has its origin right here, in Aristotle's

¹⁵ He refers to the Athenian leader Pericles. See *NE* 1140b5-10.

¹⁶ Aristotle makes his distinction between scientific (or deductive) and prudential decision making in *NE* Book VI, Section 8.

¹⁷ The general discussion is in *NE* Book VI, Sections 5-7, with the language of "may be otherwise" or "variable" used at 1140a27, 1141a1, and 1141b9-11. He is referring not to variables in the modern sense found, say, in algebra, but rather to the kinds of indeterminacy to be discussed below.

philosophical reflection on human precariousness. Though we live in a world that is in part under the sway of scientific regularities, Aubenque holds, it is also a world into which human actions and circumstantial contingencies insert a measure of play, making the future partially indeterminate and modifiable.¹⁸ Precariousness is the occasion for prudence. It is in search of a fuller understanding of precariousness that we now embark.

The future is partly indeterminate and modifiable despite scientific regularities.

Tomorrow's Sea Battle

In the days preceding the Battle of Salamis, as the dreadful news arrived that the Persians were marauding Greek cities, the commanders from the various city-states weighed their options in acrimonious debate. A preponderance initially favored withdrawal to the Peloponnesian peninsula, behind a guarded isthmus at which armies would make a last stand against the invaders. They also feared for the lives of the women and children taking refuge at Salamis. Others warned, however, that as soon as the allied ships left Salamis, they would scatter, dooming the Greeks' war effort and forcing them to succumb to foreign domination.

The Athenian commander Themistocles urged his allies to stay and fight the Persians in the straits between Salamis and the mainland. If you leave the straits, he warned, you will have to fight the enemy in open waters in which they have the advantage of numbers. You will also draw enemy ships closer to the Peloponnesian peninsula, where you will face the combined might of the Persian army and navy. But if we engage the enemy in the confines of the straight, he continued, we have the advantage of our maneuverability over their numbers, and can achieve naval victory.¹⁹

Of course, Themistocles was making strong assertions with shaky knowledge in a radically indeterminate setting. Would the Persian fleet actually enter the narrow channel, barely a mile wide, or opt instead for an extended blockade? Would the independently commanded Greek flotillas flee for home instead of committing to this dangerous engagement? Would Greek mariners be

¹⁸ Pierre Aubenque, *La Prudence chez Aristote* (Paris: Presses Universitaires de France, 1963), 65, 66.

¹⁹ I am relying on Herodotus' famous, partly factual and partly mythical *History*, tr. David Grene (Chicago: University of Chicago Press, 1987). Modern historians still rely on it while trying to remove its exaggerations and inventions. I paraphrased from paragraphs 8.49, 8.57, and 8.60.

more skilled than their Persian counterparts in rowing, maneuvers, javelin, archery, ramming tactics, boarding, and hand-to-hand combat? What of the relative qualities of the ships themselves, or tomorrow's winds, or the tides? Despite the unknowns, Themistocles wasn't clueless. He had a sense of Xerxes' mode of strategic thinking. He could draw on emotional resources of having commanded and survived under danger. He had a talent for persuading others in crisis. And perhaps he had a hunch that determined action could generate decisive advantage in the midst of imponderables that confound both sides.

It might be thought therefore that good decision making is a mysterious, unfathomable art. To Aristotle, our search for good action in human affairs indeed proceeds in conditions of instability and imprecision in which we must make decisions in response to the particularities of the subject matter at hand.²⁰ In such conditions, "agents are compelled at every step," not to act peremptorily or arbitrarily, but "to think out for themselves what circumstances demand," Aristotle writes.²¹

As we shall see, precarious situations are not chaotic ones. The constituents of precariousness can be identified, permitting reasoned deliberation. Borrowing from philosopher Martha Nussbaum's interpretation of Aristotle²² and Alasdair MacIntyre's reflections on the limits of prediction in the social sciences,²³ and adding elements of my own, I have sought to put in some order the constituents of precariousness. They follow below under the headings of volition, fortuity, particularity, transformation, dubiousness, and complexity.

Volition

Future events are indeterminate in large part because they depend on human volition: on decisions by human agents. In his passage on tomorrow's sea battle, Aristotle indeed attributes indeterminacy of the future to human volitional action. "For we see

²⁰ NE 1104a1-5. Here the Rowe translation is clearer.

²¹ NE 1104a5-10. Thomson trans. Aristotle cites medicine and navigation as examples of such thinking.

²² Nussbaum, *Fragility*, 302 and the following pages. She herself does not use the word "precariousness."

²³ MacIntyre, *After Virtue*, 2nd ed. (Notre Dame, Indiana: University of Notre Dame Press, 1984), chapter 8.

that what will be has an origin both in deliberation and in action," he writes. In this deliberation, he explains rather abstractly, "both possibilities are open, both being and not being, and consequently, both coming to be and not coming to be."²⁴ The agent can decide to act one way or another. Depending on his decisions (and his ability to carry them out), various human acts may or may not take place.

*Future events
indeterminate
because
dependent on
human
volition.*

The Greco-Persian War took place in part because of Xerxes' decision a year or so before. According to the accounts that have come down to us, Xerxes told of his reasons to a council of Persia's greatest nobles. He wanted to avenge the Greeks' defeat of his deceased father's earlier expedition against Greece; punish them for their slights against Persian honor; and expand Persian power and glory over all Europe, so that no nation would dare challenge his empire again. He had also come to believe from his engineers that they could construct a floating bridge on which his army could march over the Dardanelles (the channel separating Europe from Asia in present-day Turkey) into Europe, permitting coordinated invasion by naval and land forces. Yet Xerxes vacillated for a few days, until he had a disturbing dream. As the story is told, an apparition warned him that if he reneged on the campaign he would be humiliated.²⁵

Those of us educated in rigorous analysis rarely attribute events to human thoughts, much less to dreams. Yet, even if the historic record about Xerxes is clouded by myth, it makes sense to think that the war originated, in part at least, from volition: his thoughts about empire, revenge, feasibility, glory and humiliation.

The Persian land invasion proceeds, overwhelming Greek resistance. By September 19, 480, Greeks face grim possibilities. Further events now depend on their volitional choices. They have to decide whether to stay and fight in the sheltered straits at Salamis Island, or make a break for it so as to defend Sparta and other yet unconquered cities on the Peloponnesian peninsula. On that day, an Athenian comes forward to advise Themistocles of the folly of drawing off the allied ships from Salamis. That citizen had the choice between confronting and not confronting this formidable commander, but in the event chose to do so. Themistocles for his part could have brushed him off, but instead he is persuaded, and

²⁴ *De Interpretatione* 19a8-20.

²⁵ Herodotus, *History*, Chapter 7, paragraphs 5-18 (often cited as 7.5-18).

thereupon boards the flagship of the Spartan admiral, Eurybiades, to urge him to keep his squadrons with the Athenians and defend Salamis. Another commander present at that staff meeting, a Corinthian, counters mockingly that, since Athens was conquered, Themistocles was a commander without a city.

In response, Themistocles chooses to bluff. He warns that, if the allied fleet disperses, Athenians will flee to form new colonies in Italy and quit the alliance, exposing Sparta to greater danger. Will the Spartan admiral be influenced by the Corinthian's mockery or the Athenian's bluff? Eurybiades swallows the bluff. He accedes to the plan to stay and mount a defense at Salamis.²⁶ "So it was," the historian writes, "that there was at Salamis first a verbal skirmish; but once Eurybiades made up his mind, they prepared to fight there."²⁷

Future events were still open on September 19 (and all the more so the year before, when the Persians had yet to decide to invade) because human agents had volition: they had not yet made up their minds. "So it is clear," Aristotle writes, "that all those actions that man is a starting point of, and controls, are capable of coming out or not."²⁸ The sea battle on September 20 emanated from volitional decisions made on the Spartan's flagship the day before.

In our times, some doubt that a person's decision is an original cause of an action; perhaps action has a deeper origin in the neurobiology of thought. Perhaps one day we will even achieve a thorough biological explanation of human brain functions or create computer programs that can simulate human thought. But to my knowledge, even for those who think that such a scientific achievement is feasible, our discovery of brain mechanics would provide general explanations of how thought functions,²⁹ but might well fail to explain how a particular individual, with a particular history, will decide in a particular context. For all practical purposes, the individual's decisions emerge in a thinking process whose outcome only that human agent can determine.

*Volition
influenced by
particular
experience.*

²⁶ Herodotus, *History* 8.57-63.

²⁷ Herodotus, *History* 8.64

²⁸ *Eudemian Ethics*, tr. Michael Woods, 2nd ed. (Oxford, England: Clarendon Press, 1992), 1223a5-9.

²⁹ For example, Daniel C. Dennett, *Consciousness Explained* (New York.: Little, Brown & Company, 1991).

Fortuity

Aristotle guides us to another source of indeterminacy, one that those of us trained in modern analytical thinking may at first resist. In translations, it is sometimes referred to as luck, coincidence, fortuitousness, or fortuity. I want to make the case that this idea retains its power even when it is (as I think Aristotle intended) stripped of all scraps of superstition.³⁰

Think of a man who, having eaten spice, becomes thirsty and goes to a well to drink, only to be accosted by robbers and killed. Consider another who digs in his garden and finds buried treasure.³¹ Or again think of a flute-playing architect whose client happens to like musicality and so chooses him to build a house.³² These are all examples from Aristotle, but it's not difficult finding plenty of additional ones. The sensitive boy's accidental eye injury makes him morose and turns him into a delinquent,³³ and the sleeping guard's snore reveals the platoon's hiding place, changing the course of battle. In some sense, the spice gets one fellow killed, vegetable gardening makes another a fortune, musicality gets the house built, the eye injury creates a criminal, and sleep apnea loses the battle.

Now let's turn back to the Battle of Salamis. From several fortuitous events there, I pick only two. Late on September 19 one Tenian trireme (from the island of Tenos) deserts to the Greek side, bringing news that the Persians had blocked escape from the channel, thus sealing the allies' decision to stay and fight. A chain of reasons we can only guess at had led the Tenian captain to make this move. Maybe we could have anticipated this move, if we had data on the likelihoods of desertion or knew the Tenians' motives.

³⁰ In his discussion of lack of predictive power in social science, MacIntyre (*After Virtue*, 92-93) invokes Machiavelli's idea of *fortuna*, rather than Aristotle, though later in the book he relies heavily on Aristotle.

³¹ Here I have used a secondary source: R. J. Hankinson, "Philosophy of Science," in Jonathan Barnes, ed., *The Cambridge Companion to Aristotle* (Cambridge, England: Cambridge University Press, 1995), 116-118, citing Aristotle's *Metaphysics* and *Physics*.

³² I've adapted this example from *Physics* 197a15, in Jonathan Barnes, ed., *The Complete Works of Aristotle*, Revised Oxford Translation, Vol. I (Princeton, N.J.: Princeton University Press, 1984).

³³ Robert MacIver, *Social Causation* (Boston: Ginn, 1942), 179, cited in Jerome G. Manis and Bernard N. Melzer, "Chance in Human Affairs," *Sociological Theory* 12:1 (March 1994), 45-56; 50.

We would have had to investigate this particular contingency as compared to the innumerable other contingencies shaping tomorrow's battle.

The next day the flotillas from Xerxes' various subject peoples crowd into the strait to fight the Greeks. Among them are the Phoenicians, reputed to be especially fine mariners. During the course of the battle, Phoenician captains come to Xerxes to complain that the Ionians are cowards. At that moment, Xerxes sees from his throne what he takes to be a great Ionian deed in the sea. As it happens, Xerxes' advisor (secretly friendly to the Ionians) happens to be on the scene and takes the opportunity to blame the Phoenicians for the day's setbacks. Xerxes promptly has the complainers beheaded, presumably doing little good for the remaining Phoenicians' morale.³⁴

*Fortuitous
events
unpredictable
but not
inexplicable.*

To be sure, there are reasons for this contingent event: rivalry between Ionians and Phoenicians, the advisor's secret allegiance, and Xerxes' angle of vision on the battle, not to mention his temper. The reasons for the fortuitous occurrence can be understood.³⁵ So, in saying that fortuitousness makes the battle's outcome indeterminate, I do not mean that any particular fortuitous event is inexplicable. Rather, I mean that indeterminacy arises from the vast number of contingencies at work, among which a few *coincidences* affect the battle's outcome. Note that in saying "coincidence" I am being completely literal. I mean a co-occurrence (an intersection) of incidents, each arising from an independent causal sequence.³⁶ The sequences of events leading to each coincidence are understandable on their own. What is indeterminate and unpredictable is the fortuitous intersection of these particular causal sequences and not countless others.

Let's return for a moment to Aristotle's example of the house designed by the flute-playing architect. The house has the form it does because of the fortuitous (coincidental) intersection of the client's taste and the architect's characteristics. Among the causes of this building's form, "the accidental cause [the architect's flute-playing] is indeterminable, for the possible at-

³⁴ Herodotus, *History* 8.82, 8.85, 8.90.

³⁵ MacIntyre warns against confusing unpredictability and inexplicability (*After Virtue*, 95). We often are unable to predict events that are explicable in retrospect.

³⁶ Hankinson, "Philosophy of Science," in Barnes, *Cambridge Companion*, 118.

tributes of an individual are innumerable."³⁷ We can, I believe, extend Aristotle's explanation to say that some events result from intersections of attributes in a world of innumerable attributes. For all practical purposes, the number of contingencies (intersections of attributes) is infinite.

*Contingencies
virtually
infinite in
number.*

I want to be as clear as I can. I am not saying that we are constantly subject to strange fortuitous events. Some situations are well-enough bounded that we can reasonably ignore entire swaths of contingency. Embarking on a voyage, we can save ourselves the worry that, if there is a dog on board, it might be rabid and might bite the captain, turning him into a lunatic; we would nonetheless prepare the rigging for the odd storm and carry twine for mending the sails. We reasonably restrict the range of contingencies to which we give consideration. Some situations like battle are exceptionally liable to the play of possibly infinite contingencies. In these situations, even our most exhaustive analytical effort to foretell what will happen *never* exhausts the possibilities. Yet, the classical tradition tells us that we are not incapacitated. We can act with prudence in the face of fortuitous contingencies.

Particularity

The decisions we face may be precarious for still another reason—one closely related to the two already mentioned—that the situations in which we must act are composed of many particulars. Each group of people is made up of individuals, each of whom has her or his own upbringing, character, memories, and physical condition. Each society has its own history and traditions, each geographical area its distinct landscape, each city its characteristic avenues and buildings, each building its shape and materials, each room its furnishings, each dog its temper.

To be sure, one city is in some ways like others of its type, and one terrier resembles most others, and one electron is identical to every other. Though unaware of electrons, Aristotle realizes very well that some things can be classified under general categories (genera) and are subject to scientific laws.³⁸ Observing that an object can be classified under the general concept "ship," we imme-

³⁷ *Physics* 196bb25-30.

³⁸ See Robin Smith, "Logic," in Barnes, *Cambridge Companion*, 27-65, especially 47-48.

diately know some things about it, say, that it is meant to carry people and cargo on water. Looking at the ship's fragile hull, we may also scientifically attribute to it the general rate at which wood of that sort decays. We might be less accustomed to thinking that this ship is an enemy's particular target and that a particular saboteur has scraped this particular hull.

The Battle of Salamis indeed hinged in part on particular individuals acting in particular situations under that day's particular conditions in that particular place. I have already suggested the particularities of social interaction among members of the Greek general staff and hinted at the monomaniacal administration under which Xerxes' staff labored. I will confine myself to another instance of human particularity, that of Xerxes' most flamboyant commander that day, Queen Artemesia (of Halicarnassus, a city on the coast of what is now Turkey), who commanded a squadron of five ships.

She faced particular dangers because the Greeks, who were distressed at the prospect of being trounced by a woman, were dead set on capturing her. So in the heat of battle, as the Greeks took advantage of their maneuverability to decimate the Persian ships crowded into the strait, she made the devious decision to sink a friendly ship that was blocking her way, and thereby made her escape. Watching from shore, Xerxes mistakenly concluded that she had rammed a Greek ship, so her renown rose all the more in his eyes. He is said to have quipped that "My women have become men, and my men women," a comment that might not have done much to build his men's fortitude.³⁹

This anecdote illustrates forms of indeterminacy we have already discussed: indeterminacy arising from her volitional acts and from Xerxes' fortuitous misunderstanding of her duplicity. Moreover, it illustrates particulars at work. There are particulars of her gender, the Greek reception of her gender, and her talent for self-preservation. And there are particulars of geography.

The narrowness of the strait forced the invading Persian ships to expose their flanks as they entered; two promontories (extending from the island into the strait) hid the Greek positions from the invaders, and the late-morning winds blew across the Island toward the mainland (perpendicular to the Persian direction), fa-

³⁹ Herodotus, *History* 7.99, 8.87, and 8.88 (the source of the quotation).

voring the Greek assault.⁴⁰ There were also particularities of technology and human individuality: ships and their crews differed. Within each fleet, some ships were built for speed, others for carrying troops. Only a few in each fleet were outstandingly fast, high performance ships. Others were of poor design or had deteriorated for lack of time to beach them for drying and caulking of the hulls. Some crews had rested that night, others had been on patrol.⁴¹ The Battle of Salamis turned on *that* day's weather affecting *these* ships with *their* particular crews in *this* strait.

To decide wisely, the prudent man or woman should strive to apprehend, and come to reasoned judgments about, particulars. It bears repeating that Aristotle does not say that we are condemned to knowing only particulars. Those who aspire to prudence should know science, geometry, and arithmetic as guides to general truths.⁴² Nonetheless, Aristotle asserts clearly that "prudence also involves knowledge of particular facts, which become known from experience."⁴³ He stresses that "prudence apprehends the ultimate particular, which cannot be apprehended by scientific knowledge."⁴⁴

Prudence requires knowledge of particulars as well as universals.

It's important to clarify something here. Certain forms of disciplined inquiry, like mapping, military intelligence, assessments of enemy leaders, and knowledge of local weather would leave decision makers better informed, even at Salamis. In this sense, rigorous inquiry makes us aware of more particulars, more accurately. In some situations, such inquiry resolves our predicament, allowing us to make a secure decision—one well founded in probability.

But in other situations, human volition and fortuity add indeterminacies that disciplined inquiry cannot exhaust. Inquiry itself may be subject to distortions and deception, as we see below. So, inquiry may just generate more information, without resolving our decision-making predicament. As Martha Nussbaum puts it, a decision maker must still be able to make sense of "particular non-repeatable components of the situation." Decision rules may help but do not solve the problem. The decision maker still has to culti-

⁴⁰ Green, *Greco-Persian Wars*, Part 5, 153-198.

⁴¹ Morrison, Coates, and Rankov, *Athenian Trireme*, 150-154.

⁴² NE 1141b4-16. 1142a12-13.

⁴³ NE 1142a12-13, Thomson tr.

⁴⁴ NE 1142a25-29, Thomson tr.

Rules based
on past
experience can
help with, but
not determine,
new decisions.

vate “the ability to recognize, acknowledge, respond to, and pick out certain salient features of a complex situation.”⁴⁵

That ability consists in being able to make sense of particulars within one’s situation or environment, one’s community, one’s life, and one’s understanding of how others lead their lives. It requires that we be whole human beings who can make reasoned sense of particulars in surroundings. We might call this ability “circumspection,” a feature of prudence.

Transformation

Aristotle conceives of decision makers in a world of incessant change—of birth and death, youthfulness and aging, generation and decay. In Martha Nussbaum’s interpretation, “the world of change confronts agents with ever new configurations, surprising them by going beyond what they have seen.”⁴⁶

This is not to say that change is necessarily unpredictable. Some changes are certain. Considering the residents of a city, we can confidently predict that every one of them will die, sooner or later. Other changes are probable. It is, after all, a truism of statistics that aggregates of similar events conform to statistical laws. We can say with some level of confidence that the city’s population will exhibit a probability distribution of annual deaths by age cohort and causes, whether cancers or drowning. (We cannot, however, predict the particulars, such as which individuals will die from drowning.) It is not these routine changes that call for prudential response, but rather all-encompassing changes, which I will call “transformations.” Transformations force us to reconsider the background conditions on which ordinary predictability rests.⁴⁷

Transformation is not one king’s death and another’s succession, but rather the rise or decline of the empire; not one Athenian’s election, but the shift from aristocracy to democracy. It’s not one man’s sickness, but rather the epidemic that a plague induces. And it’s not a wet spell, but a flood so devastating that it alters the soil and changes the landscape. In the face of such

⁴⁵ Nussbaum, *Fragility*, 304, 305.

⁴⁶ Nussbaum, *Fragility*, 302.

⁴⁷ While employing the term used by Nussbaum in *Fragility*, 302-303, I am giving it a more specific twist.

events, we must reconsider the background assumptions upon which we make decisions.

Lives can be destabilized by technological transformations. In the Battle of Salamis, we can see the effects of cumulative technological developments in the trireme itself. Previous wars on the Greek peninsula had been decided through set-piece battles in which linear phalanxes of warriors pounded each other with swords, but by the time of the Battle of Salamis the strategic advantage had shifted to naval power. Themistocles foresaw the strategic shift. Three years before the battle, when Athenians happened upon a rich silver load in an old mine, he successfully urged that the city use the windfall to improve the trireme fleet. It would turn out to be a fateful decision.

On the day of battle in the tight waterway, the Greeks benefited not just from the newly enlarged fleet but also from a technological advantage, the lightness and maneuverability of their ships. As the swells picked up during the day, the Persians suffered from their ships' higher prows and sterns, which were overloaded with archers, making the ships unwieldy.⁴⁸ At the same time, the Greeks benefited from treating their ships as armored rams, while the Persians saw them as platforms for archers and armed fighters. The former technology prevailed at Salamis. Such trireme-rams would retain naval advantage for generations. It was not until the ascendance of Macedonia and Rome that triremes lost ground to newer and heavier vessels that carried fully armored archers and missile-launching catapults.⁴⁹ The Athenians' success at Salamis rested, therefore, on their more accurate anticipation of technological shifts in warfare.⁵⁰

The ascendance of naval warfare in the ancient Mediterranean occurred gradually, but then reached a turning point past which it undermined the taken-for-granted assumptions on which military planning had been based. We face fateful decisions in part because

⁴⁸ Green, *Greco-Persian Wars*, Part 5, 153-198.

⁴⁹ Morrison, Coates, and Rankov, *Athenian Trireme*, 46, 49.

⁵⁰ Compare MacIntyre's discussion, in which radical innovations are a source of systematic unpredictability in human affairs (*After Virtue*, 93-95), because the predictor would have to somehow know the innovation before the innovator does. However, as cumulative knowledge makes a particular innovation more feasible, observers can increasingly deliberate about the possibility. Hence, while I have no general scientific rules through which to predict future innovation, I may be able prudentially to anticipate it in its historical context.

political, natural, and technological environments can undergo this kind of transformation. If we do not occasionally challenge our background assumptions, they quietly and unobtrusively prejudice us, making us think that the constraints on which we could rely in past decisions will continue to hold for future ones.

Dubiousness

The Battle of Salamis reveals another facet of precariousness, namely the untrustworthiness of the intelligence that agents have at their disposal. Here I will use the word “intelligence” broadly to mean that portion of available information that is pertinent for making decisions (military intelligence about an enemy’s capabilities or intentions would be just a subset). Intelligence is subject to gaps, distortions, inaccuracies, mistakes, and intentional deception, compounding our precariousness.

*Precariousness
of decision
making
increased by
purposeful
deceptions.*

As we have seen, misperceptions played a part in the Battle of Salamis. Xerxes misperceived an Ionian engagement at sea as proof of Phoenician incompetence and mistook Queen Artemesia’s sinking of a friendly ship as a victory. When Xerxes heeded an advisor’s conniving slander against the Phoenicians, he succumbed to manipulation for that advisor’s personal or national advantage. After all, as information makes its way from empirical conditions to usable intelligence, it passes through human hands, rendering it susceptible to manipulation. Most decisively for the outcome of this battle, the combatants labored under each other’s purposeful deceptions.

At deception, Themistocles was the master. We know that in the days leading up to the battle he bluffed his allies into remaining united to defend the strait. During the same few days, he also bluffed Xerxes. Themistocles secretly sent an envoy through whom he claimed that, in battle, he would treacherously refrain from hostilities and accede to Persian domination. Xerxes was in a frame of mind to believe the envoy. The winter was coming. A bad storm or a Greek attack could destroy the Persian bridge of boats (over the Dardanelles), cutting off his army’s march back to Asia. So perhaps Themistocles’ message did indeed spur him into battle on September 20. According to one historian, the Greek allies compounded the deception with still another. As the fateful day dawned and the Persian fleet entered the narrow channel, the

Corinthian squadrons (part of the Greek alliance) pretended to flee. The ruse drew the Persians further into the trap.⁵¹

Xerxes, too, tried his hand at deception. In the days before the battle, his troops made a foray toward the guarded isthmus leading to Peloponnesia, as if they were launching a land invasion. They hoped to scare the Peloponnesian members of the Greek alliance into rushing back to their home states. The Persian marchers were even instructed to sing loudly, so they could be heard across the strait on Salamis.⁵² After his devastating loss on September 20, Xerxes started the construction of a causeway between the mainland and Salamis Island, but secretly had no intention of completing it. By this ruse, he meant to distract his troops' attention from their loss and to keep enemies occupied with the fear that his army would be able to cross over to their island refuge, and so to buy time for his forces' retreat.⁵³ But at least the first of these two deceptions failed to convince.

One of the primary rationales for modern risk analysis is that it undertakes the inquiries meant to characterize risks as accurately as possible, so that our decisions do not succumb to insufficient or imprecise information. Concerning empirical investigations to improve our information, Aristotle is, of course, not a good guide. Note, however, that the challenges of decision making at Salamis arose as much from purposeful distortions as from the insufficiency of empirical information. Overall, the Battle of Salamis turned in significant part on mutual deceptions, some successful, some not.

Was Themistocles' offer to abandon the alliance and side with Xerxes only a trick? Or, was it true treachery to which he might have resorted under the pressure of imminent defeat? Was Xerxes' bridge to Salamis only another ruse, or did he truly entertain the option that, if the bridge building proceeded well, he might cross over it to destroy the refugees? Empirical research of a contemporary sort does not answer such questions. However, modes of deliberative discourse, a subject on which Aristotle did write extensively,⁵⁴ are indeed meant to explore disagreements (say, about an

⁵¹ Green, *Greco-Persian Wars*, 187-88.

⁵² Green, *Greco-Persian Wars*, 176.

⁵³ Herodotus, *History* 8.97.

⁵⁴ I have in mind his *Topics*.

adversary's intentions) so that, given our state of knowledge, we can tease out the better argument from the worse.

In modern decision theory, adversaries' reciprocal strategic moves are explained through a doctrine called "game theory." The adversaries (players) are thought to be seeking very specific ends, such as minimization of the chance of maximum loss. They make strategic moves to attain this end, relative to the other players' likely moves. But the strategizing at Salamis is poorly explained by game theory, for at least three reasons. First, the very nature of the game is in question. Is it to be a land war across the isthmus or a naval engagement? Would the Athenian commander defect at the last minute to the Persians? Will Xerxes undertake what Themistocles and the allies feared, a blockade of the island? Will the alliance break apart? Will the Corinthians really flee or just pretend to flee when the battle starts? Each adversary seeks to determine the nature of the game while deceiving the other about what the game will be. Second, as Alasdair MacIntyre points out, such situations are subject to infinite reflexivity (you must predict what I predict that you predict I will do, etc.) and, third, "at each stage each of us will simultaneously be trying to render himself or herself unpredictable by the other."⁵⁵ Each player achieves advantage by undermining the very possibility that the opponent will identify a stable game in which he (the opponent) can discover advantage through static calculation.

The human agents at Salamis acted, therefore, under dubious intelligence worsened by intentional deception. Added to the indeterminacies of human volition and to the intrusion of fortuitous happenings, the dubious intelligence made decision even more precarious. The dubiousness of our information enlarges the grounds for prudence in decision making.

After Complexity

In our time, the difficulties of decision making are usually attributed to complexity. A contaminant in the environment raises fears of cancer; a spark causes a flame that may or may not grow and engulf a building. In each case, we recognize that numerous factors are involved and that the factors interact in multifarious ways. Setting out to understand the suspected carcinogen's effect

⁵⁵ MacIntyre, *After Virtue*, 97.

on the human body or the patterns of fire, we expect that we will run into complexly intertwined causal relations. To inform decisions, we hope at least to identify the most important factors and to model their interactions.

The combatants at the Battle of Salamis might well have benefited from a good systems model. I imagine that respective fleet sizes, ship velocities, javelin throwing distances, tides, and winds could each have been measured. Javelin throws differed in speed and distance, but did so, no doubt, in statistically predictable ways. With some heroic systematizing, the interactions of ships, waves, and missiles could have been modeled. Sitting on his throne, consulting his laptop, Xerxes might well have issued smarter commands.

When we face such complexes of interacting factors, many of which are probabilistic, we should *not* be said to be deciding under precariousness. We are simply making decisions *under uncertainty*. The modern fields of risk analysis, systems analysis, and decision theory have developed techniques that would improve our decisions by lessening the uncertainty.

I do not want to be misunderstood. I do emphatically believe that risk analysis, systems analysis, and related techniques are essential for understanding many types of problems. Fearing earthquakes, I would want to consult a seismologist who would assess the likelihood of a temblor of given severity in the coming decade. Worried about the catastrophic possibility of the reintroduction of smallpox, I would certainly hope that scientists have a model of how it spreads in the population.

But at the Battle of Salamis and other tough situations of that sort, we face more than system complexity. We also face volition, fortuity, particularity, transformation, and dubiousness. Moreover, these classical constituents of precariousness mingle with systemic complexities. The methods of systems analysis do not—and if they adhere to their intellectual foundations, cannot—unravel sources of precariousness from sources of complexity.

The concept of “risk,” though subject to varying definitions, emphasizes hazards and their likelihood of occurrence, where these can be pinned down and assigned probabilities, with measurable uncertainties. As at the Battle of Salamis, where threats are indeterminate and likelihoods of the events are muddled by voli-

tion, fortuity, etc., risk analysis can never solve our decision-making predicament.

Recovering Prudence

It is customary in our time to think of a decision as having only literal content. Decision is, it would seem, just the best answer we could come up with in face of the apparent risks, costs, and benefits. However, this modern understanding rests on deterministic or stochastic concepts of causality. By contrast, under the classical understanding of precariousness, the future is partly indeterminate; it is subject to volition and fortuity. Decisions made now reciprocally affect others' convictions about future possibilities and thereby partly shape the future.

Directing his decision at audiences, an agent may call for one dramatic act or a set of weighted initiatives. He may state his resolve with unmistakable clarity or studied ambiguity, in a voice that is stubbornly uncompromising or that expresses determination while being open to argument, or shows tentativeness in light of changing events, or vacillates in light of political pressures. He may seem to speak in confidence (hence arousing the interest of those not in the room) or explicitly to the public. He may direct his words at domestic audiences (to send messages to foreign ones) or at foreign ones (possibly to impress domestic constituents). Doing so, he may succeed in shaping others' perceptions, rousing them to act or discouraging them from acting.

The rhetoric of decision is only one of the prudential capabilities with which analytically minded decision makers have lost touch. The classical tradition also tells us to cultivate circumspection (to assess the context of particulars in which we must choose), timing (to take advantage of the moment's opportunities), deliberative faculties (by which to weigh incommensurable arguments), and resilience (by which to become more versatile in the face of unpredictable future contingencies).⁵⁶ It tells us, furthermore, that the motives that drive us are themselves subject to reasoned reflection. In light of catastrophic possibilities, we should have the

⁵⁶ Two recent anthologies have reexamined the classical traditions of prudence for contemporary audiences. They are Ethan Fishman, ed., *Tempered Strength: Studies in the Nature and Scope of Prudential Leadership* (Lanham, Md.: Lexington Books, 2002) and Robert Hariman, ed., *Prudence: Classical Virtue, Post-modern Practice* (University Park, Pa.: Pennsylvania State University Press, 2003).

discipline by which to choose the reasonable mean between extremes of rashness and cowardice, and alarmism and complacency. But we must be warned. Aristotle is clear that these are not merely skills to be learned from a guidebook or classroom. They are forms of wisdom acquired through the breadth and depth of life experience and consolidated through strength of character.

Prudence depends on life experience and strength of character.

Historians sometimes depict the emergence of risk-based reasoning as an enlightenment that has overcome ancient beliefs in a capricious world of “pure chance.”⁵⁷ It appears from our investigation that the ancient thinkers cannot be so easily dismissed. The precariousness they saw as inevitable in human life has never left us. We have advanced in our understanding of nature, so that it no longer presents itself as a world of mysteries, but technological transformations, which destabilize the natural environment and place potentially catastrophic weapons in ever more hands, make our world even more insecure. And war remains as imponderable as ever.

To prepare ourselves to face hazardous predicaments, in which decisions affect others’ welfare, we must therefore relearn what it means to act prudently: through actions guided by excellence of character and the power of reason.⁵⁸

⁵⁷ Ian Hacking, *The Taming of Chance* (Cambridge, England: Cambridge University Press, 1990), Chapter 1, 1-10.

⁵⁸ Nussbaum, *Fragility*, 3, and generally 1-21.