**The Power of Example:**

**The Narrative Roots of Practical Judgment**

Leslie Paul Thiele

University of Florida

*Abstract:*

Since the days of Aristotle, practical judgment has been understood to develop by way of experience. It is gained in the school of hard knocks. Yet not all experience lends itself to the development of this important faculty. As Aristotle observed, both the good and the bad lyre player learn from experience. The key question, then, is what sort of experience cultivates good judgment? I make the argument that practical judgment can be gained from a wide variety of life experiences—upon one condition. The experiences in question must be made meaningful through stories. By placing lived experience in narrative form, the practical judge develops a guide for action.

 Lord Kelvin (1824-1907), a mathematical physicist who received both public acclaim and financial gain from his work on thermodynamics and telegraph communications, observed that "When you can measure what you are speaking of and express it in numbers, you know that on which you are discoursing, but when you cannot measure it and express it in numbers, your knowledge is of very meagre and unsatisfactory kind."[[1]](#endnote-1) When leaders make important decisions, their knowledge should not be of a meager and unsatisfactory kind. Due diligence should be done. Decision makers ought to research the problem, collect good information, analyze trends, and, oftentimes, crunch some numbers. But even the most fastidious effort of data collection and analysis carried out with Lord Kelvin’s conviction in mind faces an obvious paradox.

 Before any numbers can be crunched, data must be found. But what data should be gathered, and how much is enough? To answer these questions, one might refer to available data. But which sources of the available data should one consult, and how much of this is enough? At some point, upon threat of infinite regress, decisions must be made that are not grounded on hard data.

 Likewise the decision to conclude the process of gathering data so that action may be taken cannot itself be based on numbers. Some other form of knowledge is required. And finally, any data gathered must be interpreted. Information must be put into context and its significance determined. Numbers do not speak for themselves. The crucial task of making data meaningful also requires a different sort of knowledge than the robust variety lauded by Lord Kelvin.

 The paradox is that an executive needs good data, often numerical in form, to ground her decisions. But the initiation, guidance, and conclusion of the process of identifying, collecting, analzing, and interpreting data must be based on knowledge that is not itself reducible to data. Without numbers knowledge may well be meager. But one cannot generate the numbers needed, or understand their significance, by calculative means alone.

 The non-numerical knowledge required for these important tasks was identified by the ancient Greeks as *phronesis*, and by the ancient Romans as *prudentia.* Today we call it practical judgment, or prudence. Without practical judgment, an executive may calculate and compute, but she will never be able to initiate, assess, and evaluate. Without practical judgment, in other words, there can be no true leadership.

 Leaders face problems that generally are too complex for mathematical aptitude and rational analysis to handle. Calculative and analytical skills are useful and often necessary for leaders, but they are not sufficient. If the problem faced is determining the cost of producing a certain widget employing off-the-shelf technologies, or the amount of revenue required to meet cost projections, or the number of votes needed in particular constituencies to eek out an electoral victory, crunching numbers may well suffice. In such cases, to put practical wisdom to work is to miss the mark. Other skills and forms of intelligence are required. The typical problems that leaders face, however, are much more “wicked.”[[2]](#endnote-2) Wicked problems cannot be solved by calculation.

 Wicked problems are not in any way evil, they are just wickedly difficult to resolve. They are complex conundrums that defy solutions generated by algorithms, formulas, logic, or standard operating procedures. Wicked problems involve multiple and often incommensurable variables and values. The relationships involved are dynamic and often stand in tension with each other, if not outright antagonism. Within the realm of politics, for instance, leaders face the wicked problem of maintaining individual freedoms (from governmentally imposed legal constraints and economic burdens, including heavy taxes) while also protecting common goods (such as public safety, environmental health, schools, parks, and basic infrastructure). Such problems cannot be *solved* through the straightforward application of a principle because there are conflicting principles in play. The multilayered social, economic, ethical, and political tensions bound up in a wicked problem preclude answers supplied by calculative analysis. Wicked problems, in short, “rely upon elusive political judgment for resolution. (Not ‘solution.’ Social problems are never solved. At best they are only re-solved—over and over again).”[[3]](#endnote-3) To arrive at an appropriate response to a wicked problem an experienced leader exercising practical judgment is required.

 Practical judgment is gained from qualitative experience rather than quantitative analysis. It is a worldy, not a bookish acquisition. Over two millennia ago, the Greek philosopher Aristotle first observed that practical judgment is a virtue of elders rather than youth because it can only be gained from experience. But the philosophical pedigree of this claim tells us very little about the nature and development of the faculty. The question remains: what sort of experience fosters practical judgment? Aristotle has remarkably little to say in this regard.

 Our claim is that practical judgment can be gained from a wide variety of life experiences—but only upon one condition. The experiences in question must be made meaningful through stories. What Lord Kelvin asserted for numbers, I claim—with some important caveats—for narratives. When the knowledge that informs practical judgment is not understood and expressed in stories, it is of a very meagre and unsatisfactory kind.

 A penchant for stories is often seen as the vestige of youth. For mature individual, fairy tales have been replaced by reasoning. For the mature society, mythology has been replaced by sound science and legal argument. Natural and social scientists typically disparage “anecdotal evidence.” Like Lord Kelvin, they crave more quantifiable data. They may employ a story to illustrate a well-grounded theory backed with hard numbers. But such illustrations are seen as optional supplements at best and misleading distractions at worst. Narrative knowledge is widely greeted with suspicion.[[4]](#endnote-4)

 This skepticism toward narrative is warranted, as I will demonstrate. Stories often mislead and bias us, in part because of their unique capacity to heighten sensibilities, stimulate imagination and emotion, and actuate intuitive capacities. The reliance on narrative knowledge to the exclusion of rational inquiry grounded in the systematic collection and analysis of data is *not* recommended. In the realm of decision-making, however, narratives do not simply provide an impoverished form of knowledge that lacks the vigor and vitality of principled theory grounded in hard data. Stories are indispensable. In their absence, the analysis of data may still generate accurate calculations. But it cannot produce well-grounded judgments.

Meaning making

 Narrative is the primary means by which humans make sense of life.[[5]](#endnote-5) As historian Hayden White observes, “The absence of narrative capacity or a refusal of narrative indicates an absence or refusal of meaning itself.”[[6]](#endnote-6) Stories make sense of experience. By way of narrative we weave a series of happenings into accounts of purpose, effort, and achievement. Narratives allow us to put existence into a temporal sequence while understanding actions in terms of intentions, plans and goals. As Mark Johnson writes, “while we can capture certain aspects of our experience via concepts, models, propositions, metaphors, and paradigms, only narrative encompasses both the temporality and the purposive organization at the general level at which we pursue overarching unity and meaning in our lives.”[[7]](#endnote-7) By way of narratives, we slice up space-time into bite-size chunks, and tie these slices together with notions of causation and purpose.

 Stories give form and meaning to the flux of life, putting a complex world into recognizable and recollectible patterns.[[8]](#endnote-8) To the extent that we tell a story about the world around us, we can make sense of its myriad components and complex relationships. Philosopher Alasdair MacIntyre asserts that we do not develop history as an account of the actions of people. Rather, we develop the notion of a person from the sort of character that populates a historical narrative.[[9]](#endnote-9) A person becomes a person, in other words, by becoming the protagonist of a story. Philosopher Iris Murdoch observes that this process is inevitable. We cannot help but tell stories about ourselves as we try to make sense of our life happenings. In time, we come to resemble the protagonist of which we speak.[[10]](#endnote-10)

 In the same vein, philosopher Daniel Dennett maintains that unlike spiders, beavers, and other animals, “Our fundamental tactic of self-protection, self-control, and self-definition is not spinning webs or building dams, but telling stories, and more particularly concocting and controlling the story we tell others – and ourselves about who we are*.”*[[11]](#endnote-11) Dennett maintains that stories are not simply verbal tools we utilize. To become and be human, to have a sense of self, is the product of a narrative way of living.[[12]](#endnote-12)

 It is not only philosophers who insist that narrative sits at the core of human being. Brain scientists maintain that we are fundamentally the product of “wordless” narratives at a neurological level. As individuals, and as a species, we have developed and evolved by way of connections within the brain that both record and structure our life experiences at a synaptic level. These “brain maps” are the register of the habits, skills, propensities, and personal traits we have acquired. They also capture our most fundamental sense of self. We *are* these synaptic stories. Neuroscientist Antonio Damasio writes:

Telling stories, in the sense of registering what happens in the form of brain maps, is probably a brain obsession and probably begins relatively early both in terms of evolution and in terms of the complexity of the neural structures required to create narratives…. The brain inherently represents the structures and states of the organism, and in the course of regulating the organism as it is mandated to do, the brain naturally weaves wordless stories about what happens to an organism immersed in an environment.[[13]](#endnote-13)

To be a person, brain scientists are saying, is to serve as the protagonist of a neurological tale.[[14]](#endnote-14)

 We act the way we do because it corresponds to our perceived role in an unfolding story. Indeed, for an action to be understood as intentional rather than a twitch or spasm it must be embedded within a narrative. The self-consciousness that defines our species is really nothing other than our ability to understand, reflect upon, express, and attempt to (re)direct life as an unfolding story.

With this in mind, MacIntyre writes: “I can only answer the question ‘What am I to do?’ if I can answer the prior question ‘Of what story or stories do I find myself a part?”[[15]](#endnote-15) Action, MacIntyre is saying, only makes sense in the context of a narrative within which it achieves its purpose. Importantly, an individual’s effort to determine what he is to do is not a matter of passively relegating himself to a settled narrative. The relationship of the actor to narrative is always both retrospective and prospective. He finds meaning retrospectively by situating (past) actions within a story that makes sense of his passage through time. In turn, he crafts narrative visions that model potential futures.[[16]](#endnote-16) Through narrative, we account for the present state of affairs, relate it to history, and envision possibilities.[[17]](#endnote-17) When we act decisively we contribute to a plot in the making, inserting ourselves into half-told stories that await consummation.

 The act of judging, cognitive psychologists maintain, is achieved by organizing perceptions into a narrative format. Subsequently, one integrates this newly formed story into larger, previously contructed stories.[[18]](#endnote-18) This *nesting* of narratives, one inside another, allows the isolated parts of our world to be integrated into an ever more encompassing whole. It allows for vision and the placing of action in service of purpose. And it allows for the interpretation and skillful navigation of the world. As the protagonist of our lives’ tales, we are called into action by a beckoning script, by a narrative that both demands and hones practical judgment.

The imperative of experience

 The erudite rightly gain respect and admiration for their scholarly achievements. But the erudite are also frequently lampooned for their bumbling in business, their patent ineptness in politics, and their lack of street smarts. Neither natural intelligence nor bookish learning guarantee, or even much facilitate, practical wisdom in the ways of the world. As often as not, scholarly aptitude—even genius—may predict incompetence in mundane affairs. Since the days of Aristotle, philosophers and political theorists have confirmed that practical judgment develops not from book learning or the acquistion and application of abstract principles and theories. It comes from life experience. Practical judgment is learned in the school of hard knocks.

#  While practical judgment may come with experience and age, it does not come to everyone. For the most part, we gain good judgment from suffering the consequences of our bad judgments. The stern lessons of life are not easily forgotten, often owing to the scars they leave behind. But making mistakes is no guarantee that we will become prudent decision makers. Practical judgment is not the *gift* of a long life. Rather, it has to be *earned*. Experience is the best teacher—but only for the right sort of student. The fact of the matter is that not everyone has the eyes and ears to absorb the stern lessons that life has to teach. As Aristotle noted, both the good and the bad lyre player learn from experience.

#  “With age comes wisdom,” Oscar Wilde observed, “but sometimes age comes alone.” Thus our world has no shortage of old fools. The problem is not simply a matter of certain people being resistant to life’s teachings. Many are eager enough to learn, but interpret what they see and hear poorly. The school of hard knocks offers invigorating pedagogy. All too often, however, we prove blind and deaf to its lessons. We emerge from the experiential classroom with little ability to apply its instruction to an ever-changing world. We fail to generalize, extrapolate, distinguish, and anticipate. Examples abound. After the Great War, the French high command ordered an extensive series of bunkers and underground railways constructed along its border with Germany. This heavily fortified Maginot Line, as it came to be called, was to serve as an inpenetrable barrior to an invading army of German infantry and artillery. But Hitler’s *blitzkrieg* did not much resemble the trench warfare that the Kaiser’s troops had waged. Hitler’s swift-moving Panzer divisions quickly flanked the fortified bunkers, invading France through Belgium and Luxembourg. The Maginot Line was virtually intact when French officials signed the armistice with the Nazi’s occupying Paris. The poor military commander, it is said, always finds himself fighting the last war.

 Mark Twain observed that a cat is smart enough never to jump onto a hot stove if previous experience led to burned paws. But such a cat will also never alight upon a cold stove. Learning from experience is simple. Learning the *right* lesson is more difficult. While learning the right lesson is a formidable challenge in itself, learning this lesson the first time around is the ultimate goal. It is no great accomplishment to arrive at the correct answer to a problem … after exhausting all other possibilities. The problem is that working your way through all the wrong answers can leave you bankrupt or dead. The captain who sinks the first ship under his command is an unlikely candidate for admiral. The greatest part of wisdom consists in being wise in time.

 The school of hard knocks is very instructive, but its lessons are not served up on a platter. As the author and visionary Aldous Huxley once observed, “experience is not what happens to you, it is what you do with what happens to you.” The task at hand is to translate “happenings” into “experience.” That transformation occurs by placing lived happening into narrative format, and gleaning from this narrative accounting a guide for future action. Having the right sort of “happenings” in life is important. If you never leave home, you cannot gain the experience needed to develop good judgment. But equally if not more important than exposure to a wide variety of happenings is their skillful translation into the right sort of stories. It is the narrativizing of happenings, not the happenings per se, that makes for useful experience, which is to say, experience that fosters the development of good judgment.

 If our goal is to be wise in time, then we may not want to develop the faculty of judgment wholely in the crucible of lived experience. But if we are disabled from translating abstract principle into workable practice through cogitation alone, is there any choice but to hone our faculty of judgment by suffering the painful consequences of our bad choices? A brief visit to the study of the Renaissance Florentine scholar, Niccolo Machiavelli is instructive in this regard.

Secondhand experience and virtual reality

 Machiavelli joins Aristotle in identifying the shortcomings of youth. The young may be strong, courageous, and passionate. But only age, Machiavelli affirms, begets prudential judgment.[[19]](#endnote-19) Machiavelli argued that neither ethical dictates gleaned from religious scripture nor moral principles supplied by philosophers provide an adequate education for leaders. He was, to say the least, skeptical of moral education. More importantly, Machiavelli was skeptical of any sort of instruction that came in the form of argumentation from principle. Like Aristotle, he believed that experience, rather than pedagogy, was the purveyor of practical judgment. Whether counseling an authoritarian prince or his fellow Florentine citizens, Machiavelli’s self-appointed mission was the cultivation of practical judgment. If prudence is the gift of life experience, however, what could a Florentine scholar possibly have to offer his prince or countrymen?

 Machiavelli maintained that there was a particular sort of experience that lends itself particularly well to the development of practical judgment. And it could be gained from the pages of books and the lips of counselors. The words that had something to teach, importantly, were not to be found in arguments, theories, or principles. They were found in stories.

 For Machiavelli it is not what you know but whom you know that counts. By associating with renowned leaders directly or through the medium of historical biography, greatness can rub off.[[20]](#endnote-20) Machiavelli’s interpretations of ancient Roman and contemporary history offered a form of secondhand or ersatz experience for those lacking extensive worldly encounters. This was particularly important for aspiring youth, who might boast strength, courage, and passion, but lack the prudence that comes with age.

 While Machiavelli focused on gaining practical judgment from reading the stories of great men and following in their footsteps, tales of knaves might prove equally effective. In the school of hard knocks, we gain good judgment primarily from the experience of making bad judgments, and suffering the consequences. Historical narrative allows us to learn painlessly from the bad judgments of others. "Any fool can learn from his own mistakes," the adage goes. "It takes a wise men to learn from the mistakes of others." Biographical accounts of great men and foolish knaves provide equally useful secondhand experience. When counseling the aspiring Florentine leaders of his day, Machiavelli might well have adopted the words that the ancient Roman playwright Terence, put in the mouth of a character appropriately named *Phronimus*: “‘Tis every young man’s first concern, From other’s faults experience to learn.”[[21]](#endnote-21)

####  In his time, Machiavelli was probably better known for his comedic plays than his political theory. Tales of knaves are both entertaining and instructive. Machiavelli knew that historical biography provided a fine education. But fiction may prove just as powerful. Political theorist Hannah Arendt observes that to judge well we have train our “imagination to go visiting.”[[22]](#endnote-22) This we do when we learn to inhabit the hearts and minds of those we encounter, and see things from their perspectives. Both biography and literary fiction allow such imaginative encounters.

####  In his acceptance speech for the Nobel Prize in literature, Russian novelist Alexander Solzhenitsyn stated that the “condensed experience” one derives from the written story provides a crucial “substitute” for time expended navigating the world.[[23]](#endnote-23) Fictional narratives might be thought of as the “flight simulators” of social life, allowing us to practice our problem solving skills in a virtual world. Indeed, there is empirical evidence that consumers of fiction develop better social skills than readers of non-fiction.[[24]](#endnote-24) Jonathan Gottschall speculates that “nature designed us to enjoy stories so we would get the benefit of practice. Fiction is an ancient virtual reality technology that specializes in simulating human problems….[H]uman life, especially social life, is intensely complicated and the stakes are high. Fiction allows our brains to practice reacting to the kinds of challenges that are, and always were, most crucial to our success as a species.”[[25]](#endnote-25) If, indeed, we are drawn to stories—both fictional and historical—because they facilitate the practice of problem solving skills, then the faculty of practical judgment and narrative may have a co-evolutionary relationship that extends back to the very origins of our species.

 Both direct experience and the secondhand experience provided by biography, history, and literature are crucial resources for the practical judge. But they share a troubling characteristic. Both direct and secondhand experience must be well interpreted to be of any use. It is our active and imaginative engagement with direct or secondhand experience, not its passive absorption, that makes for the development of good judgment.

The judge as interpreter

 Consider an account of the fate of Psammenitus, as relayed in the *Histories* of Herodotus (484 BC – 425 BC):

When the Egyptian king Psammenitus had been beaten and captured by the Persian king Cambyses, Cambyses was bent on humbling his prisoner. He gave orders to place Psammenitus on the road along which the Persian triumphal procession was to pass. And he further arranged that the prisoner should see his daughter pass by as a maid going to the well with her pitcher. While all the Egyptians were lamenting and bewailing this spectacle, Psammenitus stood alone, mute and motionless, his eyes fixed on the ground; and when presently he saw his son, who was being taken along in the procession to be executed, he likewise remained unmoved. But when afterwords he recognized one of his servants, an old, impoverished man, in the ranks of the prisoners, he beat his fists against his head and gave all the signs of deepest mourning.

Herodotus’s account of the sorry fate of Psammenitus solicits our interpretation. We want to know why the Egyptian king grieved only when he caught sight of his servant.

The sixteenth century philosopher Montaigne proposed an answer. “Since he was already overfull of grief,” Montaigne speculated, “it took only the smallest increase for it to burst through its dams.” The 20th century German literary critic Walter Benjamin acknowledges Montaigne’s insight but suggests a alternative explanations: “The king is not moved by the fate of those of royal blood, for it is his own fate. Or: We are moved by much on the stage that does not move us in real life; to the king, this servant is only an actor. Or: Great grief is pent up and breaks forth only with relaxation. Seeing this servant was the relaxation.”[[26]](#endnote-26) Still other interpretations are possible: Psammenetus may have believed that his son and daughter, having royal blood and sharing in royal fortunes, deserved their fates at some level, but the poor servant was a wholly innocent victim. Or perhaps Psammenetus was unwilling to allow his most intimate self be controlled by his Persian conqueror. Grieving in his own way, at the sight of servant rather than son or daughter, was Psammenetus’ last act of defiance.

The storyteller solicts interpretations, but does not determine their relative merit. And the richness, and longevity, of a good story depends upon this fact. As Benjamin observes, “Herodotus offers no explanations. His report is the driest. That is why this story from ancient Egypt is still capable after thousands of years of arousing astonishment and thoughtfulness. It resembles the seeds of grain which have lain for centuries in the chambers of the pyramids shut up airtight and have retained their germinative power to this day.” Information “does not survive the moment,” Benjamin states. A story is different. “It does not expend itself. It preserves and concentrates its strength and is capable of releasing it even after a long time.” [[27]](#endnote-27) Herodotus’ stories retain their fecundity across the millennia because they do not supply answers. Rather, they entice us to develop and practice those skills of discrimination and imagination that might later be applied to worldly concerns. Stories are the oldest form of virtual reality technology. They demand from us the same navigational skills as their concrete counterparts. Stories stimulate us, in part, because we relish the opportunity to hone our problem solving skills.

 When we enter into a story, we are faced with a diverse cast of characters, each having a distinct perspective. These characters face challenges, tensions and conflicts. The navigation of such troubled waters is the stuff of plot. There is a scene or setting upon which the plot unfolds, develops, and eventually gets resolved, a background whose impact upon characters and events can never be underestimated. In turn, a theme emerges out of the development and resolution of plot. This is the meaning or gist of the story. Capturing this meaning is the task of the interpreter who must inhabit the hearts and minds of the characters and live through their challenges and conflicts in the context of particular settings. The interpreter of a story is coaxed into vicarious life.

####  In this manner, stories allow us to practice problem-solving skils. They also facilitate moral perspective. By partaking of narrative, whether biographical or fictional, we gain what philosopher Immanuel Kant called an “enlarged mentality.” Hannah Arendt embraces Kant’s notion of an enlarged mentality, and identifies it as the ability to think and understand from the viewpoint of diverse characters. She calls this “representative thinking,” and deems it a crucial capacity for the practical judge.

Representative thinking

####  Representative thinking, Arendt suggests, was first demonstrated in “Homeric impartiality,” when the ancient bard depicted the Trojan War from the standpoints of both protagonists, Achilles and Hector.[[28]](#endnote-28) Homer’s character Odysseus first feels the pathos of the suffering endured as he listens to the bard Demodocus sing of the long-past war. Overcome by the minstrel’s tale, Odysseus weeps. It is the *story* of the Trojan War and its aftermath, not Odysseus’ direct particpation in it, which makes the tribulations meaningful. It facilitates the empathy and impartiality that make for representative thinking.

 To judge well how to act in the world we must know what other actors are likely to think and do. We must be able to inhabit their hearts and minds. That presents a problem for economists. Human hearts and minds are convoluted and complex. Economic theory, in contrast, is patently simple. It is grounded on the assumption that humans are utility maximizers. They seek to achieve the greatest gain for the least expenditure. They always pursue the most bang for the buck, the best deal, the top rate. This assumption captures an enduring human motivation. And it explains the lion’s share of market activity. But the market is not the whole of life. And even the market, grounded as it is upon the self-seeking efforts of individual actors, still relies upon norms (e.g. of fair play and trust) that cannot be reduced to utility maximization. The incentive to maximize utility is pervasive and persistant, but it is not the only game in town.

As the author’s of *Freakonomics* observe, “*Incentives are the cornerstone of modern life*. And understanding them—or, often, ferreting them out—is the key to solving just about any riddle.”[[29]](#endnote-29) But as Levitt and Dubner acknowledge, incentives are not always strictly *economic*. So, for example, more parents more of the time came late to a daycare center to pick up their kids *after* a (small) fine was instituted to dissuade this practice. Why, we might ask, would tardiness increase *after* a fine had been established to punish it? Levitt and Dubner surmise that parents embraced the opportunity to “buy off” the guilt suffered from failing to meet the obligation of ontime child pick up.[[30]](#endnote-30) Here the impact of social norms produced decidedly uneconomic behavior. Likewise, studies indicate that instituting a small stipend for blood donors actually reduces the number of people willing to “donate” blood. Again, we must focus on the (self-administered) moral kudos sought by blood donors to understand their behavior. To be paid for one’s blood “donation” disables one from the good feeling of having given freely and generously.

The short of it is that people are not utility maximizers. Rather, they are periodic maximizers of utility. Oftentimes, they are meaning maximizers. People frequently sacrifice material goods to achieve a sense of moral integrity or existential significance. Much of the time people choose not to maximize anything. Rather, they “satisfice,” as Herbert Simon observed.[[31]](#endnote-31) They are content simply to get by. And not infrequently, they relativize. Studies confirm that people opt to have *absolutely* *less* money, attractiveness, and other goods if doing so allows them to have *relatively more* of that good than other people in their reference group.[[32]](#endnote-32) That is to say, people prefer to be small fish in ponds of still smaller fish than big fish in ponds of still bigger fish. Arguably, it is rational to be a satisficer or relativizer rather than a utility maximize, just as we might think it rational to be a meaning maximizer. But even with such an expanded understanding of rationality, people are not wholly rational animals. They are animals that occasionally act rationally. Much of the time, their behavior is the product not of reasoning but of habits, norms, passions, and prejudice. To exercise good judgment in a world of such complex beings, we require an enlarged mentality capable of thinking representatively. This we develop by inhabiting diverse narratives.

 The French aphorist La Rochefoucauld wrote that “It is easier to know man in general than to understand one man in particular.”[[33]](#endnote-33) The same might be said about business in general, or government in general, or wicked problems in general. Abstract principles are relatively easy to learn. But they are very difficult to apply in particular situations. Practical judgment incorporates the more demanding knowledge of particulars that allows us to navigate a complex, dynamic world filled with three-dimensional characters. Of course, abstract principles play a role in forming good judgments. But only a more pliable and particular knowledge, informed by narrative, allows us to determine when, where, and to whom abstract principles might be applied and how they must be adjusted to fit the situation at hand.

 Consider the character of Alexis Zorba, from Nikos Kazantzakis’s novel *Zorba the Greek.* Zorba is an earthy Cretan. He prefers dancing to reading. His bookish Athenian employer tries to teach him how to mend his intemperate ways. But the would-be mentor proves inept at reforming Zorba. After enduring another fruitless effort of persuasion, Zorba responds:

I’ve got a thick skull, boss, I don’t grasp these things easily…. Ah, if only you could dance all that you’ve just said, then I’d understand …. Or if you could tell me all that in a story, boss. Like Hussein Aga did. He was an old turk, a neighbor of ours. Very old, very poor, no wife, no children, completely alone. His clothes were worn, but shining with cleanliness. He washed them himself, did his own cooking, scrubbed and polished the floor, and at night used to come in to see us…. One day he took me on his knee and placed his hand on my head as though he were giving me his blessing. ‘Alexis,’ he said, ‘I’m going to tell you a secret. You’re too small to understand now, but you’ll understand when you are bigger. Listen, little one: neither the seven stories of heaven nor the seven stories of the earth are enough to contain God; but a man’s heart can contain him. So be very careful, Alexis – and may my blessing go with you – never to wound a man’s heart!’

Zorba’s learned boss is rueful. “If only I could never open my mouth,” he muses, “until the abstract idea had reached its highest point - and had become a story.”[[34]](#endnote-34) In the realm of judgment, narrative achieves what reasoned argument and abstract principle cannot.

The Use of Example and Wooing Assent

 The richness of narrative, its capacity to reveal the complex and convoluted depths of the human condition, makes it a crucial resource for decision makers. Legal scholars observe that judges on the bench employ narrative resources including literature as much if not more than logical arguments and formal principles when forming their judgments.[[35]](#endnote-35) The same is true, we believe, of business and government leaders. The practical judge, first and foremost, is a student of experience, including that secondhand experience gained through stories heard or read. Historical biography and literary fiction allow us imaginatively to “go visiting” to gain this experience. Citing Thomas Jefferson, and in keeping with Machiavelli, Arendt observes that much more than “dry volumes of ethics,” Shakespeare’s tales provide effective guidance for the practical judge. For “an ethical principle to be verified as well as validated,” Arendt insists, it must “become manifest in the guise of an example.”[[36]](#endnote-36) The examples that populate history and fiction—narrative accounts of men and women who judge well or badly and act virtuous ly or viciously, with admirable foresight or regrettable blindness—provide the foundation for an education in practical judgment. Our judgments prove good or bad depending upon which examples inform them.[[37]](#endnote-37)

 “In the last analysis,” Arendt writes, “our decisions about right and wrong will depend upon our choice of company, with whom we wish to spend our lives. And this company is chosen through thinking in examples, in examples of persons dead or alive, and in examples of incidents, past or present.”[[38]](#endnote-38) What Arendt says about moral choices—decisions about right and wrong—applies equally to complex judgments of all sorts. Our practical judgments have the temper of the examples that inform them. The stories that we bring to bear in thinking through decisions, and in particular the stories we self-consciously inhabit as protagonists, largely determine the caliber of our judgments.

 Every step in a logical argument requires the support of a previous step. Conclusions must be grounded on premises, and each premise must be grounded on a yet more foundational premise. But the pocess of buttressing premises cannot go on endlessly. At some point, the exercise of rational justification must stop so that a decision can be made. Narrative examples provide a means of escaping the potentially endless chain of analytical reasoning.

 Philosopher Charles Larmore observes that “Reasons must come to an end somewhere; otherwise, on pain of infinite regress, there could be no reasons—although this does not imply that where reasons come to an end we have reached the bedrock of self-evidence and certainty—far from it in the case of moral judgment. I would suggest that the important role of moral examples lies in their suitability as just such reasons, and that they are useful precisely to the extent to which they are examples of the exercise of moral judgment.”[[39]](#endnote-39) Larmore’s insight regarding moral judgment also applies to practical judgment more broadly. A good example *is* a good reason. Indeed, a good example is the only kind of reason that does not require a (potentially infinite) chain of other reasons to support it.[[40]](#endnote-40) And the most useful example may be one that illuminates how a (historical or fictional) problem was navigated through the exercise of good judgment. Resolving wicked problems, it follows, requires us to select examples that will instruct and inspire. The task of the practical judge, in large part, is to make this selection.[[41]](#endnote-41)

Exercising practical judgment in the face of a wicked problem does not produce an “answer,” the correctness of which can be proven to other stakeholders. It is not a matter of getting a calculation right, and by the force of logic compelling others to concur. Rather, the practical judge, as Arendt notes, must “woo the assent of others.” While logic, reason, and data may be deployed in the service of this wooing, these analyses and calculations cannot get the job done on their own. Ultimately the sharing of resonant examples is required. Effectively, the practical judge must become a storyteller who entices his listeners to become co-interpreters of the story being told, and as such co-solvers of the wicked problem being tackled. Walter Benjamin observed that “the storyteller is a man who has counsel for his readers,” but this counsel “is less an answer to a question than a proposal concerning the continuation of a story which is just unfolding.” [[42]](#endnote-42) The counsel of the storyteller is an invitation to participate in meeting a challenge by contributing to a story in the making.

Those who tackle wicked problems, like interpreters of stories, must woo the assent of others. That is because wicked problems, like stories, cannot be distilled into singular truths. They are complex, multi-dimensional, dynamic phenomena. In turn, wicked problems are never solved in a cost-free, win-win manner. Their wickedness refers to the costs incurred and the sacrifices required for their resolution. Stakeholders must be wooed into believing that the sacrifices they bear will be offset by the role they play in achieving a vision. What is intolerable in life, philosopher Friedrich Nietzsche observed, is not pain and suffering, but meaningless pain and suffering.[[43]](#endnote-43) The practical judge grappling with wicked problems must convince stakeholders that the suffering and sacrifice they bear will be worthwhile. Fine examples of others who have borne tribulations to achieve something worthy are key to this endeavor. Only narrative can redeem suffering.

 Human beings are in the meaning business, and the coin of the realm is narrative. The engine of this economy of meaning is the human drive to redeem limitation, mortality, and suffering. The author Isak Dinesen remarked that “All sorrows can be borne if you put them into a story or tell a story about them.”[[44]](#endnote-44) Our narrative accountings can make sacrifices meaningful, and thus bearable. Indeed, a good narrative can bring people to welcome sacrifice as an opportunity. Stories, and only stories, can transform pain into purpose. By way of narrative examples, leaders facing wicked problems woo followers to face challenges and make sacrifices in pursuit of common goals.

The Role of Inuition

 Selecting the right examples is a matter of determining which narrative resources to employ. This selection is not wholly, or perhaps even primarily, a conscious, rational effort. Just as a good example is a reason for taking action that does not itself require another reason to justify it, so the selection of the right example cannot be grounded on rational analysis all the way down. For the most part, it is the task of intuition. Supreme Court Justice Potter Stewart famously observed that hard-core pornography differed from nudity in art, but that the boundary lines marking the distinction were difficult to put into words. Still, with regard to hard-core pornography he assured the court, “I know it when I see it.” One might say the same thing about a good example. The practical judge knows it when she sees it.

Choosing the right example demands from us the same intuitive sensibilities that are utilized by writers in creating the literary example. Political theorist Isaiah Berlin observes that the “gifted novelist” makes use of “that vast number of small, constantly altering, evanescent colours, scents, sounds, and the psychical equivalents of these, the half noticed, half inferred, half gazed-at, half unconsciously absorbed minutiae of behaviour and thought and feeling which are at once too numerous, too complex, too fine and too indiscriminable from each other to be identified, named, ordered, recorded, set forth in neutral scientific language.”[[45]](#endnote-45) The novelist employs a sixth sense for this “unconscious” appropriation of experience in the same way that the practical judge employs a sixth sense to learn from direct and secondhand experience. Hence practical judgment is displayed most frequently, Berlin states, not by the “learned” but by “historians and novelists and dramatists and ordinary persons endowed with understanding of life.”[[46]](#endnote-46) The practical judge, as an interpreter of stories, has a capacity to make use of much that falls below the radar of consciousness.

 Literature, like life, abounds in “peripheral cues” that inform our intuitive capacities.[[47]](#endnote-47) These cues—such as body language, gesture, tempo, tone of voice, and physiological reactions—provide access to the contours of the human psyche and the complex networks of social relations. When we read literature, as when we experience life, we intuit meaning before we gain any firm cognitive grasp. Our explicit verbal accounts of reality deliver conscious awareness to an already well-developed intuitive apprehension.[[48]](#endnote-48) “How can I know what I think,” novelist E. M. Forster asked, “until I see what I say.” Like the practical judge, the novelist may not consciously know what he thinks until words leave his lips. Still, the speed and assurance with which these words leave his lips makes patent the existence of intuitive knowledge of an extensive and profound kind.

 Like Justice Stewart’s ruling on pornography, Forster’s reliance on intuition might not be very reassuring to those who hanker for a world arbitered by rationality. But as psychologists, social scientists, and neuroscientists increasingly demonstrate, and as professional practioners of judgment consistently confirm, decision-making is significantly and necessarily influenced by intuitive capacities. As a rule, we don’t (analytically) think our way into new ways of doing. Rather, we intuitively do our way into new ways of thinking. Intuitively grounded action generally comes first, bringing in tow its rational justification. In theory, theory precedes practice. In practice, practice precedes theory. And practice is typically grounded in intuition.

 Supreme Court Justice Oliver Wendell Holmes wrote that “many honest and sensible judgments … express an intuition of experience which outruns analysis and sums up many unnamed and tangled impressions - impressions which may be beneath consciousness without losing their worth.”[[49]](#endnote-49) It is not that intuition *replaces* analysis for Supreme Court Justices, or other practical judges. Rather, it serves as a stimulant and supplement. As James Schlesinger, one time director of Strategic studies for RAND and U.S. Secretary of Defense, observed: “Analysis is not a scientific procedure for reaching decisions which avoid intuitive elements, but rather a mechanism for sharpening the intuitions of the decision-maker.”[[50]](#endnote-50)

 While it is a good rule of thumb to employ intuition and analytic reason in tandem, as Schlesinger suggests, extensive research demonstrates that calculation frequently undermines intuition. Conscious efforts to solve difficult problems may constrict the width of one’s attention and consequently hinder the observation or recall of environmental signals. In contrast, “low arousal” states of mind, where conscious processes do not overpower unconscious ones, are often more conducive to “insightful” solutions. People often demonstrate improved recall of the perceptual cues or other memory traces that guide judgment when conscious efforts to retrieve them are relaxed.[[51]](#endnote-51) When people who are trying to solve puzzles are asked to “think aloud,” for example, problem solving is generally impaired. Thinking aloud largely limits one to conscious mental processes, eliminating or reducing the exercise of intuition.[[52]](#endnote-52) Words and the conscious reasoning behind them also tend to get in the way of acute perception and other intuitive capacities.[[53]](#endnote-53)

 Participants in one study were asked to give their preferences for strawberry jams based on taste tests, while in another study participants ranked college courses based on a review of syllabi. Left to their own devices, the subjects selected jams and syllabi that corresponded very well to the rankings of professional tasters and faculty members respectively. Subjects who were asked first to think about why they liked particular jams and why they selected particular courses, in contrast, performed quite poorly. In these cases, conscious deliberation forced subjects to ground their judgments upon reasons, and these reasons did not much correspond to reasons employed by experts. The result was suboptimal choices, with the quality of judgment impaired by the search for rational justification.[[54]](#endnote-54)

 Lord Mansfield may have had this phenomenon in mind when a newly appointed governor who had no experience in law but soon would be sitting on the bench was given this counsel. “Nothing is more easy. Only hear both sides patiently – then consider what you think justice requires, and decide accordingly. But never give your reasons; for your judgement will probably be right, but your reasons will certainly be wrong.”[[55]](#endnote-55) Employing reasons in decision-making does not guarantee that one will find and choose the right reasons. Intuitive efforts grounded upon unconscious mechanisms may yield better results.[[56]](#endnote-56)

To withhold immediate action in the face of initial impulses is the mark of wisdom. Reason is best employed to critically evaluate and steer intuitive predilections. But we are neglecting a crucial resource if we ignore intuition. As psychologist Daniel Kahneman concludes in his magisterial study of rationality and intuition: “do not simply trust intuitive judgment—your own or that of others—but do not dismiss it, either…. [It] is indeed the origin of much that we do wrong, but it is also the origin of most of what we do right—which is most of what we do.”[[57]](#endnote-57) The good judge registers the existence of intuitions, validates their contribution, and adjusts their influence based upon the evidence at hand.

 Life is too complex—and subtle—to be arbitered by reason alone. To exercise practical judgment well, intuition is required. But good judgment comes only with age, after learning the right lessons in the school of hard knocks. In large part, this is because our intuition requires education. Notwithstanding common misperceptions, intuition is not innate. It is a particular sort of knowledge—often called implicit or tacit knowledge—that develops in the workshop of worldly experience. The intuition that helps guide decision-making is like the “muscle memory” that allows professional athletes or concert piano players to excel at what they do. Superior performance is largely a product of unconscious capacities. Rational analysis and conscious thought play little part. But these unconscious capacities get developed over years of training. Honing intuitive capacities requires years of disciplined practice.

 Intuition can be trained in most environments, but not all. Basically, it depends on the speed and quality of feedback. Developing intuitive expertise is possible in an environment characterized by regularity. In games of skill and in sports, for instance, rules, environments, the physical capacities of players, and winning strategies are generally stable. Feedback is typically swift and unambiguous. Such environments are good schools for intuition, as they offer opportunities for the perceptive, fast-acting unconscious mind to grasp regularities and learn from feedback. [[58]](#endnote-58) In contrast, games of chance, much political life, and the stock market are phenomena of great irregularity where prediction is difficult if not impossible. Here intuition, owing to the paucity of reliable feedback, is much more difficult to educate. In such “low validity” environments, most studies demonstrate, one would be better off employing simple algorithms to make predictions than relying on intuition.[[59]](#endnote-59)

 Intuition is a crucial resource for the practical judge. But it is fickle. To “go with your gut” is often good counsel. Still, it is not a license for laziness, impatience, or impulsiveness.[[60]](#endnote-60) Most people most of the time vastly overrate their intuition. Empirical studies consistently demonstrate that intuition is frequently wrong and generally unreliable when it is employed without sufficient training or in the wrong environments.[[61]](#endnote-61) Intuition gained from narrative experience is no exception to this rule.

The Pitfalls of Narrative Knowledge

 Consider a few of the ways in which practical judgment grounded in narrative knowledge is likely to stumble. Narratives (like worldly experiences) are rich in detail. That is why stories “come alive” for us. But an abundance of detail may lead the practical judge to assume that particular events are representative of larger trends. Logic dictates that the concurrence of ‘A’ *and* ‘B’ is always less likely than the occurrence of ‘A’ *or* ‘B’. Yet when ‘A’ and ‘B’ are richly described in narratives, we frequently assume their concurrence to be more likely.

 Subjects of one study thought it unlikely to encounter a doctor and a lawyer conversing on the street corner. More likely, they judged, was an encounter with a doctor and a lawyer discussing a recent round of golf played at the local country club. Likewise people’s estimation of the number of people in their hometown who die of lung cancer each year is less than their estimation of the number who die of lung cancer because of smoking. In each case, the more detailed image prompts the mistaken assumption of its increased probability. Yet the incontrovertible laws of statistics maintain that the probability of an event occurring (or reoccurring) decreases in direct proportion to its specificity. This “representative heuristic” is widespread, and particularly problematic for narrative thinkers.[[62]](#endnote-62)

 Equally troublesome is the “availability heuristic.” The chance that you will be injured by a shark attack while on holiday at Florida’s seashore is 200 times lower than the likelihood of being struck by lightning whilst there. Indeed, you are 30 times more likely to be killed by a falling airplane. Yet most people rate their chances of being mauled by a shark much higher. That is because man-eating sharks make front-page headlines, inspire films, and sell books. So it is easy for us to recall instances of (real or fictional) shark attacks. The *availability* of vivid details about an event (recalled or imagined) generates a false belief in its probability. That which can be easily imagined or recalled is assumed likely to occur. By stimulating our imagination and emotions with vivid details, narratives often skew our judgments.[[63]](#endnote-63)

Frequently this skewing occurs owing to the tendency of narratives to impact our emotional state. The risks that people most fear are often quite different from those that are likely to cause them harm. If one is not in control of the risk-causing agent, then there is a strong tendency to fear this risk more. For instance, car travel is much more likely to lead to injury or death than air travel. But such statistical facts typically fail to offset people’s psychological propensities to inflate the risks of flying. Very likely, there are narratives involved in this disregard for probability. When considering air travel, a story plays out in one’s head of helplessly hurtling to the earth as all engines fail or a wing falls off. The imagined scenario of automobile travel, in contrast, has one firmly in control at the wheel as a gruesome crash is narrowly averted or survived.

Narrative knowledge that remains uninformed by the laws of probability, rational analysis, demographic facts, and economic trends is likely to mislead, producing an overemphasis on salient events and individuals. In turn, narratives are prone to biased assimilation. Because they can be interpreted in any number of ways, unlike brute facts and hard numbers, narratives are often employed to buttress biases.[[64]](#endnote-64) Even brute facts and hard numbers are selectively employed to confirm preexisting beliefs. This “confirmation bias” is pervasive and salient. People tend to favor, and select, data that supports their hypotheses and convictions, while ignoring or impugning disconfirming data. Stories are particularly susceptible to selective use and interpretation, and heighten the impact of the confirmation bias.

In turn, we often misperceive and misremember events owing to the common tendency to place them in narrative settings. These internalized narratives become embellished with detail that is often wholly fictional.[[65]](#endnote-65) Recall something you did yesterday: perhaps a conversation, or a few moments spent reading, writing, or dining. Try to remember all the details by forming a vivid image of the event in your mind’s eye. Did you see yourself in this mental photograph? Most people do. We typically remember events from something like a God’s eye viewpoint, with ourselves playing the role of the protagonist. Of course, this is a wholesale fabrication (unless the event that you were remembering was a moment gazing into a mirror). Memory does not *retrieve* past experiences; it *reconstructs* them from storylines. And these reconstructions are generally embellished with details that support the operative narratives.[[66]](#endnote-66) In short, we remember what the story in our heads demands, rather than what actually happened. When internalized narratives trump available data, historical research, and rigorous analysis, the product is the “illusion of understanding, rather than understanding."[[67]](#endnote-67) This reconstructive fabrication is not intentional. We do it unconsciously. But our narrative accounts of past events also bear the burden of intentional fabrications. Over 60% of people acknowledge introducing exaggerations, minimizations, and omissions into their narrative accounts of events.[[68]](#endnote-68) And likely many more are not so self-aware.

 When in our “storytelling mode,” we neglect the impact of long-term probabilities and even brute facts. We bias ourselves in favor of the impact of vivid, short-term events, real but unlikely or even imagined. And we let ourselves jump to conclusions based on scant and unreliable evidence, because “poor evidence can make a very good story.”[[69]](#endnote-69) Scholarship has indisputably demonstrated how and why human beings prove inept at statistical evaluation and rational analysis, given our cognitive shortcomings, emotional propensities, and narrative predilections. Unfortunately, scholars have had little to say about how we might make better use of narratives while becoming less vulnerable to their tendencies to lead us astray.[[70]](#endnote-70) But we may speculate.

 If we believe that average citizens are “not enlightened enough to exercise their control with a wholesome discretion,” Thomas Jefferson wrote, “the remedy is not to take it from them, but to inform their discretion."[[71]](#endnote-71) Likewise, if we believe that the impact of narrative causes many to judge poorly, the remedy is not to prevent exposure to stories—which is, in any case, impossible—but to better inform and deepen people’s relationship to narrative. Many of the narratively induced biases that skew judgment can be combatted most effectively by introducing a broad range of alternative storylines. That is why decision makers almost always benefit from exposure to devil’s advocates.[[72]](#endnote-72) To judge well one must confront diverse points of view, and seek out those individuals who can provide them. Good judges expose themselves to the tonic of alternative perspectives and outcomes. The novelist Washington Irving admitted “I am always at a loss to know how much to believe of my own stories.”[[73]](#endnote-73) The best antidote to being taken in by one’s own stories is to expose oneself regularly to a wide variety of narrative (counter) examples. Psychological experiments demonstrate that even the simple effort of imagining events from the perspective of a distant protagonist rather than that of an involved protagonist enhances practical wisdom.[[74]](#endnote-74)

 Narratives introduce fiction into history. They ignore and occlude relevant information. They bias us. And, when well balanced with counternarratives, they help us see both truth and possibility. They inform our intuition.[[75]](#endnote-75) And they prompt us to act on the basis of judgment and vision. Pablo Picasso once observed that “Art is the lie that helps us to see the truth.” Narratives are just such productive lies.

 For better and worse, narrative has a “privileged status in the cognitive system.”[[76]](#endnote-76) Computers effortlessly compute complex equations in a fraction of the time it takes a human brain to assemble an answer. Yet computers are wholly inept at interpreting the meaning of a child’s fairy tale. For human beings, the situation is reversed. Distilling the blooming, buzzing world around us into meaningful stories comes naturally.[[77]](#endnote-77) Far more so than data and numbers, stories heighten perception, stimulate memory and imagination, inform practical judgment, and stimulate action.

 Humans cut up and digest reality in stories. We have always done so. Listening to and telling stories was the original and chief means of securing memory and gaining knowledge for our ancestors.[[78]](#endnote-78) As a species, we have become adapted to a narrative existence. Indeed, we are the only animals that tell stories, and by way of storytelling motivate action and give meaning to life. We appear to be hardwired to think in and through narratives. In turn, our imaginations—and the powerful emotions they recruit—operate in narrative format. And without imagination and passion, little would be achieved. Perhaps Lord Kelvin’s neglect of non-mathematical understanding led him emphatically to declare that “heavier-than-air flying machines are impossible.” The numbers for suspending heavy machines in thin air just didn’t add up. But the passions and imaginations of Orville and Wilbur Wright, likely fired up by heroic tales read and imagined, allowed the brothers to defy gravity with their winged machines above the barrier islands of North Carolina—just eight years after Kelvin’s emphatic pronouncement.

**Conclusion**

 It is not experience per se, but rather the stories constructed from experiences that provide the basis for practical judgment. Experience is the repertoire of such stories, and practical judgment is the human faculty that gleans from narrative example what cannot be gained from logic. The practical judge exploits the human predisposition for narrative, including its capacity to stimulate imagination and action, while counteracting its many pitfalls.

The American novelist Ernest Hemingway once observed that if he had answers, he would not have to tell stories.[[79]](#endnote-79) Fictional and historical narratives present us with the spectacle of life—rich, complex, multifaceted, dynamic, and often painful—while demanding the exercise of judgment. A story seduces the listener into the interpretive exercise required to gain understanding and uncover meaning. This demanding task prepares one for tackling wicked, worldly problems.

 From time immemorial, practical skills were gained primarily through apprenticeships. For much skill development, including that of practical judgment, a mentor is crucial. The apprentice learns by listening, watching, and imitating. But mentors do not simply teach by doing. They are exemplars of skillful practice, to be sure. As importantly, however, they ensure that the things that *happen* to their apprentices get properly interpreted. In other words, mentors translate happenings into useful experiences by nesting them within a narrative framework. They ensure that the lessons articulated in school of hard knocks do not fall on deaf ears. In turn, mentors share stories from their own or others’ lives, providing apprentices with crucial secondhand experience.

Walter Benjamin observes that practical wisdom is not an abstract form of knowledge. Rather, it is good counsel “woven into the fabric of real life.”[[80]](#endnote-80) We gain the capacity for such counsel through the stories we inhabit and share with others. These stories allow us to experience the variable textures, convolutions, and inherent flaws of the fabric of life while weaving from its threads projects of meaning and purpose. Practical judgment is the capacity to interpret stories in progress, to well predict what events will occur given the characters and circumstances at hand, and to state with some assurance what events should occur to achieve the best results.

It is from narrative that the leader finds the resources to inform his practical judgment. In turn, the leader employs narrative to provide ersatz experience to others, effectively promoting the development of their practical judgment. Finally, from narrative the leader develops a vision (of redeemed sacrifice) capable of wooing the assent of others. This wooing is a matter of situating stakeholders in a story that guides and motivates, a narrative of thriving in complex world.[[81]](#endnote-81) In short, before a leader faced with a wicked problem can answer the question *What is to be done?* he must first address three questions: *What story or stories am I currently living? What is my role as a prudent and visionary protagonist?* and *What stories do those I seek to lead need to hear?*

 Galileo reputedly said “Measure what is measurable, and make measurable what is not so.”[[82]](#endnote-82) Modern science, as Galileo and Lord Kelvin well knew, is grounded on precise measurement. The book of nature, Galileo said, is written in the language of mathematics, and as a consequence numbers have rightfully secured primacy of place in scientific endeavor. But in the realm of practical human affairs, the effectiveness of calculation largely rests on the appeal of the story it supplements. Worldly conundrums seldom get settled, or even much realigned, through the impact of integers or the lever of logic. For better or worse, narrative plays a greater role than arithemetic, axioms, and argument in addressing wicked problems and informing practical judgment. The challenge at hand is to make it for better.

1. Quoted in James Robertson, "Shaping the Post-Modern Economy," in *Business and the Environment*, eds. Richard Welford and Richard Starkey (Washington, D.C.: Taylor and Francis, 1996), p. 22. [↑](#endnote-ref-1)
2. Horst Rittel and Melvin Webber, “Dilemmas in a General Theory of Planning,” *Policy Sciences* (1973) Vol. 4, pp. 155–169. [↑](#endnote-ref-2)
3. Horst Rittel and Melvin Webber, “Dilemmas in a General Theory of Planning,” *Policy Sciences* (1973) Vol. 4, p. 160. [↑](#endnote-ref-3)
4. Stephen Toulmin, *Return to Reason* (Cambridge: Harvard University Press, 2001), p. 15. [↑](#endnote-ref-4)
5. Donald E. Polkinghorne, *Narrative Knowing and the Human Sciences* (Albany: State University of New York Press, 1988), p. 1. [↑](#endnote-ref-5)
6. Hayden White, *The Content of the Form: Narrative Discourse and Historical Representation* (Baltimore: The Johns Hopkins University Press, 1987), p. 2. [↑](#endnote-ref-6)
7. Mark Johnson, *Moral Imagination: Implications of Cognitive Science for Ethics* (Chicago: University of Chicago Press, 1993), pp. 170-71. [↑](#endnote-ref-7)
8. Robert C. Mathews and Lewis Roussel, “Abstractness of implicit knowledge: A cognitive evolutionary perspective,” in *How Implicit is Implicit Learning*, ed. Dianne Berry (New York: Oxford University Press, 1997), p. 42. [↑](#endnote-ref-8)
9. Alasdair MacIntyre, *After Virtue: a study in moral theory* (Notre Dame: University of Notre Dame Press, 1981), pp. 201-02. [↑](#endnote-ref-9)
10. Iris Murdoch, ‘Metaphysics and Ethics,’ in *Existentialists and Mystics: Writings on Philosophy and Literature*, ed. Peter Conradi (Harmondsworth:

Penguin, 1999), p. 75. [↑](#endnote-ref-10)
11. Daniel C. Dennett, *Consciousness Explained* (Boston: Little, Brown and Company, 1991), pp. 417-18. [↑](#endnote-ref-11)
12. Dennett, *Consciousness Explained*, pp. 426-27. [↑](#endnote-ref-12)
13. Antonio R. Damasio, *The Feeling of What Happens: Body and Emotion in the Making of Consciousness* (New York: Harcourt, Brace and Company, 1999), p. 189. [↑](#endnote-ref-13)
14. A. R. Damasio and H. Damasio, “Making Images and Creating Subjectivity,” in *The Mind-Brain Continuum: Sensory Processes*, ed. Rodolfo Llinas and Patricia Churchland (Cambridge: MIT Press, 1996), p. 26. [↑](#endnote-ref-14)
15. MacIntyre, *After Virtue,* p. 201. [↑](#endnote-ref-15)
16. See Bent Flyvbjerg, *Rationality and Power: Democracy in Practice* (Chicago: University of Chicago Press, 1998), p. 8. [↑](#endnote-ref-16)
17. See Alasdair MacIntyre, *Dependent Rational Animals* (Chicago: Open Court, 1999), pp. 56-57, 96. Johnson, *Moral Imagination*, p. 164. See also Leslie Paul Thiele, “Evolutionary Narratives and Ecological Ethics,” *Political Theory* 27(1999):6-38; Neal Roese, Lawrence Sanna, and Adam Galinsky, “The Mechanics of Imagination: Automaticity and Control in Counterfactual Thinking,” in *The New Unconscious*, ed. Ran Hassin, James Uleman and John Bargh (Oxford: Oxford University Press, 2005), pp. 138-170. [↑](#endnote-ref-17)
18. Roger C. Schank and Robert P. Abelson, “Knowledge and Memory: The Real Story,” in *Knowledge and Memory: The Real Story -- Advances in Social Cognition*, ed. Robert Wyer, Jr., Vol. VIII (Mahwah, NJ: Lawrence Erlbaum Associates, 1995), p. 81-82; Bargh, “The Automaticity of Everyday Life,” p. 33. [↑](#endnote-ref-18)
19. Niccolo Machiavelli, *The Prince and The Discourses* (New York: Modern Library, 1950), p. 274. [↑](#endnote-ref-19)
20. Niccolo Machiavelli, *The Prince*, trans. Robert Adams (New York: Norton, 1977), p. 16. [↑](#endnote-ref-20)
21. Terrence, *The prologue, interludes, and epilogue to the* Heauton-timoroumenos *of Terence* (Hull: G. and J. Ferraby, 1757), p. 12. [↑](#endnote-ref-21)
22. Hannah Arendt, *Lectures on Kant’s Political Philosophy,* ed. with an interpretive essay by Ronald Beiner (Chicago: University of Chicago Press, 1982), p. 43. [↑](#endnote-ref-22)
23. Alexander Isayevich Solzhenitsyn, *Nobel Lecture*, 1972. [↑](#endnote-ref-23)
24. # Keith Oatley, “The Mind’s Flight Simulator,” *Psychologist* 21(2008):1030-32. See also Raymond Mar and Keith Oatley, “The Function of Fiction is the Abstraction and Simulation of Social Experience,” *Perspectives on Psychological Science* 3:3 (May 2008), 173-192.

 [↑](#endnote-ref-24)
25. Jonathan Gottschall, *The Storytelling Animal: How Stories Make us Human* (Boston: Houghton Mifflin Harcourt, 2012), p. 59, 67. [↑](#endnote-ref-25)
26. Walter Benjamin, “The Storyteller,” in *Illuminations* (New York: Schocken Books, 1968, p. 90. [↑](#endnote-ref-26)
27. Walter Benjamin, “The Storyteller,” in *Illuminations* (New York: Schocken Books, 1968, p. 90. [↑](#endnote-ref-27)
28. Hannah Arendt, *Between Past and Future: Eight Exercises in Political Thought* (New York: Penguin, 1993), p. 51. [↑](#endnote-ref-28)
29. Steven D. Levitt and Stephen J. Dubner, *Freakonomics* (New York: Harper, 2009), p. 12. [↑](#endnote-ref-29)
30. Steven D. Levitt and Stephen J. Dubner, *Freakonomics* (New York: Harper, 2009), p. 20. [↑](#endnote-ref-30)
31. Herbert A Simon, *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organization* (New York: Macmillan, 1947. Herbert A. Simon, “Rational choice and the structure of the environment,” *Psychological Review*, 63 (1956):2, pp. 129-138. [↑](#endnote-ref-31)
32. Michael Shermer, *The Mind of the Market* (New York: Holt, 2008), 147–148. Wilkinson and Pickett, *The Spirit Level*, pp. 31-45. [↑](#endnote-ref-32)
33. La Rochefoucauld, *Maxims*, trans. Leonard Tanock (London: Penguin Books, 1959), p. 92; #436. [↑](#endnote-ref-33)
34. Nikos Kazantzakis, *Zorba the Greek* (New York: Simon and Schuster, 1952), pp. 278-79. [↑](#endnote-ref-34)
35. Martha Nussbaum, *Love’s Knowledge: Essays on Philosophy and Literature* (New York: Oxford University Press, 1990), pp. 100, 101. [↑](#endnote-ref-35)
36. Arendt, *Between Past and Future, pp.* 248–9. [↑](#endnote-ref-36)
37. Arendt, *Lectures on Kant’s Political Philosophy,* pp. 76-77, 84. [↑](#endnote-ref-37)
38. Quoted in Ronald Beiner, “Interpretive Essay,” in Arendt, *Lectures on Kant’s Political Philosophy*, p. 113. [↑](#endnote-ref-38)
39. Charles Larmore, “Moral Judgment,” in *Judgment, Imagination, and Politics: Themes from Kant and Arendt*, ed. Ronald Beiner and Jennifer Nedelsky (New York: Rowman and Littlefield, 2001), p. 52. [↑](#endnote-ref-39)
40. Larmore, “Moral Judgment,” p. 63. Charles E. Larmore, *Patterns of Moral Complexity* (Cambridge: Cambridge University Press, 1987), p. 21. [↑](#endnote-ref-40)
41. See Bent Flyvbjerg, *Making Social Science Matter: Why social inquiry fails and how it can succeed again* (Cambridge, U.K.: Cambridge University Press, 2001), pp. 85-86. [↑](#endnote-ref-41)
42. Benjamin, “The Storyteller,” p. 86. [↑](#endnote-ref-42)
43. Friedrich Nietzsche, *The Will to Power*, trans. Walter Kaufmann and R.J. Hollingdale (New York: Vintage, 1968), p. 35. [↑](#endnote-ref-43)
44. Hannah Arendt, *The Human Condition* (Chicago: University of Chicago Press, 1958), p. 175. [↑](#endnote-ref-44)
45. Isaiah Berlin, *The Sense of Reality: Studies in Ideas and their History*, ed. Henry Hardy (London: Chatto and Windus, 1996), p. 23. [↑](#endnote-ref-45)
46. Berlin, *The Sense of Reality*, p. 25. [↑](#endnote-ref-46)
47. Deborah Prentice and Richard Gerrig, “Exploring the Boundary between Fiction and Reality,” in Shelly Chaiken and Yaacov Trope, *Dual-Process Theories in Social Psychology* (New York: Guilford Press, 1999), p. 535. [↑](#endnote-ref-47)
48. Jeffrey Gray, *Consciousness* (Oxford: Oxford University Press, 2004), pp. 9, 50, 115; Jane Adamson, “Against tidiness: Literature and/versus moral philosophy,” in *Renegotiating Ethics in Literature, Philosophy, and Theory,* eds. Jane Adamson, Richard Freadman and David Parker(Cambridge: Cambridge University Press, 1998), p. 89. [↑](#endnote-ref-48)
49. Quoted in Robert P. Burns, *A Theory of the Trial* (Princeton: Princeton University Press, 1999), pp. 209-10. [↑](#endnote-ref-49)
50. James R. Schlesinger, “Uses and Abuses of Analysis, “*Survival* 10 (October 1968):35. [↑](#endnote-ref-50)
51. Greenwald and Banaji, “Implicit Social Cognition, p. 17. See also Henry Ellis and R. Hunt, *Fundamentals of Cognitive Psychology*, 5th ed. (Madison: Brown and Benchmark, 1993), pp. 93-94. [↑](#endnote-ref-51)
52. Dean Keith Simonton, *Origins of Genius: Darwinian Perspectives on Creativity* (New York: Oxford University Press, 1999), pp. 47-49. [↑](#endnote-ref-52)
53. J. Schooler, and T. Engstler-Schooler, “Verbal Overshadowing of Visual Memories: Some Things Are Better Left Unsaid,” *Cognitive Psychology* 22 (1990): 36-71. [↑](#endnote-ref-53)
54. T.D. Wilson and J.W. Schooler, “Thinking too much: Introspection can reduce the quality of preferences and decisions,” *Journal of Personality and Social Psychology*, 60 (1991): 2, 181-192. Choi, “The Glimpsed World,” pp. 326. See also David G. Myers, *Intuition: Its Powers and Perils* (New Haven: Yale University Press, 2002), p. 44. [↑](#endnote-ref-54)
55. John Campbell, *Lives of the Chief Justices of England*, vol. 4. ed. James Cockcroft(Northport: E. Thompson, 1894-99),p. 388. [↑](#endnote-ref-55)
56. See Leanne S. Woolhouse and Rowan Bayne, "Personality and the use of intuition: individual differences in strategy and performance on an implicit learning task," *European Journal of Personality*, 14: (2000):157-169. Goldberg, *The Wisdom Paradox*, p. 138. [↑](#endnote-ref-56)
57. Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), pp. 232, 416. [↑](#endnote-ref-57)
58. Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), p. 240-241. [↑](#endnote-ref-58)
59. Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), p. 223. [↑](#endnote-ref-59)
60. Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), p. 48. [↑](#endnote-ref-60)
61. Woolhouse and Bayne, "Personality and the use of intuition," pp. 157-169. Myers, *Intuition*, p. 44. Sandra Weintraub, *The Hidden Intelligence: Innovation through Intuition* (Boston: Butterworth Heinemann, 1998), p. 43. Jon Elster, *Alchemies of the Mind: Rationality and the Emotions* (Cambridge: Cambridge University Press, 1999), p. 295; R. Dawes, D. Faust and P. Meehl, “Clinical versus actuarial judgment,” *Science* 243 (1989), 1688-74; Robin Hogarth, *Educating Intuition* (Chicago: University of Chicago Press, 2001), pp. 144-45; C. F. Camerer and E. J. Johnson, “The process-performance paradox in expert judgment: How can the experts know so much and predict so badly?” in *Toward a General Theory of Expertise: Prospects and Limits*, eds. K. A. Ericsson and J. Smith (Cambridge: Cambridge University Press, 1991); and Irving L Janis, *Crucial Decisions: Leadership in Policymaking and Crisis Management* (London: The Free Press, 1989); Jonathan Baron, *Judgment Misguided: Intuition and Error in Public Decision Making* (New York: Oxford University Press, 1998), pp. 2, 7, 8, 9. [↑](#endnote-ref-61)
62. A. Tversky and K. Kahneman, "Judgments of and by representativeness,” in *Judgment under Uncertainty: Heuristics and biases*, eds. D. Kahneman, P. Slovic and A. Tversky(Cambridge: Cambridge University Press, 1982), p. 98. [↑](#endnote-ref-62)
63. See Scott Plous, *The Psychology of Judgment and Decision Making* (Philadelphia: Temple University Press, 1993), pp. 121-130. [↑](#endnote-ref-63)
64. N. Vidmar and M. Rokeach, “Archie Bunker’s Bigotry: A Study in Selective Perception and Exposure,” *Journal of Communication* 24 (1974): 36–47. [↑](#endnote-ref-64)
65. Roger C. Schank and Robert P. Abelson, “Knowledge and Memory: The Real Story,” *Knowledge and Memory*, 34. [↑](#endnote-ref-65)
66. Plous, *The Psychology of judgment*, p. 31. [↑](#endnote-ref-66)
67. Robyn M. Dawes, *Everyday Irrationality* (Boulder: Westview, 2001) 141. [↑](#endnote-ref-67)
68. Barbara Tversky, “Narratives of Space, Time, and Life,” *Mind & Language*, 19:4 (September 2004), pp. 380–392. [↑](#endnote-ref-68)
69. Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011), pp. 209, 406-407; Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2010), p. 63. [↑](#endnote-ref-69)
70. Nassim Nicholas suggests that we combat the narrative fallacy by favoring “experimentation over storytelling, experience over history, and clinical knowledge over theories.” Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2010), p. 84. The problem is that experience is itself narratively constructed, and clinical knowledge even more than theories may be interpreted through the lens of operative stories. [↑](#endnote-ref-70)
71. Thomas Jefferson, letter to William Charles Jarvis, September 28, 1820. In Paul Leicester Ford, ed. *The Writings of Thomas Jefferson*, Vol. 10 (New York: G.P. Putnam’s Sons, 1899). [↑](#endnote-ref-71)
72. Plous, *The Psychology of judgment*, p. 256. [↑](#endnote-ref-72)
73. Washington Irving, “To the Reader,” in *Tales of a Traveler* (1824). [↑](#endnote-ref-73)
74. Specifically, taking on a distant perspective enhanced the “pragmatic reasoning” or “wisdom” of participants of the study, as measured by their recognition of the limits of their own knowledge and of uncertainty. Ethan Kross and Igor Grossman, (2012) “Boosting wisdom: Distance from the self enhances wise reasoning, attitudes, and behavior.” *Journal of Experimental Psychology: General*, 141(1), 43-48. [↑](#endnote-ref-74)
75. Robin Hogarth, *Educating Intuition* (Chicago: University of Chicago Press, 2001), p. 210. [↑](#endnote-ref-75)
76. Arthur Graesser and Victor Ottati, “Why Stories? Some Evidence, Questions, and Challenges,” in *Knowledge and Memory,* p. 124. [↑](#endnote-ref-76)
77. Charles Taylor, *The Sources of the Self* (Cambridge: Cambridge University Press, 1989), pp. 47, 51. [↑](#endnote-ref-77)
78. See Stephen John Read and Lynn Carol Miller, “Stories are Fundamental to Meaning and Memory: For Social Creatures, Could It Be Otherwise,” in *Knowledge and Memory: The Real Story -- Advances in Social Cognition*, ed. Robert Wyer, Jr., Vol. VIII (Mahwah, NJ: Lawrence Erlbaum Associates, 1995), p. 148. [↑](#endnote-ref-78)
79. Quoted in Michael Roemer, *Telling Stories: Postmodernism and the Invalidation of Traditional Narrative* (Lanham, MD: Rowman and Littlefield, 1995), p. 100. [↑](#endnote-ref-79)
80. Benjamin, “The Storyteller,” pp. 86-87. [↑](#endnote-ref-80)
81. See George Lakoff *Moral Politics: How Liberals and Conservatives Think*, 2nd ed. (Chicago: University of Chicago Press, 2002). See also George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: University of Chicago Press, 1980) and George Lakoff and Mark Johnson, *Philosophy in the Flesh* (New York: Basic Books, 1999). [↑](#endnote-ref-81)
82. Quoted in Christof Koch, *Consciousness* (Cambridge: MIT Press, 2012), p. 121. [↑](#endnote-ref-82)