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## Luck and Odysseus: Skills of Practical Intelligence.

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### Introduction

The numerical calculation of probabilities is an important tool in conducting ourselves through risky terrain. We can expect that modern culture will continue refining its methods of estimation as our powers of data collection and computation increase in the coming decades. And that's a good thing. But the usefulness of calculation should not eclipse the value of everyday coping skills, especially when those skills themselves provide the practical foundations for the use of calculative methods: note, for example, that even the judgment that we ought to continue refining our abilities in calculating risk is a deliverance of garden-variety prudence. And the technical process of improvement them would involve untold numbers of similar deliverances practical reason. Mathematical methods are the result and instrument of practical powers. (And they should, in turn, show us new things about those powers.)

Practical intelligence, then, will be the focus of this part of the map. Here we'll be sketching in more detail the virtues we briefly introduced in Paper One when discussing prudence. To do so, we'll be peopling our landscape with a few mythical and philosophical figures representing types of response to the terrain. Odysseus will be the main character, but our ultimate focus will be on abilities of practical judgment shaped by long experience and deep immersion in relevant information, that may be rapidly deployed in tricky situations. These are skills nurtured through broad practice, often under the eye of a mentor, as well as through periods of explicit reflection on that practice in the form of analysis, diagnosis, and prescription for improvement.<sup>1</sup>

We believe these skills operationally undergird more formal skills and are therefore fundamental. But in bringing them to the fore, we do not mean to make them exclusive, or claim for them anything near infallibility. Far from it. At times they go quite wrong, even in situations where they could in principle have done better. Our picture of the relations between these and more formal methods is, progressivist; pluralistic; and *ad hoc*. It is *progressivist* in that we urge continued research into the methods and mechanisms of practical judgment in order to improve it. It is *pluralistic* in that we believe this research ought to involve whatever methods will illuminate practical judgment, whether formal or intuitive, and because we think that where everyday expertise is weak, supplemental methods (in the form, for instance, of statistical prediction rules, and so forth) should be pursued and used; Finally, it is *ad hoc* because we recognize that the choice of methods for reducing risk must be relative to the specific risk-situation, i.e., the nature of the threat, the value of the things at risk, the time and resources available to address the situation.

We'll begin with ancient some Greek notions of happenstance and how to cope with it. This will pave the way for a look at contemporary attempts to understand the mechanics of this type of expertise in greater detail. Understanding the nuts and bolts, it is hoped, will enable us to develop methods of refinement.

### Greek Luck, Greek Response

It is useful to read “the Greeks”<sup>2</sup>—from the epic poets Hesiod and Homer down to the tragic playwrights, to philosophers like Plato and Aristotle and the historians Thucydides and Herodotus — as responding to humanity's exposure to luck.<sup>3</sup>

In more philosophical senses, luck — what the Greeks called *tuche* and the Romans *fortuna* — is the contingent, “accidental cause” whose effects fall outside the purposes of nature (*phusis*) and of rational choice (*prohairesis*).<sup>4</sup> Considered neither controllable nor predictable in its specific outcomes, it was

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<sup>1</sup> On the relations between practice and its improvement by reflection on it, see Hubert Dreyfus and Stuart Dreyfus, *Mind over Machine: The Power of Expertise in the Era of the Computer* (New York: Free Press, 1986) especially chapter 1; Donald A Schon, *The Reflective Practitioner: How Professionals Think in Action* (New York, Basic Books: 1983).

<sup>2</sup> Of course, there were many other Greek writers; not all shared these concerns to the same degree.

<sup>3</sup> *As tuche* is often translated. This exposition is indebted to Martha Nussbaum's *Fragility of Goodness: Luck and Ethics in Greek Tragedy and Philosophy* (Cambridge, UK: Cambridge University Press, 1986).

<sup>4</sup> F. E. Peters, *Greek Philosophical Terms: A Historical Lexicon* (New York: New York University Press, 1967).

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nonetheless expected to make appearances in the future as it had in the past. In non-technical, poetic treatments we find a somewhat looser sense: luck is just that which is beyond our control and befalls us from without. Commonly it was associated with the inscrutable whim of the Gods as in Homer; other times this was strenuously denied, as with Plato, who countered the Homeric vision with a picture of a well-crafted world (*kosmos*) ordered to the good by a beneficent Being.<sup>5</sup> But even Plato found need of *tuche* in his tale of the universe.<sup>6</sup> The questions at issue were about its scope and how to deal with it.

At the risk of oversimplifying, Plato's answer to the question of control was firstly to assure us that we are not the playthings of the god, as well as to argue that we ought to politically promote such assurance and prohibit public tales to the contrary. And secondly, to encourage us to imitate the ordered revolutions of the heavens in our own souls. We do this by means of philosophical reasoning (*dialectic*) and contemplation of the Good, beginning with the images of it we find displayed in the universe, then in moral virtues, abstracting further until we've left the created order behind and reached its unchanging source. In the end, whatever might befall the good man in the cosmos could not seriously harm him.

This may sound as though Plato thought there was a sure-fire method — a *techne* or technique — for achieving invulnerability from luck (at least for those Plato thought capable of *employing* such a method, which would be precious few). But this is a contested issue.<sup>7</sup> What is clear is that Plato counseled attempting to evade the force of luck with a virtue based in a contemplation, one which held human affairs as “not worth much”<sup>8</sup> and whose magnetic focal point was impersonal Being (or, something more fundamental even than that).<sup>9</sup> And he was fascinated by the question of whether there might be a reliable procedure, involving counting and measuring, for achieving this version of the good life.

Contrast this outlook with the earlier Homeric treatments of luck and control. The goods protected by Plato's strategy would perhaps go unrecognized by members of Homeric society. If Plato's goods were of a transcendent nature, the Homeric ideals were rooted firmly here below in the realm of property and social standing. What's common to both, however, is the aspiration to self-sufficiency at the fore. And yet Plato has radically purified this notion to pertain only to one's rational, eternal soul, whereas Homeric man's notion of “self” is large enough to include one's total social capital.<sup>10</sup>

In view of the luck invariably faced in the world of becoming, by what means were these more mundane goods to be achieved? What skills were necessary for making one's way through the realm of becoming, rather than taking flight from it to the realm of Being?

Reflections on wayfaring and the Greeks are apt to put one in mind of Odysseus, the resourceful wanderer whose defining attribute is shrewd practical intelligence.<sup>11</sup> In fact, he is in effect the very criterion of resourcefulness in crisis. His practical ability to size up and answer the situation at hand, was called *metis* by the Greeks.<sup>12</sup> The word is translated in many ways, but all have to do with a wily wisdom in coping with an ambiguous, changing reality.

Metis was, first of all, the goddess embodying this prudence and, significantly, the sister of Tuche.<sup>13</sup> Having strategically married her, Zeus hatches a plan to more fully assimilate her power, and protect himself against her offspring. Feigning curiosity and appealing to her vanity, he seduces the shape-shifter into a display of her powers. Goading her into taking the form of a drop of water, he swallows her. In doing so he assimilates<sup>14</sup> the final thing necessary to secure his supremacy among the Gods.

Zeus is now not only supremely cunning, but also pregnant. Athena, the offspring of his strange union with Metis will in turn be a goddess of wiles and

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<sup>5</sup> See especially his *Timaeus*, which is an explicit competitor in, or better, rival to, the competition of the Homeric recitations of the Panathenaic Festival.

<sup>6</sup> *Timaeus*; *Laws*, IV 709b.

<sup>7</sup> See note above on Nussbaum and Roochnik.

<sup>8</sup> Plato,

<sup>9</sup> “The Good, beyond Being” that Plato speculates about in the *Republic*.

<sup>10</sup> Roughly: the self-sufficiency of a propertied, subsistence-farming noble vs. that involved in a “flight of the alone to the alone”, to use the later formulation of Plotinus.

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<sup>12</sup> The following owes a great deal to the work of Marcel Detienne and Jean-Pierre Vernant, *Cunning Intelligence in Greek Culture and Society*, trans. Janet Lloyd (Sussex: Harvester Press, 1978).

<sup>13</sup> In the looser sense of looking after one's interests, attending to the means to one's goals.

<sup>14</sup> See *Cunning Intelligence in Greek Culture and Society*, chapter 4.

beguilement, wisdom and craft. And the unlikely midwife of her birth will be Hephaestus — the physically lame but exceedingly adroit blacksmith god. Alongside these two gods of the practical wisdom embodied in craft techniques (*technai*), we should place a third figure: Prometheus, the fore-seeing trickster who brought these gifts to mankind in the first place, having stolen them from Hephaestus and Athena, in on account.<sup>15</sup> Together they these represent the wondrous (*thauma*) skills<sup>16</sup> by which to sustain a human (*and Greek*) world in the face of elusive nature and whimsical gods.

Holding on to a human existence or, perhaps, human existence viewed as a task of navigating the unpredictable, is the central theme of *The Odyssey*, the tale of Odysseus.<sup>17</sup> There Homer tells of “that man skilled in all ways of contending / the wanderer, harried for years on end / after he plundered the stronghold / on the proud heights of Troy.” In his labors to return from the field of battle to life in the settled human world of field and hearth, Odysseus must rely on mainly on his *wits*. The lines above open Homer’s tale by registering the attributes by which the hero would be known to the Greeks. The remainder of the text continues the identification throughout: Odysseus is the all-cunning (*polumetis*) wanderer.<sup>18</sup> When asked by the Cyclops who he is, Odysseus cleverly calls himself *me-tis*, no-one.<sup>19</sup> As the “teacher of the Greeks” — to Plato’s chagrin — Homer offers his audience the very figure of practical wisdom in Odysseus. The identity stuck. Apparently, for instance, the military strategist (and democratically leaning) Themistocles, who defeated the Persian army with a ruse, was dubbed “Odysseus” for his wily tactics.<sup>20</sup>

It significant that, particularly in his craftiness, Odysseus’ sponsor is Athena. Not only does she employ wiles of speech and appearance on his behalf; in doing so she seems to impart them to Odysseus. It is not too much to suggest that she bestows *metis* on him partly by providing him with a *model* of it. Homer never says so, but in a culture so familiar with apprenticeship and mentoring — whether in the trades or in more honorable cultural activities — the teaching relationship between them would be obvious.<sup>21</sup> It can be seen especially in the places where the two spar together in subtle words, scenes in which Athena goads Odysseus into honing his craft through practice. He is her protege in *metis*.

The contemporary authors most responsible for bringing *metis* to wide scholarly attention are Jean-Pierre Vernant and Marcel Detienne, in their important *Cunning Intelligence in Greek Culture and Society*.<sup>22</sup> Canvassing the thousand or so year history of the concept of *metis* from the early myths to the time of the philosophers, they isolate a stable cluster of features associated with it. As a skill or capacity, *metis* comprises a number of sub-capacities much as does boat-building or medicine. These are worth noting.

We’ve seen that *metis*’ field of activity is the realm of becoming. Here chance (*tuche*) plays a leading role in disposing projects to good or ill. Unpredictable change and fleeting opportunity make human plans provisional at best. The image of the shapeshifter provides us with the best candidate for an antagonist to pit against the character Odysseus. In the old tales, the main images of shape-shifting realities are the trackless, shifting sea which the helmsman must navigate; the unpredictable horse whose taming calls for the bit — a kind of magical ruse associated with Athena and Hephaestus; and animals, like the fox and the octopus, use tricks of appearance to capture and avoid being captured.

Detienne and Vernant layout four features of Odyssean intelligence grappling with fluid circumstances. We will recount and at times amplify these features. First, *metis* allows the weaker to overcome the stronger: cleverness, rather than sheer strength is the decisive factor. Where *metis* appears, what seems a *fait accompli* of the strong, often ends with the underdog on top, so that reversal is a key literary device when *metic* characters are on scene. It was this kind of ability on the part of the sophists, teachers of political skills — chiefly rhetoric — in making the weaker argument appear the stronger, that had Plato so

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<sup>15</sup> Aeschylus’s *Prometheus*. For the other accounts, see Hesiod, *Theogony*, and *Works and Days*.

<sup>16</sup> For a very intriguing but highly speculative treatment of wonder and the the crafting of the city (polis) see Indra Kagan McEwan’s *Socrates’ Ancestor: An Essay in Architectural Beginnings* (Cambridge, MA: MIT Press, 1993).

<sup>17</sup> For such reading, see Jean-Pierre Vernant’s *The Universe, the Gods, and Men*, Linda Archer, trans. (New York: HaperCollins, 2001).

<sup>18</sup> Other common Homeric epithets for Odysseus include: wise, quick-witted, prudent, of many devices, cunning, stealthy.

<sup>19</sup> Instead of using the common construction *ou-tis*.

<sup>20</sup> *Cunning Intelligence*, 313. On the defeat of the Persian Navy at Salamis by the “trick of a Greek,” see Aeschylus’ *Persians* 353–433. Aeschylus himself fought in this decisive battle which effectively prevented Persia from over-running Greece.

<sup>21</sup> Alison Burford, *Craftsmen*; Werner Jaeger, *Paideia*.

<sup>22</sup> Trans. Janet Lloyd (Sussex: Harvester Press, 1978). This book’s value goes well beyond the interests of classical studies.

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upset. Here again cunning takes on an immoral cast in Plato's eyes.

An important part of the advantage of an Odysseus lies in habits of close attention. He is constantly surveying the temporal landscape, from the remembered past, to the experienced present, to a imaginatively projected futures. This eye for the arc of events enables him to identify critical moments (*kairoi*; sing. *kairos*) of advantage during which to apply leverage. *Dokueien*, to be vigilant or to premeditate, is a notion borrowed from hunting and fishing,<sup>23</sup> and is used in this context to name the patient stocking of one's prey on the trail of historical events. Quick-wittedness (*agchnioia*) and a good eye (*eustochia*), too, allow him open up a path with the help of subtle environmental cues. The latter especially speaks of the ability to make informed guesses—conjectures— which like arrows hit their mark.<sup>24</sup>

This kind of anticipation is nourished by but not bound to past cases: it is keenly sensitive to shared features of situations, as well as to the particularities of the case at hand (medicine, Aristotle, etc.) The ability to recognize similarity is a skill Aristotle would take special note of in his discussion of both ethics and metaphor. We will return to it.

"Foresight" translates "Prometheus", and gives occasion for us to pause over a counter-current running through the Greek traditions we are exploiting. A warning about limits to inventiveness and anticipatory control of the course of events resounds through them, from the myth of Prometheus (his gift to humanity is stolen from the Gods) to Sophocles' Antigone, in which the Chorus, the Elders of Thebes, find man's ruses against nature both fascinating and proud to the point of divine provocation.<sup>25</sup> Craftiness is both divine and punished by the divine. That foresight has limits is underscored by Prometheus' counterpart, his brother Epimetheus, who sees only in hindsight. Time and again even the clever are caught unawares by the very actions that had initially brought them success. In the grappling of metic rivals, reversals may generate reversals.<sup>26</sup>

The flexibility exhibited in constantly adjusting expectation based on present information and past analogues (not mention imaginative variation) is part of a larger versatility. As if to anticipate Aristotle's advice to shape inquiry to its subject matter, Odyssean man is multiple, shaping his know-how to the match the variegated field of its labors. He is *poly*—; the many of many wiles and many aspects, using techniques of many kinds. Here there is suggested not just multiple skills, by a general intelligence capable of application to many domains. It would be a fair conjecture to connect this with the ability just noted of seeing how one thing is relevantly like another, i.e., with analogical judgment. This type of a skill seems a crucial aid in having an aptitude for learning — for making the unfamiliar familiar.

Odysseus has a knack for picking things up, from boat-building to helmsmanship to adapting his speech to the occasion. His many-sidedness is a matter of general aptitude, but this is an aptitude that descends to the specifics of his concrete appearance. Like Athena his teacher (and the fox and the octopus), Odysseus is a master presenting the right face. He is particularly skilled in dissimulation and disguise, able to split appearance from reality in order to gain advantage. Returning home, for instance, he plays a beggar in order to gain entrance to his estate and lay plans to overthrow his usurpers.

These characteristics formed a leading trait of ancient Greek sensibility. So much so, that they became the object not only of celebration but the occasion for critical reflection by poets and philosophers. Plato (together with his Socrates) is perhaps the keenest of those to put that *metic* sensibility to scrutiny. Generally, his treatment of *metis*-like skills is dismissive (except quick-mindedness (*agchnioia*) in *Charmides*) and his attitude towards *techné*, the offspring of *metis*, ambiguous. For Plato, *metis* was too much associated with the immoral trickery of the gods as seen in myth and epic, portayals which amounted to slander of the divine. Furthermore, artisan-like know-how, while necessary for the construction and maintenance of society, was too close to instinctual, animal skill to merit philosophical praise. And the point of maintaining society was after all to provide the material conditions in which a few worthies could ascend to Being. The possessors of artisanal know-how typically could not give a reasoned "account" of the processes and materials of their craft; relying

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<sup>23</sup> *Cunning Intelligence*, 15.

<sup>24</sup> *Cunning Intelligence*, 307–312.

<sup>25</sup> *Antigone*, 332–75. [Quote in full?]

<sup>26</sup> An instance can be found in Aeschylus' *Persians* (100-110), which recounts the technological daring of Xerxes in bridging the Bosphoros to give passage to his army:

"The have learned to look upon the domain of the deep when the broad-wayed sea whiteneth to foam beneath the tempest's blast, trusting in their finely wrought cables, and their devices to give passage to their host. Yet the insidious guile (*dolometin*—cunning trickery) of the God—what mortal shall escape it? Who with agile foot can lightly leap from out [*sic*] its toils?"  
*Aeschylus*, Vol. I, trans. Herbert Weir Smyth (Cambridge: Harvard University Press, 1922). See also 738–753.

on an embodied guesswork, they lacked any deep propositional knowledge of fundamental principles and the ability to reason from them. “Carpenters are a dime a dozen, while an architect,” who would be skilled in basic geometry, “is a rarer thing.” The architect was one who measured and calculated in numbers, using the highest parts of the soul to contemplate eternal, necessary truths. By contrast, the subject matter of the trades was lower in the order of being: the particular, fugitive world of sense, which only approximated the necessary realm of Being.

Though it is easy to overemphasize, Plato’s student, Aristotle did depart from his teacher’s doctrine in substantial ways, returning to a more recognizable respect for the everyday life, opinions (*endoxa*), and skills — including rhetoric — of the *polis*.<sup>27</sup> Not to mention adding a real curiosity about the natural world — not just the well-ordered heavens of Plato, but also the creatures under the heavens, on the earth and in the sea. No surprise, then, that to find Aristotle interested in varieties of knowing falling short of Plato’s absolute conception, and find him hooking up those more modest varieties of cognitive engagement with the pursuit of a good life under uncertain conditions.

Aristotle is interested in how natural creatures actually function in moving toward their ends and in how this sheds light on human creatures’ pursuit of theirs.<sup>28</sup> “Even some of the lower animals, he notes, are said to be prudent, namely those which display a capacity for forethought as regards their own lives.”<sup>29</sup> Humans are of a piece with the natural world, for Aristotle. Though endowed with discursive rational abilities (associated with *logos*) not shared by other animals, we are no *less* than animals ourselves, acting through desire, emotion, and perception which are registered through the body. Though Aristotle still felt the appeal of the Platonic drive to transcend our natural endowments<sup>30</sup> his unembarrassed acknowledgment of our continuity with animals opened up a range of creaturely coping skills to philosophical investigation.

### The Contemporary Study of Skilled Coping

In the spirit of Aristotle’s interest in an investigation of practical judgment whose method is at once empirically sensitive and philosophically informed, we turn now to recent studies of skillful intelligence. Philosophers and psychologists have recently been giving a lot of attention to the ways in which practical judgment actually takes place. There is a rich and growing literature on these matters especially from the side of behavioral psychology, as well as a good deal of debate surrounding the research.<sup>31</sup> It is still early in the game, and it seems to us that this field of inquiry needs time to mature with respect to the framing of its problems and its methods of tackling them. There is plenty of room for interdisciplinary laborers from psychology, cognitive science, ethology, and philosophy. It is not too early, though, to take note of some recent empirical work which helps to fill in details of the Odyssean skills we’ve just surveyed. We’ll do so keeping an eye on notions of practical intelligence drawn from thinkers who’ve made practice (*praxis*) a special object of philosophical attention. First have a look at a dominant notion of rationality in the modern West, and then note recent dissent from it in philosophical and empirical studies.

A certain model of *science* (from the latin *scientia*, knowledge) has been immensely influential in modern society, affecting our everyday image of ourselves as rational agents. On this understanding, the natural sciences provide the model of rationality, and their methods should be extended to all realms of human belief and endeavor: we ought to make our *culture* scientific. And though science was to proceed aloof enough from society to safeguard its integrity, it was always expected to serve aspirations of progress.<sup>32</sup>

“Scientific” here means many things, but mainly the use of observational evidence, along with a few first principles, from which to infer truths — especially

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<sup>27</sup> The polity of fifth-century Athens is by no means that of the times that Homer imaginatively narrates. Nor is it simply the prototype of representative democracy as we know it today. The opinions he would think worth paying attention to would be those of men of a fairly elite stripe.

<sup>28</sup> Martha Nussbaum brings this out nicely in *The Fragility of Goodness*, chapter 9.

<sup>29</sup> *Nicomachean Ethics*, VI, vii, 4.

<sup>30</sup> Aristotle says in book X of the *Nicomachean Ethics* that the life of intellectual contemplation (*theoria*) is the best life. Whether this is really a *human* life is somewhat obscure, since it is chiefly an exercise not of one’s “humanity”, but of “something within him that is divine.” On the other hand, this something “may be held” to be the “true self of each, inasmuch as it is dominant and better. . . .the intellect more than anything else is man.” (X, vii, 8–9)

<sup>31</sup> Roughly, between the “heuristics and biases” program (associated with Tversky and Kahnemann) we mentioned at the end of Paper Two, and students of heuristics and “naturalistic decision making” (Gerd Gigerenzer, Gary Klein, etc.). For recent work straddling these schools, see *Better than Conscious? Decision Making, the Human Mind, and Implications for Institutions*, Christoph Engel and Wolf Singer, eds. (Cambridge, MA: MIT Press, 2008).

<sup>32</sup> See our Introduction to the Project, as well as Paper Two.

general laws which account for the observed phenomena. This is a familiar portrait. Perhaps less familiar, but more important for our immediate purpose, is the notion of the scientist — and therefore of the rational person — contemplating explicit concepts, propositions, states-of-affairs, and the formal relations among them, along with frequent self-reflection on what he or she is up to with that content, checking to see that proper procedure is being followed. By extension, rational *action* is action based on this sort of intellectual activity directed to the question of what course to take (neutral) do in a given situation.<sup>33</sup> Ethical riders are also sometimes present, too, telling us that we *ought* to believe only what we have reasoned through in this way — explicitly and on the basis of observational evidence. What's more, we *ought not act* on beliefs held otherwise.

Except for the empirical bent, this outlook is a relative of Plato's picture of responsible reason, reason that lays everything out on the table for examination. This is a rational activity whose exercise would yield control (recall Bacon's "works"), though the goods sought here are more distinctly worldly, closer to those of Homer.

[Footnote: questioning the ethical riders: 1) doxastic voluntarism dubious (Paper Two) 2) the notion of complete checking lands us in a regress of checks: "Check your work!" Now check the check. Now check the the check of the check...etc." Carpentry metaphor...]

Explanations for the spread of these notions rationality are many, but one is surely the rise of religious dissent in the sixteenth century and the upheavals following in the seventeenth. About that time, Europe's corporate functioning (never exactly smooth) seriously broke down, throwing it back on reflection. It seemed urgent to many to make explicit to ourselves our practices, outlooks, and deepest operative concerns: we had better think and argue and find common ground to avoid being overtaken by religious bloodshed, and the fracturing of our cultural ethos. Considerations like these formed the core of the Enlightenment.

Our ideals for ourselves can easily become our ideas of ourselves, even where the two don't match, or where we haven't checked to see if they do. It is easy to think that not only that actual reason ought<sup>34</sup> to conform to the picture above, but to project this ideal onto ourselves. We believe that we conduct ourselves in an orderly and intelligent manner — rationally (at least much of the time). But according to the ideal of rationality we've been surveying, this includes using explicit representations and monitoring ourselves with respect to method of reasoning. [Note on rational choice theory as an incarnation of this "rationality"]

This intellectualist interpretation of both scientific inquiry and intelligent decisionmaking ("rational choice") has come under a good deal of pressure in the twentieth century. Detractors from the picture have been on the scene from the very start,<sup>35</sup> but it was Freud who instigated the first long pause over these matters, ostensibly from within science itself.<sup>36</sup> One needn't be a Freudian to appreciate his impulse to dig beneath our self-image in search of less "rational" (though *strategic*) dynamics that may be at work in our views and decisions, nor to recognize the insight that below explicit consciousness there may be strategic capacities of navigation, and that reflection on them may help to improve them when they prove maladaptive. And this may true both of individuals and corporate bodies.

About the same time Freud was developing basic psychoanalysis, Edmund Husserl was bringing out his phenomenological philosophy, which, too, aspired to be a science. Phenomenology was about attending to the contents of appearances, a study of consciousness from the inside, while suspending our usual assumptions about what must occur there. Though Husserl remained indebted to an intellectualist picture of reasonable human functioning, his method of attending to everyday consciousness paved the way for a break from it. That way was taken up by his student, Martin Heidegger. His *Being and Time* offers an alternative look at effective human action in the world. Attending to one's consciousness during skilled engagement with one's environment, including the social environment, often brings to light no conscious intentions, rules, or propositional content at all. And yet much of the time we still successfully answer to the concerns of the moment — still manage to put fork to mouth, and cross the street at the right time. When things don't go successfully, we then have

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<sup>33</sup> Rational choice theory enshrines this model.

<sup>34</sup> In either the ethical or the prudential sense. Of course, the very notion that reason ought to conform to the picture deserves scrutiny.

<sup>35</sup> Giambattista Vico () J. G. Hamann (1730–1788) J. G. Herder; Later, Friedrich Nietzsche, Karl Marx (in a circumscribed way).

<sup>36</sup> Freud seems to have maintained the ideal of rational self-control, somewhat along the lines of rationality sketched above, but to have little hope in our meeting that ideal. See Richard Wolheim's *Freud* (Cambridge: Cambridge University Press, 1981) 271–2.

recourse to “higher level” consciousness in the forms of special attention, explicit conceptualization, and logical inferences. But such recourse, Heidegger shows, itself relies on the judgment and skill of the non-reflective kind.

Heidegger’s elucidation of intelligent coping was supplemented in turn by Merleau-Ponty’s emphasis on the bodily basis and motor-sensory basis of cognition and skill. Against this background, *getting around in the world*, as a metaphor for achieving one’s ends, is especially appropriate in that negotiating threats and opportunities is in large part a bodily, quasi-spatial skill, based deeply in the central nervous system, and not simply in the “higher” cognitive regions. Rather, it arises from and is geared into our motor systems.

Here it is worth also noting developments in the philosophy of science by thinkers like John Dewey and Michael Polanyi, who were keen to shed light on just such practical and largely invisible operations of scientific work. Their reflections have helped us see science is an activity depending on bodily skills and leaps of judgment which go largely undetected by its practitioners.

Similar conclusions are being drawn in the behavioral sciences. Studies of many different types point to the conclusion that much end-directed behavior is achieved through systems operating below conscious notice.<sup>37</sup> In fact, it appears that in situations of conscious decision making, as where I say to myself, “Push the button now!” and then push it, the preparations necessary for carrying out the operation occur about a second before the conscious command.<sup>38</sup>

What some have called the “cognitive unconscious”<sup>39</sup> is a system developed to deal with the needs of our nature in the face of the contingencies of our surroundings. One of the features of this system is its efficiency; it works at a level requiring as little attention as possible from us, so that we can attend to other matters. [zone, flow, interference] Since it was not developed ready to cope with every situation, it does run into difficulties. When this happens reflective attention may be turned to it, and may be used to compensate for it and to develop means of refining it by training or extending it with prosthetic technologies (from sticks to computers). But for many cases, this system is remarkable in its efficiency. It exhibits a special sensitivity to key indicators, cues, while sidelining enormous amounts of information, though in a way that makes it available for highlighting as it becomes relevant.

Novel cases pose special difficulties for the unconscious coping skills that allow us to manage everyday risks. We need ways of extending expertise into situations those skills have not yet caught up with. Of course no two situations are completely *un*-alike. Finding similarities which give a foothold to our present capacities, even if in modified form, is centrally important to negotiating the demands of the unfamiliar. Gary Klein and his colleagues, who study judgment in crisis (that of fire-fighters, law enforcement, and so on), note the importance of spotting “typicality” — that an incident falls under a relevant kind, is of so and such a type.<sup>40</sup> In their study of skill acquisition and deployment (heavily indebted to the phenomenological tradition coming out of Heidegger and Merleau-Ponty) Hubert and Stuart Dreyfus also emphasize the importance of sensitivity to similarity in diverse cases. One thinks here of Aristotle’s remark that “It is a sign of sound intuition [*eustochia*] in a philosopher to see similarities in things far apart.”<sup>41</sup> This *metic* ability is at the root of metaphorical and analogical thinking (which Aristotle also prized above all in a poet).

Expertise in recognizing similarities calls for a broad base of cases on which to draw, making experience and the study of cases critical. Note that in a crisis such cases may not come to mind explicitly. Rather, many times it will be more a matter of *sensing* relevant similarities, a subtle awareness that triggers anticipations and incipient dispositions to respond in specific ways.<sup>42</sup>

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<sup>37</sup> Antonio Damasio, *The Feeling of What Happens*; Timothy D. Wilson, *Strangers to Ourselves: Discovering the Adaptive Unconscious* (Cambridge, MA: Harvard University Press, 2002). Some in the “naturalistic decision making” program of research conclude similarly: see Gary Klein

<sup>38</sup> See Tad Norretranders, *The User Illusion*

<sup>39</sup> George Lakoff and Mark Johnson, *Philosophy in the Flesh:*

<sup>40</sup> *Sources of Power: How People Make Decisions* (Cambridge, MIT Press, 1998) chaps. 3–4. Oddly, Klein finds little use of analogy in the actual decision-making of successful crisis managers. But on our view, the typicality that Klein does find there is analogical in nature.

<sup>41</sup> *Rhetoric*, 1412a 10–13.

<sup>42</sup> See Pierre Bordieu, *Pascalian Mediations*, chapter 4. Merleau-Ponty, *The Phenomenology of Perception*; Hubert Dreyfus, *What Computers Still can’t Do: A Critique of Artificial Reason* (Cambridge, MA: MIT Press, 1992) Chapter 7, “The Role of the Body in Intelligent Behavior.”

Awareness of typicality may degenerate into stereotyping, with disastrous effects. This is why in the preceding we qualify ‘similarity’ with *relevant*. One may need to correct for bias and passion with reflection and training. The recognition here is that though cases will share features and thus capable of useful categorization, they are also each unique, and call for a special perception of particularity. Aristotle thought this was the case in moral situations, and especially with respect to the treatment of patients in medicine. Two patients having the same disease have it in different ways, as it were: disease always takes the form of this-case-of-that-type. The skilled doctor strives to keep both the typicality and idiosyncrasies of the particular instance in mind. In doing so, he can anticipate certain typical developments, but will do so while patiently observing the the course of things in *this* case, and so be ready to act at the opportune time (*kairos*).

Aristotle says that the recognition of similarity, and therefore (given his view of metaphor) the making of metaphor, cannot be taught. Without argument, this seems a bit dubious; but even granting it, we believe metaphor is at the root of human cognitive abilities and quite natural to us.<sup>43</sup> Still, some people are more naturally suited to generate metaphors than others, some have the *knack* more than others. And it is these people who so often mold public sentiment and policy. Their metaphors, which express a canny perception of similarity and lead to still deeper discovery of the situation, have a profound effect on our perception of risk, crisis, and opportunity. It makes a great difference for our dispositions of response whether we say humans are the children, or the playthings of God, whether men are pigs or overgrown boys, or whether [insert political metaphor]

We’ve already noted in Paper One the likeness of prudence to the art of politics. It may be argued that metaphorical invention lies at the very foundations of politics broadly conceived as founding a human world within the world of nature. Unfortunately, we don’t have time to argue for this now.<sup>44</sup> But if it is such a fundamental skill of public prudence, we ought to expect those working at building and sustaining our culture to be adept at metaphor and analogy, and not simply for the sake of persuasion. Apt metaphors are necessary in order to help mobilize our capacities of perception, enhance our habits of attention, and bring poise to our dispositions of response. We should, then, employ methods of developing this ability with those whose vocation is the exercise of prudence with respect to the common good. Their effectiveness will depend largely on their skills of rhetorical invention (*ingenium*) — the ability to bring together into an image concrete particulars that seem disparate, in order to extend skill into new domains. On this view, rhetoric is not just an expressive, persuasive capacity, but a more fundamental perceptivity to kindredness.

Since the greater stock of basic metaphors are drawn from our bodily experience and bearing in the world, they tend to be concrete, imagistic. As such they engage the bodily modes of awareness, including, we’d say, the passions,<sup>45</sup> and thereby couple strategies of response with the situation seen metaphorically, by way of soliciting *concern*.<sup>46</sup>

Recognizing and disclosing similarity helps us hook up past experience with new. Many times our perception of similarity takes the form of explicit metaphor which can be then explored and teased out. Rich metaphors are based in a deep perception of gestalt-like form or pattern, and thus admit of being explored further in imaginative variations and linguistic play. They tend, in fact to propagate additional metaphors that disclose the situation further. Here one is reminded of the feature of *metic* knowledge noted earlier. While it appears light (*leptos*) due to its agility, it is enabled to be so only because of a submerged *density* of experience and practice. [Furbizia, sprezzatura, flow] This extension of understanding enables —one might say partly takes the form of — being disposed to specific actions indicated by the metaphor. The metaphor catalyzes tactical skill.

Often strategies suggested by the recognition of resemblance will surface into conceptual consciousness and imagination (in the quasi-sensory sense: “Imagine you’re walking through a forest and mosquito lands on your neck...”) This allows opportunity for more procedural kind of often necessary in tricky situations, as well as for communication between team members about possible courses of action. Just as pattern recognition is a powerful aid in the perception or risk and opportunity, so is the capacity to build imaginative scenarios on those metaphorical foundations, to propose states of affairs

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<sup>43</sup> See George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: University of Chicago Press, 1980)

<sup>44</sup> But see Ernesto Grassi’s suggestive exposition in *Rhetoric as Philosophy: The Humanist Tradition* (Carbondale, Illinois: Southern Illinois UNiversity Press, 2001) chapter 4. His exposition of the humanist tradition of rhetoric that culminates with Vico (has very much influenced our remarks here.

<sup>45</sup> For the view that the emotions can function as modes of awareness, see

<sup>46</sup> See Damasio, *The Feeling of What Happens*, 304.

for consideration or supposition. Effective scenario planning begins with the same imaginative projection of possible worlds exercised by novelists.<sup>47</sup>

Fictional world-projection begins with an implied “Suppose that. . .” or “Imagine it were the case that. . .” And for a very long time, a central purpose of projecting these imaginary worlds was the education of character. Story-tellers, — recall Homer — aimed at the refinement of their audience’s powers of ethical (*ethos*) discrimination and sympathies, in order to facilitate fitting responses to actual situations. Stories were a school of virtue, where *virtue* has its older sense of habitual power of response.

In risk planning, the use of scenarios has become a familiar tool through the work of Pierre Wack at Royal Dutch Shell.<sup>48</sup> Wack is rightly at pains to distinguish scenario planning from forecasting in which one just extrapolates from recent quantitative data —trending. Simply projecting in this way, as if the quantitative data were exhaustive of relevant factors and somehow represented the same kind uniformities that we find in nature is problematic at best. In searching for the control afforded by quantitative natural sciences, it is easy to dismiss “data” not so quantitatively tractable — data like that we find in the interpretive sciences. Though unwilling to say that scenario planning improves upon forecasting by means of taking into account more *information*, it just this type of information that Wack has brought to bear on envisioning possible futures. Our point here is that this kind of reality is the province of the novelist, the journalist, the interpretive social scientist. Discerning the contours of the character of individuals and corporate *personae* requires the sort of fine perceptivity of particular temperament and case we associate with those vocations just mentioned, as well as of medicine, and particularly of novelists.

It should be noted, too, that the novelist’s attention to the particular is akin to that of the rhetorician to his audience, and provides a model for the risk-manager’s relation to his or her client in disclosing threat and chance. Of course the medical analogy comes to mind, as well. We’ll be exploring it in further Paper Four. Wack found that in spite of the richness of the scenarios his team developed employing interpretive understandings of social character, management did not quickly change course in light of them. Something kept managers from connecting with the possible (indeed, *likely*) worlds projected for them. One wonders whether it was simply the case that they found no salience in the presentation, or whether they may indeed have felt it relevance and then cognitively resisted the picture put before them. We may reasonably expect them to have been people whose *metier* was what is strictly measurable, and who had experienced a comfortable status quo after the post-war boom. Speculation on the specific case is chancy; the point is that worlds are projected for consideration by members situated with in a specific corporate culture, and must touch their “deepest concerns” and interests if they are to be mobilize a responsive effort. Wack tends to paint the his team’s ensuing task as that of changing the “mental model” of managerial culture; we think he’s closer to the mark when he uses the language of imagery because more concrete. He’d be closer to the mark still, on our view, in talking about retraining their habits of perception and sensitivity. Certainly this will take place through verbal communication, enumeration of procedures, and so on, but more so through training that immediately engages more basic coping systems, from metaphor and story to on-the-ground experience with cases. Wack himself didn’t gain a key insight into the role of Japan in a possible energy future until he spent a year there and began to understand the bearing of Japan’s national temperament on production.

But perhaps the most important suggestion to make is that scenario planning should be *maieutic* and mentor-based. Wack’s team seems to have worked up their scenarios and then brought them before management for consideration. Suppose instead that Wack ‘s team had collaborated with management, acting as mentors and models of the kinds of skills that go into constructing scenarios. The construction of the scenario itself would have already involved the managers in the kinds of concern and interpretive imagination that distinguishes advanced scenario planning from simple forecasting. They would have been exercising their own nascent skills of perceptivity to particular cases, of sense for similarity, type, and pattern, and the ability to verbalize these in pregnant metaphors around which to develop stories about possible worlds. Engagement would not then be a second task; the habits of the culture would already have been incipiently reoriented toward scenario-mindedness.

As Wittgenstein’s thinking on rule-following suggests, that some action is in accordance with a rule (say a rule for quenching thirst) doesn’t entail that is was the result of following that rule.

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<sup>47</sup> On fictional world-projection see Nicholas Wolterstorff, *Works and Worlds of Art* (Oxford, Oxford University Press, 1980). On novelistic perceptivity see Martha Nussbaum

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