

Decision Making, the Failure of Principles, and the Seduction of Attention

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Babe the Pig “. . . so I go through the kitchen, across the living room . . . into the bedroom, get the mechanical rooster . . . and quietly bring it out to you. (Pause) I don't think I can do it. It's against the rules. Only dogs and cats allowed in the house.”

Ferdinand the Duck “I like that rule; It's a good rule. But this is bigger than rules. This is life and death.”

Babe “It is?”
Ferdinand “Aaaaahhh! Follow me!”

(Babe follows Ferdinand into the house)¹

¹ Babe: A Little Pig Goes a Long Way; Universal City Studios, Inc. 1995. Since the farm had no rooster, Ferdinand had assumed the duty of quacking to wake the farmer and his wife. Ferdinand was thus threatened by the farmer's recent acquisition of an alarm clock--he assumed that the farmer would now cook him).

I. The Failure of Principles; Looking toward Attention

The above movie dialogue re-ignited one of my smoldering suspicions: that decision-making is really sleight of hand. To make a decision is to turn one's attention from various potential courses of action and to attend, ultimately, to one's choice of action. Notice the essence of Ferdinand's strategy. It's the same strategy universally employed by parents to calm crying children. "[Nothing over *there*] . . . look at THIS!" Ferdinand made no attempt to synthesize the two competing principles ("don't go in the house" versus "save Ferdinand's life").

But can legerdemain really be the engine of decision-making? If so, neither legal nor moral "systems" (as two of *many* types of decision-based systems²) would seem to be very systematic. The specters of relativism and nihilism rise in the distance. As Ferdinand would say, "Aaaaaahhh!"

Systems of law and morality which claim to be dependent on principles have regularly disappointed many of us. Particular principles fail to predict or truly explain decisions, even for intelligent people, and even for those who strive heroically and fastidiously to adhere to what they believe to be the appropriate moral and legal principles.³ Under the law, are people of the same sex able to get *married*? Is it morally right to be gay? Is it constitutional under the Equal Protection provision to gerrymander people of different "races" pursuant to the Voting Rights Act? Is it *moral* to engage in reverse discrimination? Do you need a piece of paper and a pen to figure it all out? A computer?

The main problem with principles is that they are considered *determinative* of our actions despite our relatively unfettered discretion to interpret them and to decide when and how they apply.⁴ We've seen it a thousand times, in ourselves and in others: After we select one or more principles (from an potentially infinite inventory) we imaginatively embellish them to detail extensive correspondences to the real world (utilizing the discipline one finds in a creative writing class) or we discard them to consider yet other principles. When we discard a principle we have initially considered, it is because we have quickly, almost unthinkingly, substituted yet another principle more to our taste, which we are apt to do repeatedly until we are bored by the endeavor. It is when we cut off the discussion that we *decide* [decide: *de-* (off, from) + *caedere* (to cut)].⁵ Even where we don't remember acting on the basis of a principle, we are happy to determine one or two or ten after the fact, to explain our prior behavior. Therefore, many of us retain our faith in principles, in spite of the wreckage of failed and disfigured principles in our wake. We accept principles as the causative agents of our behavior because they're easy to point to.⁶

² I will be focusing upon moral and legal principles throughout this paper. Although there are significant differences between such types of principles, the similarities justified the conflation for purposes of much of this paper.

³ "[A] code purports to be exclusive and all-inclusive, for present and future. Which means that in due course it will be made to 'contain' what it does not contain." K. Llewellyn, "The Constitution as an Institution, p.11 (1934).

⁴ See Appendix A for the example of *stare decisis*, a classic case in point from the legal field.

⁵ A caveat is necessary right off the bat., I will be attempting (see, especially, §VI) to distinguish *decision making* from *problem solving*. Etymology of *solve*: *se-* (apart) + *luere* (to let go, set free).

⁶ Just like troubled urban teenagers, raised in horrid conditions, are pointed to as the *cause* of general urban squalor.

Here's an easy case where principles supposedly determine action: Ken claims that he refrained from killing Bill (even though Ken dislikes Bill) because he considered the 5th commandment and the criminal statute prohibiting murder. But would Ken have even consulted these principles had he not viscerally been repelled by the thought of committing murder? And can we rule out the effect of Ken's understanding of the unpleasant consequences he would experience were he to kill Bill? The causation element of the claim that principles are efficacious appears to fail the verification theorem.

Those who believe in the efficacy of principles never explain how to mediate clashes between and among principles. There are *always* multiple contradictory principles available to “resolve” every quandary. “He who hesitates is lost,” versus “Look before you leap.” “Nothing ventured, nothing gained” versus “A bird in the hand is worth two in the bush.”⁷ There is no discernible resolution available to resolve such clashes, so we create *new* rules to specifically deal with specific impasses (*e.g., Always go in the house to save someone’s life*). But then those mediating rules draws their *own* antipodes (*e.g., Never go in the house to save a life, if it will costs more than one life to do so*), and still higher level rules must be brought forth to resolve *those* clashes. The inevitable result of any good faith attempt to consistently apply “pure” moral or legal principles to real world situations is an eternal regress of mediating principles, and no definitive guidance. As Oliver Wendell Holmes said, “General propositions do not decide concrete cases.”⁸

Kant, of course, is the patron saint of those who attempt to “rationally” apply moral principles to real life situations. Perhaps more than any other philosopher,⁹ Kant struggled valiantly for such a moral consistency. Yet, for all of his brilliance and persistence, the cash value of his entire system is suspect, as illustrated by his answer to the question of whether one is *ever* permitted to tell a lie. As Kant wrote¹⁰: “To be truthful (honest) in all declarations, therefore, is a sacred and absolutely commanding decree of reason, limited by no expediency.” Therefore, a person should not tell a lie, even “when unjustly compelled to make a statement, in order to protect himself or another from a threatened misdeed.”

If I am ever being pursued by a maniacal murderer, I hope that Immanuel Kant is not around to “help” me. The “don’t lie to the man attempting to commit murder” example is

⁷ Or *Do not Kill* versus *Kill only if in self-defense or as an act of mercy or in time of war or under extenuating circumstances*.

An entire school of legal thought has been born of this frustration. The “Critical Legal Scholars” commonly characterize the practice of law as a sham because every so-called legal rule is opposed by a counter-rule, and rules cannot be both precise and comprehensive. They conclude that law, despite its exhaustive and impressive-seeming body of principles, is politics through and through. See D. Kennedy and K.E. Klare, “A Bibliography of Critical Legal Studies,” 94 *Yale L.J.* 461 (1984). See also, J. Feinman, “Critical Approaches to Contract Law,” 30 *UCLA L.REV.*, 741 (1983).

Law professor Steven Winter eloquently argues that there is not necessarily a *clash* between such maxims. “For the most part, they draw on the information-rich imagery of concrete, everyday experiences from which we abstract general lessons about life.” To read them as clashing, then, is to read them shallowly (as do the “Crits”, according to Winter) *The Constitution of Conscience*, 77 *TEX L.REV* 1805-1835, 1823 (1994). For an example of the approach of the critical legal theorists, see J. Feinman, “Critical Approaches to Contract Law,” 30 *UCLA L.REV.*, 741 (1983)

⁸ “Bet-tabilitarianism,” *The New Republic*, Louis Menard, Nov. 11, 1996, p 48. Holmes also said: “It is the merit of the common law that it decides the case first and determines the principle afterwards.”

The claim of self-supporting principles also brings to mind a story told by Bertrand Russell. As a young boy, Russell was learning geometry from his brother. His brother told him about axioms:

“‘These,’ he said, ‘can’t be proved.’ At these words my hopes crumbled. I had thought it would be wonderful to find something that one could *prove*, and then it turned out that this could only be done by means of assumptions of which there was no proof. I looked at my brother with a sort of indignation and said: ‘But why should I admit these things if they can’t be proved?’ He replied: ‘Well, if you won’t, we can’t go on.’”

“Why I Took to Philosophy, (1956) *The Basic Writings of Bertrand Russell* p. 56.

⁹ See, for example, Kant’s *Foundations of the Metaphysics of Morals* (1785).

¹⁰ From “On a Supposed Right to Lie From Altruistic Motives” (1797).

typical of the silliness resulting from rigid or fastidious pursuit of formal systems of morality or law.¹¹

But these questions of consistency presuppose that moral and legal principles can even be “applied” at all. As a thought experiment, put one-hundred avowed modern day-Kant scholars in a room and ask them to apply the categorical imperative to any ten current moral conundrums. Then sit back and enjoy the hypothetical fray, as the pro-life Kantians bellow at the pro-choice Kantians, and the pro gun control Kantians yell at the NRA Kantians, each of them claiming that it is *they* who are carefully applying the categorical imperative, and that it is their *opponents* who aren’t true Kantians.¹² To salvage the formal aspects of morality (or law), one is *forced* to engage in semantic game-playing & casuistry.¹³

As if our daily dose of real-world antics weren’t convincing enough, cognitive science has indisputably taken the gloss off human decision-making ability.¹⁴ How can such certifiably semi-rational beings—the kind we are at our *best*--be trusted to apply principles at critical real-time moments?

The repeated failure of principles has provoked me to look elsewhere to get an intellectual grip on decision making. Recently, I have become intrigued by attention’s role in decision-making. The manner in which we focus our attention plays a major role in the outcome of legal and moral dilemmas. There is a Middle-eastern saying: “If you allow the camel’s nose under the tent, the entire camel is soon inside the tent.” Attention is the camel’s nose. Principles are the camel’s tail. Morality-based-upon-principles is the tail which tries to wag the camel.¹⁵ Therefore, a great advantage of attention (over the putative application of principles) is that attention is what it is. Attention doesn’t repeatedly mislead and distract, as do principles.

Attention plays critical roles at two stages of decision-making: 1) setting the perceptual table for decision-making, attending both to one’s world and to the principles one is considering, and 2) at the moment of decision. Decision-making is founded upon perceptual strategies (*e.g.*, heuristics), the successful operation of which are highly contingent upon how we deploy attention.

In writing this paper, I tried to draw examples from all walks of life, although I drew disproportionately from the fields of law and morality as a result of my interests (including my career interests) and frustrations with those fields. As suggested by the title of this paper,

¹¹ Kant never sketched out the hypothetical world where no one *ever* told a lie. It would be a nightmare.

¹² For an example from the legal world, have a roomful of lawyers try to reach accord on legal disputes. Come to think of it, we do that already at appellate courts, and it results in repeated occurrences of dissenting opinions among the justices, and mountains of contradictory law review articles.

¹³ None of this is to suggest that there is no such thing as objective meaning or principled action in law or morality. I am sympathetic with Mark Johnson’s notion that moral principles are legitimate, once reconceptualized to take account of the embodied structures of meaning and of the critical need for moral imagination. See *Moral Imagination: Implications of Cognitive Science for Ethics* (1993).

¹⁴ At this point let us just say that, as a species, we are less than spectacular at rational decision-making. Read on, for details.

¹⁵ I’m not suggesting that principles have no force, or that life is totally chaotic. I am suggesting that principles have much less force than most people think, and that life is semi-chaotic although we are “wired” to *see* it as more ordered than it is. “We are predisposed to see order, pattern, and meaning in the world, and we find randomness, chaos, and meaninglessness unsatisfying. Human nature abhors a lack of predictability and the absence of meaning. As a consequence, we tend to ‘see’ order where there is none, and we spot meaningful patterns where only the vagaries of chance are operating.” T. Gilovich, *How We Know What Isn’t So: The Fallibility of Human Reason in Everyday Life*, p.9 (1991).

I am sympathetic to the notion that principles can trigger various thoughts and images which can, in turn, effect human decision-making. Like that of all of the other animals, however, human conduct sprouts from *beneath* the level of principles. A reasonably complete description of the “reason” for any of our actions should pass downward, *through* principles, to encompass the tremendously complex inner workings of the bodies we inhabit.

however, my conclusions are meant to apply to *all* decision making, not just legal or moral decisions. I reasoned as follows: since legal and moral decisions are generally made with far more care, effort, sensitivity and social feedback than many other types of decisions, they should be less susceptible to the capricious ways of attention. If my suggestions hold water for legal and moral decision making, less structured cases of decision making should fall in line even more convincingly.

If, along the way, I occasionally stray from traditional cognitive science, I plead guilty of 1) having a distractible sense of attention, and 2) having viscerally reacted to Eleanor Rosch's (et al.'s) challenge that "with the exception of a few largely academic discussions cognitive science has had virtually nothing to say about what it means to be human in everyday, lived situations."¹⁶

II. Definitions and Usage Notes

By *attention*, I am relying upon an amalgam of the following definitions:

- 1) "The taking possession by the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought. Focalization, concentration, of consciousness are of its essence. It implies withdrawal from some things in order to deal effectively with others, and is a condition which has a real opposite in the confused, dazed, scatter-brained state" ¹⁷
- 2) "[A]ttentional networks of the human brain . . . lead to selection of sensory information, activate ideas stored in memory, and maintain the alert state." ¹⁸
- 3) Attention is a "complex of skills. These include selecting one from several messages, selecting one from several interpretations of information, selecting one from several plans of action, and selecting one from several actions."¹⁹

Etymological note: "attention" is a stretching toward, from *ad-* (to) + *tendere* (stretch). ²⁰

Usage note regarding "attention": By embracing definitions which refer to a "taking possession" or "selecting" I do not mean to recognize any homunculus doing the taking or the selecting. To do so would be to suggest that other mental phenomena such as motivations and expectations are "in charge of" and logically prior to attention.

To the contrary, I suspect that attention does much of its selecting almost entirely (perhaps entirely) without conscious guidance; it seems to have a life of its own,²¹ if not

¹⁶ F. Varela, E. Thompson and E. Rosch, *The Embodied Mind* p. xv (1993). Their challenge continues (p. xx): "The issues at hand, though scientific and technical, are inseparable from deeply ethical concerns, ones that require an equally deep reunderstanding of the dignity of human life."

¹⁷ W. James, "Attention," *Principles of Psychology I*, 403 (1890)

¹⁸ M. I. Posner, "Attention: The mechanisms of Consciousness," *Proc. Natl. Acad. Sci., Vol. 91 pp. 7398-7403*, 7398 (Aug. 1994).

¹⁹ Richard L. Gregory, *Oxford Companion to the Mind*, "Attention," p. 59 (1987)

²⁰ *Webster's New World Dictionary of the American Language - 2nd Coll. Ed.* (1976)

²¹

We proceed from the working hypothesis that inferential and judgmental errors arise primarily from nonmotivational—perceptual and cognitive—sources. Such errors, we contend, are almost inevitable products of human information-processing strategies. In ordinary social experience, people often look for the wrong data, often see the wrong data, often retain the wrong data, often weight the data improperly, often fail to ask the correct questions of the data, and often make the wrong inferences on the basis of their understanding of the data. With so many errors on the cognitive side, it is often redundant and

completely at the level where it *feels* like we are making completely volitional decisions, then at all levels beneath that level (and volition is dependent upon the workings of those sub-levels). This non-homuncular approach is required to avoid an eternal regress regarding decisions to decide to. . . decide to attend. As I sit here keying in this paper, it certainly *feels* like I just chose to attend to my dog (I just looked at her), and it certainly *seemed* that I was, indeed, in charge of deciding to attend (or not attend) to my dog. But, if so, what led me to choose to choose to attend to my dog, and so forth.²²

Additional usage note regarding “attention”: Throughout this paper, I have metaphorically extended *attention* to be a societally, as well as an individually applicable concept. I believe the extension to be a fruitful, and not entirely a metaphorical, one. As a society, we can be meaningfully said to be collectively attending (or *not* attending) to various matters.

Usage note regarding “legal”: I am not making reference to any high-falutin jurisprudential theory. I am referring to the common practice of American courts, wherein arguments are deemed to be legally correct and incorrect.

Usage note regarding “morality”: I am referring to common-sense morality, that mish-mash of decision-making, within the realm of right and wrong, as practiced daily by most human beings.

Usage note regarding “principles”: I am focusing upon moral and legal decision making. When I use this term I am, unless indicated otherwise, not referring to the formal principles of mathematics, science and formal logic.

III. Fearless in our Ignorance

If cognitive science has demonstrated anything, it is that attention is severely limited. Although none of us has ever believed that we could read an entire page at a glance, common sense didn't warn us that we are limited to eighteen characters of text per saccade, allowing computer-assisted experimenters to continually, and in real-time, fill extra-foveal regions with garbage, unbeknownst to readers.²³ Using conversation shadowing, Broadbent and Treisman have demonstrated that one's ability to absorb multiple conversations is severely limited. Although certain features of speech served to distract one from the shadowed message (for instance, emotionally charged words, such as one's own name, or clues to ambiguities or semantic lapses of the shadowed message), attention is still fairly characterized as a selection mechanism (and, therefore, an exclusion mechanism).²⁴ Attention is bottlenecked at the site of

unparsimonious to look also for motivational errors. We argue that many phenomena generally regarded as motivational (for example, self-serving perceptions and attributions, ethnocentric beliefs, and many types of human conflict), can be understood better as products of relatively passionless information-processing errors than of deep-seated motivational forces.

R. Nisbett and L. Ross *Human Inference: Strategies and Shortcomings of Social Judgment*, p. 12 (1980).

²² If attention were somehow fully “volitional,” this paper would contain the less-than-earth-shaking thesis that we decide to attend to certain things, in order to gather factual foundations to assist us in our decision making. I don't believe such a position to be tenable. My assumption is that the inner mechanisms of attention give attention a life of its own, and that these mechanisms steer attention toward particular types of perceptions and conclusions, thereby prejudicing any attempted “neutral” application of principles.

²³ “A Critique of Pure Vision,” P. Churchland, V. Ramachandran, & T. Sejnowski, p. 37-38.

²⁴ “The thrust of much of this textbook on cognitive processing will focus on how we manage to do the best we can given the limits on our cognitive resources. Basically, we manage by deciding to process the more important things at the expense of the less important. The term *attention* is often used to refer to this allocation of processing resources.” J. Anderson, *Cognitive Science and its Applications*, “Attention and Performance,” p. 75.

working memory, as well as during perception. As George Miller pointed out long ago, “[T]he span of absolute judgment and the span of immediate memory impose severe limitations on the amount of information that we are able to receive, process and remember.”²⁵ Given that we have such tiny attentional windows, it is surprising the extent to which we have come to believe that we share the same world.

The data upon which we must base moral or legal decisions is typically ambiguous, complex, scattered along numerous intuitively concocted and non-intersecting dimensions and sorely in need of some order and *discipline*. The world is laughingly beyond our capacity to fathom without rampant simplification.²⁶

We perceive only a tiny portion of our environment, yet perception seems so very *full*. This illusion of omniscience combines with the constant threat of fatigue, enticing us to make wild cognitive leaps discussed in sections III and IV.

Fullness

Despite the overwhelming world we inhabit, and despite our ability to attend to only narrow slices of it, we are always *seem* to be dealing with a full perceptual platter. Utterly distractible attention works so incredibly smoothly we don’t notice that we are so very limited. This apparent “fullness” of Attention (almost an illusion of omniscience) enables a surprisingly resilient yet false sense of unity and confidence. We don’t usually get panicky, even though we perceive the world through such a small window.²⁷

The theory of “pure vision,” largely discredited by cognitive science, is still the favorite “on the streets.” It proposes that “What we see at any given moment is in general a fully elaborated representation of a visual scene.”²⁸ This seeming “fullness” of perception, this fact that our representations are “relatively seamless and extremely complex” is summed up by Kathleen Akins and Steven Winger:

[T]he world we *perceive*, however, the world of which we are conscious, does not bear the mark of its representational origins; even given the fragmented and serial nature of visual information, somehow we come to experience objects and properties as stable across time, as unified, and existing independently of our perceptions and actions”²⁹

²⁵ George A. Miller, “The Magical Number Seven, Plus or Minus Two: Some Limits on our Capacity for Processing Information,” *The Psychological Review*, Vol. 63, No. 2 (March, 1956). *Id.*, The number by which Miller was *haunted*, *seven*, “applies to one-dimensional judgments.” We can “break (or at least stretch) this informational bottleneck” by “organizing the stimulus input simultaneously into several dimensions and successively into a sequence of chunks.” *Id.*, pp 87 & 95

This constant limitation reminds me of the performers on the Ed Sullivan show (I realize this dates me) who attempted to see how many plates they could simultaneously keep spinning on vertical sticks (which were set up all over the stage). At least that’s what *my* working memory feels like.

²⁶ People cannot take *all* of the dimensions into account, certainly not simultaneously. They resolve decisional conflict “by selecting the alternative that is superior on the more important dimension, which seems to provide a compelling reason for choice.” E. Shafir, I. Simonson & A. Tversky, “Reason-based choice,” *Reasoning and Decision Making*, ed. P.N. Johnson-Laird and E. Shafir, p. 14 (1993).

²⁷ Many intelligent human beings live long happy lives without incessantly pushing their perceptual or cognitive limits. One body of literature holds that those who grapple with reality *the least* are the happiest. T. Gilovich, *How We Know What Isn’t So* p. 84 (1991).

²⁸ “A Critique of Pure Vision,” P. Churchland, V. Ramachandran, & T. Sejnowski, p. 23-24.

²⁹ “Ships in the Night: Churchland and Ramachandran on Dennett’s Theory of Consciousness,” *Perception*, ed. K. Akins, p. 173, 179. “Our representation of the visual world, Dennett speculates, is probably more gappy than our introspective access would ever lead us to suspect.” *Id.* at 179.

Dana Ballard would add that the visual system provides this “illusion of three-dimensional stability by virtue of being able to execute fast behaviors. This point may be very difficult as it is so counter-intuitive, but it has

The “Fullness” of our experience camouflages the constant selections (and, therefore, exclusions) made by attention. Why climb a mountain? “Because it’s *there*,” says the mountain climber. The climber’s simple reason fills her entire screen of consciousness (at least at the moment the explanation is uttered). There is not even *room* for any additional explanation.

This illusion of perceptual “fullness” is exposed only occasionally, suddenly and unexpectedly, for instance, when an impending migraine creates a temporary “hole” in one’s visual field. Given that none of us has a God’s-eye view, perceptual and memory gaps are everywhere, though not normally apparent; at any given moment, it’s very difficult to think of what might be “missing” from perception—the answer, of course, is *shitloads* of stuff. Even with the death of a close friend, one’s loss is quickly obscured by the “fullness” of one’s perceptions.³⁰ We almost always *seem* to be looking at a full picture. While making decisions, then, we don’t often question all of the things we *don’t* see, despite our well-known perceptual, attentional and working-memory limitations. We would harass ourselves to the point of insanity were we to seek out each of our perceptual and memory gaps. We don’t have time for that sort of thing—there are decisions needing to be made!

IV. Attention Primes our World for Decision-Making

Attention is constantly steering us in directions which dramatically affect the application of principles. For starters, if we completely fail to attend to a subject, we will likely be ill-informed about that subject, and likely less competent to make decisions regarding such matters. At the other extreme, excessive attention can bloom into an obsession, causing one to see the entire world through glasses colored by that obsession.

Attention also works in subtler ways, however, rigging the machinations of legal and moral reasoning. Attention rigs decision-making in two ways:

- 1) by the manner in which we attend to our perceptions of the *world* (Section III) and
- 2) in the way by which we perceive and attend to the *principles* themselves (Section IV)

The remainder of this section sets forth various ways in which attention brings an awkwardness to the notion of a “neutral” application of principles.³¹ Each subsection, below, describes a basic way in which the particular deployment attention can preclude or distort the

bee arrived at in different forms by many different researchers . . . This may have been the point of Gibson’s ‘affordances.’” “Animate Vision,” *Artificial Intelligence* 48 (1991).

³⁰ I’ve never experienced this contradiction more poignantly than this September, when a friend died (I will refer to her as “Sharon”). I wrote the following to the Sharon’s roommate:

“. . . I look around, and the world does not have any sensory gaps: there are *things* in every direction: overwhelming and continuous sounds and smells. But Sharon is not here, and it is all so very puzzling. It is the ostensible fullness of the world, this unbroken stream of thing-after-thing out there, which flies in the face of Sharon’s undeniable absence; it grates on me.

It just seems that there should be some visual, auditory or tactile “gap,” some obvious and incessant break in sensory “fullness,” in that Sharon no longer physically walks and talks on this planet: something like a big puzzle missing one critical piece. The rest of this world, however, fluidly crowds in, in a blink.

My fleeting memories do remind me, annoyingly, of Sharon’s absence. The most powerful reminder, however, is in the pit of my stomach. It is ineffable--as you say, “beyond description.” Your loss must sometimes tempt you to lose all faith in the power of language”

³¹ Journalism students are taught that there is no neutral perspective from which to write a story. I would expand that thought: there is no neutral perspective from which to perceive a life.

applications of principles. As will become apparent, the following categories are not mutually exclusive—they tend to bleed into each other readily.

IVA. Heuristics

Heuristics³² are cognitive rules of thumb. They serve as perceptual strategies, allowing us to “reduce the complex tasks of assessing probabilities and predicting values to simpler judgmental operations.”³³ Like any tool, heuristics can be *abused* too. They often lead to “severe and systematic errors.”³⁴

[C]ertain reasoning heuristics are compromises privately struck (perhaps evolutionarily struck) among the demand of logic, the demands of cognitive economy (that is, the demands to keep track of as many important things as possible given the constraints of memory), and the demands of practical life. For example, one canon of informal logic is that one should maximize information before action. The trouble with the rule is that it would utterly immobilize us, not just occasionally, but all the time.”³⁵

Through heuristics, we repeatedly simplify the world, as we must.

“A heuristic is a simple and approximate rule—whether explicit or implicit, conscious or unconscious—that serves to solve a certain class of problems. Some banal examples of heuristics would be the way we think of objects that seem to us to grow smaller as they grow more distant, and objects that seem clear to us as close, whereas objects that appear dense and compact we consider to be heavy . . . We can easily recognize in ourselves more elaborate heuristics, such as ‘seeing’ a number as even or odd by paying attention only to the last digit, or taking it for granted that a low-number license plate is a sign of influence or power.”³⁶

Limited life-energy forces us to invoke attentional triage. This theme of trading off accuracy for real-time function is common in cognitive science.³⁷ We are fatigue-prone beasts, seeking to deftly assimilate our environments. Our minds repeatedly reach for the quick, easy and less-than-fully-conscious shortcuts offered to us by heuristics.³⁸ Heuristics are our over-

³² The etymology is from the Greek *heuriskein*, (to invent, discover).

³³ A. Tversky & D. Kahneman, “Judgment Under Uncertainty: Heuristics and Biases,” in *Judgment and Decision Making: An Interdisciplinary Reader*, ed. H. R. Arkes & K. R. Hammond, p.38 (1986).

³⁴ *Id.*

³⁵ O. Flanagan, *The Science of the Mind*, 2nd Ed., p. 215 (1990).

Michael Saks and Robert Kidd define a heuristic as the opposite of an algorithm. “In deciding what move to make in a chess game, one could systematically consider and evaluate every possible move. This would be an algorithmic strategy. Or one could evaluate only the positions of pieces in the center of the board and the most important pieces. That would be a heuristic strategy.” From “Human Information Processing and Adjudication: Trial by Heuristics,” in *Judgment and Decision Making: An Interdisciplinary Reader*, ed. H.R. Arkes and K.R. Hammond, p219, note 11 (1986).

³⁶ M.P. Palmarini *Inevitable Illusions: How Mistakes of Reason rule Our Minds*, pp. 19-20 (1994).

³⁷ “Rather than thinking of visual processing as separate from cognitive or motor processing, they are interlinked in terms of integral behaviors. These behaviors need not always be successful but they must be timely.” D. Ballard, “Animate Vision,” *Artificial Intelligence* 61 (1991).

“When individuals construct models [for problem solving], they make explicit as little information as possible in order to minimize the load on working memory.” P. Legrenzi, V. Girotto & P.N. Johnson-Laird, “Focussing in Reasoning and Decision Making,” in *Reasoning and Decision Making*, ed. P.N. Johnson-Laird and E. Shafir., p. 39 (1993).

³⁸ Many of our inferential errors can be traced to two tendencies: “the overutilization of certain generally valid, intuitive, inferential strategies and the underutilization of certain formal, logical, and statistical strategies.” R.

ambitious “assistants” who, while screening our calls and e-mail, try to simplify our lives by oversimplifying complicated messages. We trust our faithful assistants because we *must* (there are overwhelming numbers of calls and letters), despite our suspicions that they recklessly throw away critical information (we simply don’t have the time to check into such things ourselves). In the meantime, we stumble and bumble through our lives, but often enough we come out OK. C’est la vie.

Ironically, those times when our need to act is most pressing correspond with those times when our need for information is the greatest. The result is often comical. In our desperation to act, to do *something*, Heuristics always catch Attention at her most vulnerable moment. Given our overconfidence in the ostensible fullness of perception, our unrelenting drives to pursue the four F’s, and the ever-present concern of fatigue, Attention regularly gives in.³⁹ Heuristics are notoriously and smoothly seductive, and attention is somewhat of a slut.

Cognitive illusions [including heuristics] are active in all of us, even when we are relaxed, attentive, and well disposed, with nothing to win or lose. Ideological, racial, social, or chauvinistic prejudices, as well as aggressive or prevaricatory instincts, can augment and exploit these cognitive illusions, but even if these are perverting factors illusions will still be present and active.⁴⁰

As will be seen from the following sections, many heuristics depend intimately upon this seduction of attention.

Availability

The availability error is “nothing more than a strong disposition to make judgments or evaluations in light of the first thing that comes to mind (or is ‘available’ to the mind).”⁴¹ As long as the availability (accessibility) of events correlates with their objective frequency, the availability heuristic is a useful perceptual strategy. “There are many factors uncorrelated with frequency, however, which can influence an event’s immediate perceptual salience, the vividness or completeness with which it is recalled, or the ease with which it is imagined. As a result, the availability heuristic can be misleading.”⁴² It is especially prone to attentional manipulation.⁴³ The availability bias empowers the false dichotomy (“Are you going to clean the house this morning or this afternoon?”).

Jobless people estimate unemployment rates to be higher than do the employed. When we think of problems with relatives, our *own* relatives come to mind. People assume that more words have *R* or *K* as their first letter, than as the third letter, because words beginning with *R* or *K* are easier to recall spontaneously.⁴⁴ Many people believe in ESP, because they can recall a few spectacular coincidences more easily than they can recall the far more numerous occasions in which their hunches did not pay off. People whine about the inconvenience of air travel, because the long days spent stranded in airports are more easily remembered than the efficient flights.

Nisbett and L. Ross *Human Inference: Strategies and Shortcomings of Social Judgment*, p. 15 (1980). Heuristics are but one type of the former. Another would be categorization strategies.

³⁹ To give full control to either the assistant or the seeker of the four F’s would lead to disaster.

⁴⁰ M.P. Palmarini, *Inevitable Illusions: How Mistakes of Reason rule Our Minds*, p. 141 (1994).

⁴¹ *A Mathematician Reads the Newspaper*, John Paulos, p. 14 (1995).

⁴² R. Nisbett and L. Ross, *Human Inference: Strategies and Shortcomings of Social Judgment*, p. 19 (1980).

⁴³ *Id.*, at 22.

⁴⁴ In actuality, more words have *r* or *k* as the third letter than the first.

In an experiment by Tversky & Kahneman, subjects listened to a list of celebrities, and were asked whether the list contained more men or women. Several lists were used. In some, the men were relatively more famous than the women, and in others the women were relatively more famous. “In each of the lists, the subjects erroneously judged that the class (sex) that had the more famous personalities was the more numerous.”⁴⁵

Certain items are more available (salient) than others for various reasons. For instance, they might be easier retrieved or imagined, because they have occurred more recently, they are more emotional, or simply because (like the *R* and *K*) of the manner in which they are stored in memory. Objects or events to which we originally attend more closely will generally be easier to retrieve or imagine later on. Availability regularly plays a part in decision making regarding medical diagnostic tests, as in the following example:

You’ve just tested positive for a dread disease that occurs in .1% of the population. The test is 99% accurate, both positively and negatively (if you *have* the disease, the test will be positive 99% of the time, and if you *don’t* have the disease, the test will be negative 99% of the time⁴⁶). As John Paulos asks,⁴⁷ “How despondent should you be?”

Many people, including quite a few medical professionals⁴⁸ suggest that your situation is quite grave, but they do so by failing to take into account the false negatives. The 99% figure is immediately available, and the false negatives are not. Assume that 100,000 tests are administered, in accordance with the following chart.

	Sick	Healthy	
Test Positive	99	999	1,098
Test Negative	1	98,901	98,902
	100	99,900	

Of the total of 1,098 positive tests (999 + 99 = 1,098), most (999) are false positives. The conditional probability that you have the disease, then, *given that you’ve already tested positive*, is 99/1,098 which equals about 9% (*not* 99%)!⁴⁹ Problems of this nature are also referred to as the Fallacy of Near Certainty.⁵⁰

At the risk of appearing as though the availability heuristic is not ubiquitous, I will conclude this section with only a couple additional illustrations of availability.

The first example involves decision making by voters, from an article entitled “Harmon first on City Ballot”:

[Clarence] Harmon said he kept a volunteer in line at the election board since Oct. 21 to allow him to be the first to file, which will assure his name the first place on the ballot. Some politicians believe that being first on the ballot will win them votes because unsure

⁴⁵ A. Tversky & D. Kahneman, “Judgment Under Uncertainty, at 24.

⁴⁶ The false negatives need not be the same number as the false positives. That they are the same number in this illustration is coincidental.

⁴⁷ *A Mathematician Reads the Newspaper*, John Paulos, p. 136 (1995).

⁴⁸ A. Tversky & D. Kahneman, “Judgment Under Uncertainty, at 253.

⁴⁹ For those interested in the mathematical approaches to similar problems, this situation is covered by Bayes’ Law, and is discussed in many probability theory treatises. Using heuristics to counteract heuristics: In situations where using Bayes’ theorem is impractical, we should “pay close attention to what statisticians call the ‘prior probability,’” which is the “best probability estimate of an event before a new piece of information (e.g., a mammogram result) is known.” S. Plous, *The Psychology of Judgment and Decision Making*, 133 (1993).

⁵⁰ M.P. Palmarini, *Inevitable Illusions: How Mistakes of Reason rule Our Minds*, p. 111 (1994).

voters will mark the first name. [Third party candidate Haas] said . . . the mayor [Freeman Bosley, Jr.] would wait until the end to get what political insiders claim is the second best place on the ballot.⁵¹

As my final example of this section, many attorneys have noted that certain members of the judiciary will tend to decide a legal issue in the favor of the attorney who argues *last*. This leads to long and repetitive volleys, as the attorneys each seek to be the final, presumably the more available, word.

Between that which is available and that which is not, attention darts, predictably and incessantly, to the former.

Representativeness

Representativeness “involves the application of relatively simple resemblance” or “goodness to fit” criteria to problems of categorization.”⁵² Put in other terms, Representativeness

“. . . can be thought of as the reflexive tendency to assess the similarity of outcomes, instances, and categories on relatively salient and even superficial features, and then to use these assessments of similarity as a basis of judgment. People assume that “like go with like.”⁵³

For instance, we assume that bigger effects result from “bigger” causes, and more complex effects result from more “complex” causes. We expect used-car salespeople to resemble our stereotype of members of that profession. When something is easier to imagine, or seems more typical to us, we judge it to be more *probable*.

We judge probability that

- 1) A came from B,
- 2) that A might be an instance of B, or
- 3) that A might be a cause of B

by the extent to which A *resembles* B. Even though such assumptions are often helpful, one can probably already see that mistakes will result if we generally characterize particulars by attending to representative cases or prototypes. Errors resulting from the heuristic of representativeness come in various flavors, as set forth in the next few sections.

(Representativeness) Insensitivity to Prior Probability of Outcomes

Subjects were shown brief personality sketches of lawyers and engineers, many of which were *totally uninformative* as to whether the person was a lawyer or an engineer. The subjects were told that the group of 100 sketches they were to review included 70 of one profession and 30 of the other (sometimes there were 70 lawyers to 30 engineers, and at other times the numbers

⁵¹ *St. Louis Post-Dispatch*, Tuesday, November 26, 1996, p. B1. This two-headed example comports with the well-known primacy and recency effects.

⁵² A. Tversky & D. Kahneman, “Judgment Under Uncertainty at 24.

⁵³ T. Gilovich, *How We Know What Isn't So: The Fallibility of Human Reason in Everyday Life*, p.18 (1991).

were reversed).⁵⁴ Prior to reviewing any sketches, the subjects correctly judged the probability that a subject was an lawyer (or engineer) at 70% (or 30%, depending upon the announced ratio). When reviewing the neutral descriptions, however, the subjects ignored the previously announced probabilities, and evaluated determined the profession solely by representativeness. “When no specific evidence is given, prior probabilities are properly utilized; when worthless evidence is given, prior probabilities are ignored.”⁵⁵ The “completely uninformative verbal information seemed to distract attention away from the statistical base rate information.”⁵⁶

(Representativeness) Insensitivity to Sample Size

Subjects failed to appreciate the role of sample size when assessing the likelihood of a sample result, even when it was emphasized in the formulation of the problem. For instance, “[T]he probability of obtaining an average height greater than 6 feet was assigned the same value for samples of 1000, 100, and 10 men.” The subjects judged probability to be essentially independent of sample size, assessing distribution by the representativeness to the population from which the sample is drawn. This type of judgment is often made, despite the statistical fact that large samples are less likely to stray from the population average.⁵⁷

Similarly, subjects expect that sequences generated randomly will represent the essential characteristics of the overall process, even when the sequence is short. This fallacy is the basis for the *Gambler’s Fallacy*, in which the gambler deems chance to be a self-corrective process.⁵⁸ There is no Law of Small Numbers, to complement the Law of Large Numbers (the law of averages). As Kahneman and Tversky write, these fundamental notions of statistics are “evidently not part of people’s repertoire of intuitions.”⁵⁹

Perhaps insensitivity to sample sizes is simply another spin on the availability error. It takes effort to move beyond that value represented to be the population average, and to consider the idiosyncratic possibilities presented by the members of relatively small samples.

(Representativeness) The Illusion of Validity

Unwarranted confidence is produced by a “good fit between the predicted outcome and the input information.”⁶⁰ People express great confidence that a person of a certain personality is of a certain profession, even when the description of the personality is “scanty, unreliable or outdated.”⁶¹ The illusion is a hardy one. For example, despite a vast literature demonstrating that job interviews are highly fallible, professional psychologists who conduct such interviews still show considerable confidence in their predictions based upon such interviews.⁶²

Redundancy among inputs decreases accuracy even as it increases confidence, presenting another perspective of the Illusion of Validity. For example, people express more confidence in

⁵⁴ Here is an example of a sketch: “Dick is a 30 year old man. He is married with no children. A man of high ability and high motivation, he promises to be quite successful in his field. He is well liked by his colleagues.”

⁵⁵ A. Tversky & D. Kahneman, “Judgment Under Uncertainty: at 40.

⁵⁶ O. Flanagan, *The Science of the Mind*, 2nd Ed, , p. 212 (1990).

⁵⁷ A. Tversky & D. Kahneman, “Judgment Under Uncertainty at 41.

⁵⁸ *Id.* at 42.

⁵⁹ *Id.* at 41.

⁶⁰ *Id.* at 44.

⁶¹ *Id.*

⁶² *Id.*

predicting the future grades of a student with a record of getting straight B's, than of predicting the future grades of a student with a mixed record of A's and C's.⁶³

(Representativeness) Misconceptions of Regression

Occurrences tend to regress toward the mean. Therefore, "an improvement will usually follow a poor performance and a deterioration will usually follow an outstanding performance. One encounters many examples of this tendency: heights of fathers and sons, the intelligence of husbands and wives. Nonetheless, people do not "expect regression in many contexts where it is bound to occur. Second, when they recognize the occurrence of regression, they often invent spurious causal explanations for it."⁶⁴ For instance, "behavior is most likely to improve after punishment and most likely to deteriorate after reward."⁶⁵ The phenomenon of regression remains elusive "because it is incompatible with the belief that the predicted outcome should be maximally representative of the input, and, hence, that the value of the outcome variable should be as extreme as the value of the input variable."⁶⁶

(Representativeness) The Conjunction Effect

Consider the following description:

Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in antinuclear demonstrations. Please check off the most likely alternative:

- A) Linda is a bank teller
- B) Linda is a bank teller and is active in the feminist movement.

Nine out of ten respondents thought that B was more likely, even though the choice of A violates a fundamental rule of probability.⁶⁷ The description says *nothing* representative about bank tellers; in fact some elements of the profile seem to make Linda's banking career *unlikely*. Nevertheless, people tend to unwarrantedly attracted to

the illusory sense of insight that such constructions often provide. For example, the hypothesis "the defendant left the scene of the crime" may appear less plausible than the hypothesis "the defendant left the scene of the crime for fear of being accused of murder," although the latter account is less probable than the former.⁶⁸

⁶³ *Id.*

⁶⁴ *Id.* at 45

⁶⁵ *Id.* at 46

⁶⁶ *Id.* at 45

⁶⁷ When x and y are independent variables, it is never *more* likely that "X and Y" than that "X."

⁶⁸ A. Tversky & Kahneman, D., "Judgments of and by representativeness," in D. Kahneman, P. Slovic & A. Tversky, eds. *Judgment Under Uncertainty: Heuristics and Biases*, 98 (1982)

Therefore, more detailed and specifically described events appear more likely than generally described events, “because they are more representative of how we imagine particular events.”⁶⁹ “When judgments about what is ‘typical’ come into play, even when they’re based on the slightest of evidence, we completely lose sight of any objective probability.”⁷⁰

To combat the representativeness heuristic gone awry, Scott Plous suggests the following four rules:

- *Whenever possible, pay attention to base rates.*
- *Remember that chance is not self-correcting.*
- *Don’t misinterpret regression toward the mean.*
- *Don’t be misled by highly detailed scenarios.*⁷¹

Adjustment and Anchoring

When making estimates, people start from an initial value, which is then adjusted, based upon a variety of factors. Research has shown that one’s final result can be heavily influenced by drawing one’s initial attention to a particular initial value (anchor) which has *no relevance* to the actual situation. The subsequent adjustments are often insufficient to overcome an erroneous anchor. In other words, “[D]ifferent starting points yield different estimates, which are biased toward the initial values. We call this phenomenon anchoring.”⁷²

People were asked to estimate the result of the following two equations within five seconds:

- A) $8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$
- B) $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8$

The average prediction for A) was 2,250, while the average prediction for B) was 512. The results were, therefore, anchored by the initial few steps of each problem, and the subsequent adjustments were insufficient to overcome the initial anchor.⁷³ There are, as you might expect, many variations of this phenomenon. One of the most entertaining versions was discussed by Massimo Piattelli-Palmarini:

Another classic experiment consists in asking a subject, for instance, how many African nations there are in the United Nations. Before asking him that question, however, one turns the wheel of fortune in full view of the subject, stopping it on some number between 1 and 100. You can tell your subject until you’re blue in the face that the number that turns up on the wheel and the number of African states in the United Nations have nothing in common, yet the result, on average, is the same: The number of African states will be anchored to the number turned up by the wheel of fortune. If, say, 12

⁶⁹ S. Plous, *The Psychology of Judgment and Decision Making*, 112 (1993).

⁷⁰ M.P. Palmarini, *Inevitable Illusions: How Mistakes of Reason rule Our Minds*, p. 72 (1994).

⁷¹ *The Psychology of Judgment and Decision Making* (1993).

⁷² A. Tversky & D. Kahneman, “Judgment Under Uncertainty at 49

⁷³ *Id.* at 50

comes up, the number will always be smaller than if the wheel stop on, say 92. It may seem incredible, but it's true.⁷⁴

Thus ends this small sampling of heuristics-related errors. Such errors stem largely from the limitations and vulnerabilities of attention combined with the false-confidence engendered by phenomenological fullness. As these three heuristics demonstrate, attention tends to avoid the unavailable, the unrepresentative and the unanchored. When the truth lies in any of these three areas, and it commonly does, moral and legal principles are more likely to amplify our mistakes than to lead to fruitful resolutions of conflict.

IV.B Realm of concern

You're no sports fan. You *claim* to be, because you followed the Cardinals this Fall. But you don't know, or even *care*, that Paeng Nepomuceno of the Philippines reached the finals of the World Cup of bowling in Castlereagh, Northern Ireland.⁷⁵ You are downright *parochial*, and you needn't try to argue otherwise.

We are *all* parochial. Otherwise, how could we possibly spend money on VCR's and concert tickets when that same money could relieve the intense suffering of several of the hundreds of millions of starving African children? How many of those children can we even *visualize*, much less care about? Sometimes this inability to attend to all of the suffering which abounds on this planet is referred to as "compassion fatigue," but this limitation is only one form of a more general limitation. As humans, we must, of necessity, mark off a relatively tiny section of reality as our realm of concern. Our eyes constantly and, largely unnoticeably, saccade to select views of visual interest to the exclusion of other potential views. Our minds do something analogous. To select a mental focus is to exclude all others. If we are not attending to something, it's not a problem—it's the same trick used by jay-walking pedestrians as they walk slowly in front of our cars while refusing to look toward us. This limitation is the most serious challenge to the illusion of the fullness of attention.

As is our wont, we will continue to feel visceral sadness whenever our friends, relatives or co-workers stub their toes, and we will smile for our acquaintances whenever they win 50 bucks in the lottery. For the victims of many massive distant disasters, though we offer no thought at all. When the misfortunes of suffering multitudes *are* brought to our attention by the media, we will pay only perfunctory homage by uttering "Isn't that *awful*?" Nor will more than a few of us ever imagine the sorrows (or joys) of the sentient, intelligent beings who (almost certainly) live on other planets.

The world to which we attend is *the* world. We *never* apply principles beyond our realm of concern.

III.C Looped Attention (fanaticism and obsession)

One is deemed to be fanatical whenever one's attention gets "stuck" ("Emma Thompson! Emma Thompson!"). In theory, immediate relief is available, obtainable by questioning the apparent fullness of one's attention ("Why do I keep thinking of Emma Thompson. There's

⁷⁴ M.P. Palmarini, *Inevitable Illusions: How Mistakes of Reason rule Our Minds*, p. 126 (1994).

⁷⁵ According to the back of the sports page of the November 22, 1996 *St. Louis Post-Dispatch*.

more to life than Emma Thompson”). Whether hating Bill Clinton, fearing the CIA, or being obsessed with one’s need to be like Martha Stewart, one’s preoccupations⁷⁶ are the lenses through which one perceives the world. Whenever one becomes obsessed with any aspect of the world, one’s ability to focus upon principles is impaired as well.⁷⁷ When our obsessions rise to the level of consciousness, we attend to them like Francesca and Paolo attend to each other, claiming helplessness to do otherwise.⁷⁸ The repetitive nature of obsessions generates faux meaning for the object of one’s obsession.⁷⁹

Looped attention runs a continuum from exerting a bias to causing serious psychological impairment. One can argue, of course, the extent to which such looping is voluntary. Wherever it exists, however, it is more likely that the individual will reach a renovated mental staging area where principles are deployed imprecisely toward a metamorphosed world.

I do not mean to limit these comments to fanaticisms and obsessions of obvious or debilitating types. It is my assumption that each of us, at some times, and regarding particular subjects, can be fairly described as fanatical or obsessive, and that our perceptions are altered by the effect such obsessions have on attention.

IV.D The Banality of Evil: Attending to Bureaucratic Tasks

Throughout Europe, and throughout the second world war, Adolf Eichmann supervised the rounding up of millions of Jews, who were jammed into sealed railroad freight cars destined for Auschwitz.

In 1961 the District Court in Jerusalem convicted Eichmann of “causing the killing of millions of Jews” and placing “millions of Jews under conditions which were likely to lead to their physical destruction.” Eichmann was executed by hanging in 1962. He had risen in rank from the head of the Center for Emigration of Austrian Jews” to eventually supervise the “final solution of the Jewish problem” as Lieutenant colonel of the SS.

Hannah Arendt covered his trial, and subsequently wrote *Eichmann in Jerusalem: a Report on the Banality of Evil*.⁸⁰ Arendt’s account serves as a fascinating study of one way in which diverted attention is capable disabling the application of moral principles. To adequately explain the concept, I will need to quote extensively from Arendt’s text.

At his trial, Eichmann claimed that “what he had done was a crime only in retrospect, and he had always been a law-abiding citizen, because Hitler’s orders, which he had certainly executed to the best of his ability, had possessed ‘the force of law’ in the Third Reich.” (24). He stressed the he himself never “killed a Jew,” (22) and that “he would have had a bad conscience only if he had not done what he had been ordered to—to ship millions of men, women, and

⁷⁶ What is it that is *occupied* when one is preoccupied? One’s attention, of course.

⁷⁷ “You want to stop and help that injured man? No way, man . . .

A) . . . he looks like Bill Clinton

B) . . . he might be with the CIA

C) . . . I’m late for the Emma Thompson movie.

⁷⁸ “Love, which absolves no one beloved from loving, seized me so strongly with his charm that, as thou seest, it does not leave me yet. Love brought us to one death.” The two adulterous lovers were condemned to be blown like leaves throughout the second circle of hell, as described by Dante in Canto V of *The Inferno*.

⁷⁹ I hate it. I hate it. I hate it. *I hate it!*

One can only guess how much of the addict’s “justification” for being addicted is really due to the fixation of the addict’s attention upon the addiction.

⁸⁰ All citation within in this section will be to *Eichmann in Jerusalem: a Report on the Banality of Evil* (Revised and enlarged edition, Penguin Books, 1977).

children to their death with great zeal and the most meticulous care.” (25). Prior to the trial, half a dozen psychiatrists certified him to be “normal.” (25).

“That there were no voices from the outside to arouse his conscience was one of Eichmann’s pints, and it was the task of the prosecution to prove that this was not so, that there were voices he could have listened to, and that , anyhow, he had done his work with a zeal far beyond the call of duty.” (126). “As Eichmann told it, the most potent factor in the soothing of his own conscience was the simple fact that he could see no one, no one at all, who actually was against the Final Solution.” (116)

“[I]t would have been very comforting indeed to believe that Eichmann was a monster . . . The trouble with Eichmann was precisely that so many were like him, and that the many were neither perverted nor sadistic, that they were, and still are terribly and terrifyingly normal. From the viewpoint of our legal institutions and of our moral standards of judgment, this normality was much more terrifying than all the atrocities put together, for it implied—as had been said at Nuremberg over and over again by the defendants and their counsels—that this new type of criminal, who is in actual fact *hostis generis humani*, commits his crimes under circumstances that make it well-nigh impossible for him to know or to feel that he is doing wrong.” (276)

“When I speak of the banality of evil, I do so only on the strictly factual level, pointing to a phenomenon which stared one in the face at the trial. Eichmann was not Iago and not Macbeth, and nothing would have been further from his mind than to determine with Richard III “to prove a villain.” Except for an extraordinary diligence in looking out for his personal advancement, he had no motives at all. And this diligence in itself was in no way criminal; he certainly would never have murdered his superior in order to inherit his post. He *merely*, to put the matter colloquially, *never realized what he was doing* . . . He was not stupid. It was sheer thoughtlessness—something by no means identical with stupidity—that predisposed him to become one of the greatest criminals of that period. And if this is “banal” and even funny, if with the best will in the world one cannot extract any diabolical or demonic profundity from Eichmann, that is still far from calling it commonplace . . . That such remoteness from reality and such thoughtlessness can wreak more havoc than all the evil instincts taken together which, perhaps, are inherent in man—that was, in fact, the lesson one could learn in Jerusalem. But it was a lesson, neither an explanation of the phenomenon nor a theory about it.” (287)

Some have harshly criticized Arendt for ostensibly letting Eichmann off the hook by giving credence to his claim that he was swept along by the bureaucracy, or by characterizing his “motivation” as the *lack* of thought. Whether or not Eichmann himself had evil intentions of the traditional type, Arendt’s concept of the banality of evil has broad application. The banality of evil amounts to a diversion of attention toward the repetitive and oftentimes thoughtless tasks encouraged within bureaucracies. This attention to small tasks amounts to a numbing of the big picture. Therefore, the evil-doer is not truly “thoughtless,” (as Arendt writes), but severely distracted from moral principles; attention is tied up with bureaucratic minutiae.⁸¹

The banality of evil appears in either of two forms. The first was described by Arendt: a system which inflicts evil by diverting the attention of its participants to bureaucratic detail. The second occurs in a system in which the participants’ obsession with bureaucratic detail accomplishes only wheel-spinning, while the system itself, promising an avowed purpose of accomplishing a particular public good, fails to accomplish its goals. In other words, this

⁸¹ That many lawyers approach the practice of law amorally (the thrill of courtroom tactics and the hope of making much money having a pheromonal effect on their attention) is a testament to the power of the banality of evil.

second form of the banality of evil applies to *systems* which perpetrate fraud. The repetitive inner-workings of many social systems effect fundamental disconnects between the actions of those who participate in the systems and the principles they, the systems and the individuals, espouse.⁸²

To add insult to injury, claims amounting to “form over substance” characterize many banally evil systems. For example, well-entrenched politicians promise reform, but show no real interest in revamping our arrogantly corrupt system of campaign financing. Other examples abound: Voters proudly pull levers for or against candidates (especially judges) about whom they know *nothing*.⁸³ The only daily newspaper of a metropolitan area completely ignores its own platform, preferring to carry on business as usual.⁸⁴

IV.E Obedience

In the 1960’s, Yale psychologist Milgram conducted a series of controversial experiments to determine the willingness of ordinary people to inflict electrical shocks upon (what they believed to be) an innocent victim (who was strapped into a chair, and fitted with electrodes), when urged to do so by the “researcher” (who was perceived to be an authority figure by the participants). The participants consisted of a cross-section of ordinary people recruited through a newspaper advertisement placed by Milgram under the auspices of Yale’s Department of Psychology. 40% of the participants were white-collar, sales or business; 40% were workers, skilled and unskilled; 20% were professionals. Milgram’s studies dealt “only with obedience that is willingly assumed in the absence of threat of any sort, obedience that is maintained through the simple assertion by authority that it has the right to exercise control over the person.” (xii)⁸⁵

As part of various experiments purporting to study “memory and learning,” the participants were encouraged to administer increasing dosages of shocks through an elaborate-looking “shock generator” (the higher voltages were labeled “Strong shock,” “Very Strong Shock,” “Intense Shock,” “Extreme Intensity Shock,” “Danger: Severe Shock,” and “XXX”).

Many of the subjects hesitated to administer the electric shocks, especially at the higher levels (the victim screamed and begged them to stop in many variations of the experiment). Each time the subject hesitated to administer the shocks, the experimenter ordered him or her to continue, and they often did [The four “prods” were: 1) *Please continue, or please go on*; 2)

⁸² Perhaps this is yet another manifestation of the availability heuristic. This is our system, and *this* is how it works—it’s always worked *this* way.

⁸³ Their narrowed attention to the bureaucratic act of voting is potentially counterproductive to their purpose for voting at all. Given that most professional litigators (of which I am one) know only *some* of the judges on any given ballot, I am regularly amazed that so many non-lawyer voters claim to have enough knowledge cast votes regarding *all* of the judges on the ballot.

⁸⁴ The St. Louis Post-Dispatch, which hasn’t conducted investigative journalism for years, proudly prints (each day) the following platform, written by Joseph Pulitzer:

I know that my retirement will make no difference in its cardinal principles, that it will always fight for progress and reform, never tolerate injustice or corruption, always fight demagogues of all parties, never belong to any party, always oppose privileged classes and public plunderers, never lack sympathy with the poor, always remain devoted to the public welfare, never be satisfied with merely printing news, always be drastically independent, and never be afraid to attack wrong, whether by predatory plutocracy or predatory poverty.

⁸⁵ All page references in this section are to S. Milgram, *Obedience to Authority* (1969).

The experiment requires that you continue; 3) It is absolutely essential that you continue; 4) You have no other choice. You must go on.].

Unbeknownst to the participants, the tortures were simulated and the victim was an actor. When the victim was placed in a remote room, 26 of 40 participants administered lethal doses of electricity (even though the victim banged upon the walls as the dosage increased). 40% of the participants proceeded to administer the very highest voltages to the victim who was in the same room as the participant and who screamed and begged for the experiment to cease, and even feigned massive heart failure at the very highest dosages. In a variation of the experiment in which the subject did not personally administer the shocks, but merely administered the word-pair tests to the victim (while yet another stooge administered the “shocks,” 37 of the 40 participants continued to assist up to the highest shock levels on the generator.⁸⁶

“A commonly offered explanation is that those who shocked the victim at the most severe level were monsters, the sadistic fringe of society. But if one considers that almost two-thirds of the participants fall into the category of ‘obedient’ subjects, and that they represented ordinary people drawn from working, managerial, and professional classes, the argument becomes very shaky.” (p. 5). Milgram concluded that “perhaps, the most fundamental lesson of our study [was that] ordinary people, simply doing their jobs, and without any particular hostility on their part, can become agents in a terrible destructive process. Moreover, even when the destructive effects of their work become patently clear, and they are asked to carry out actions incompatible with fundamental standards of morality, relatively few people have the resources needed to resist authority. A variety of inhibitions against disobeying authority come into play and successfully keep the person in his place.” (p.6). The obedience is triggered by a set of “‘binding factors’ that lock the subject into the situation. They include such factors as politeness on his part, his desire to uphold his initial promise of aid to the experimenter and the awkwardness of withdrawal.” (p. 7)

According to Milgram, *a shift in viewpoint* is the key to triggering obedience: “The essence of obedience consists in the fact that a person comes to view himself as the instrument for carrying out another person’s wishes, and he therefore no longer regards himself as responsible for his actions. Once this critical shift of viewpoint has occurred in the person, all of the essential features of obedience follow.” (p. xii) One adjustment in the participants’ thinking which keeps the participant obeying the experimenter is the “tendency of the individual to become so absorbed in the narrow technical aspects of the task that he loses sight of its broader consequences.” (p. 7). “Although a person acting under authority performs actions that seem to violate standards of conscience, it would not be true to say that he loses his moral sense. Instead, it acquires a radically different focus . . . [H]is moral concern now shifts to a consideration of how well he is living up to the expectations that the authority has of him.” (p. 8).

Milgram himself was surprised and dismayed by the results of his controversial studies. “The major problem for the subject is to recapture control of his own regnant processes once he has committed them to the purposes of the experimenter. The difficulty this entails represents the poignant and in some degree tragic element in the situation under study, for nothing is bleaker than the sight of a person striving yet not fully able to control his own behavior in a situation of consequence to him.” (xiii).

The principle at risk in Milgram’s experiments was simple: *do not harm innocent human beings*. Once the participants had focused upon satisfying the professor, however, many of

⁸⁶ The debriefing of the participants included a “friendly reconciliation with the unharmed victim.” The “obedient subjects were assured that their behavior was entirely normal . . .” (p. 24)

them never revisited that principle.⁸⁷ Many others did attend to the principle, protesting their *own* actions, but were quickly brought back into line by the experimenter's request that they should "continue."

In my previous job as an investigator and prosecutor of consumer fraud for the Missouri Attorney General's Office, I repeatedly witnessed the incredible power of the assertion of authority. Devious telemarketers have repeatedly pulled off scams by simply cold-calling people and telling them to send money for some "good cause." Professional scam artists know that a significant percentage of people, many of them quite intelligent, simply cannot hang up their telephones, unless and until given permission by the demanding strangers.⁸⁸

Obedience dovetails somewhat with the banality of evil. The difference is a matter of emphasis. Eichmann's focus was the habituation of low-level bureaucratic tasks, while Milgram's subjects attended immediately to the experimenter's requests. Both the bureaucratic itinerary and the assertion of authority allow participants (who, prior to being put in these situations, showed no propensities to initiate such violence) to abdicate responsibility to higher order principles,⁸⁹ by shifting their limited attention from exploring the big picture.

*** see addendum to this Milgram section at end of this document.

IV. F Future Consequences of Actions.

Here's a fairly common prelude to disaster: "I'm going to do it, and I don't *care* what happens!"

The speaker of the above statement has focused upon his or her choice of action, and it is, naturally, the winning choice, since the spotlight of attention has been *removed* from the potentially undesirable consequences of his choice and from other potential choices he might have made. It shouldn't be difficult at such a time to select a tried, true and vague principle to further justify the selected action.⁹⁰

A good Kantian would exhort that we actually *should* "damn the consequences."⁹¹ Most of us, however, firmly believe that determination of an act's consequences is inseparable from the moral worth of the act. But of what consequences are we speaking?

⁸⁷ Equally interesting is the possibility that we are "wired," as a general rule, to attend to commands of one who assumes a position of authority. There is precedent for (other types of) dominance in other primates: "[G]orillas live in polygamous harems, each consisting of several adult females and usually one dominant adult male." Jared Diamond *The Third Chimpanzee: the Evolution and Future of the Human Animal*, (1992).

⁸⁸ My consumer fraud career ended abruptly, and it was my first-hand education regarding both the power of authority and the banality of evil. A fellow employee and I were fired in 1990 for insubordination—we had refused to go "light" on law-breakers who happened to be contributors to William Webster, then the Missouri Attorney General. Most fellow employees were aghast or puzzled that a few of us were refusing to obey orders. Their explanations often began "But they ordered you to . . ." When we explained that we simply couldn't accede to corruption, the common response was "That's just the way it is. That's just politics." Webster was released from prison a few months ago after serving two years in federal prison.

⁸⁹ Perhaps, it might be argued, that the failure to *act upon* such principles does not mean that the subjects were not attending to them. Such was certainly the case with some of the Milgram participants, though not all. Many of them went merrily on their way, unquestioningly performing acts which (they believed) caused massive injuries to an innocent human being. Others attended to such principles only sporadically, between protesting the immorality of their own actions, and complying with the experimenter's requests.

⁹⁰ If nothing else, "You only go around once in life," or "I've got to take charge in my life and do things *my way*."

⁹¹ "An action performed from duty does not have its moral worth in the purpose which is to be achieved through it but in the maxim by which it is determined . . . [T]he purposes we may have for our actions and their effects as ends and incentives of the will cannot give the actions any unconditional and moral worth." *Metaphysics of Morals*, trans. L.W. Beck, p.16 [400] (1785).

If we focus upon the short term, we are likely to evaluate an action differently than were we to imagine reasonably far into the future.⁹² Like objects which are closer, short range consequences are *closer* and fill up more of the “movie screen” of attention. As we shorten the time range to the imminent present, though, many more actions become acceptable. The extreme is a person who lives entirely in the present, for whom anything is acceptable.⁹³ At the other extreme, determining long range consequences fatigues and annoys us. After all, we only have these little brains that can only hold so much, and we can only think one elaborate thought at a time. Extend this line of thought to the extreme, stir in chaos theory, and you end up with “No one can tell the long-range future, therefore, I *can't* know the long range consequences of any of my actions—therefore I'll do whatever I want to do.”⁹⁴

Attention to *either* endpoint of the spectrum, then, encourages solipsistic thoughts and, consequently, socially uncoordinated behavior. Once one's attention is distracted from the reasonably predictable consequences of one's actions, the on-the-fly drafting of self-serving principles to justify one's immediate instincts is inevitable.⁹⁵ Hence, it should not be a surprise that in a society whose attention span is noteworthy for being well-synchronized to short sitcom wisecracks, many of our “moral” woes are blamed upon a *generalized* incontinence.

IV.G Part versus Whole

Whether attention jumps to parts or aspects of objects, rather than to the whole, bears tremendously on the meaning one will obtain from the experience.

Although some people would never harm a human being, they might harm be inclined to torture a “prisoner.” It's only natural, then, to try to get one's kidnapper or prison guard to know one as a human being. As prisoners all figure out, to view another human being, as an entire human being, is to unleash a flood of emotions and special meaning. Liars have trouble looking one in the eye, traditionally associated with one's very *soul*, for the same reason.⁹⁶

Racialism (merely one of many current manifestations of identity politics) opens up those same discrepancies. When focus becomes rigidly limited instead of flexible, when the subject is a *black* person instead of a black *person*, mischief is invited.⁹⁷

⁹² The large number of unwanted pregnancies attests to a common winner in this struggle.

⁹³ *E.g.*, the hair-trigger temper *gansta*, who asserts full-bore moral authority for shooting an innocent stranger “Because he looked at me funny,” or the alcoholic, focused upon the whiskey bottle in his hand.

⁹⁴ For a true-life horror story based upon our fail to look carefully to the long range future, see Paul Ehrlich, *Betrayal of Science and Reason: How anti-Environmental Rhetoric Threatens Our Future* (1996). When people attend overwhelmingly more to sitcoms and professional sports than to pressing environmental and/or economic dangers (*e.g.*, the U.S. now imports more than half the petroleum it uses, making it extremely economically vulnerable), they will have no factual basis for the “application” of their principles.

⁹⁵ Another angle on “consequences” is whether to focus upon the effect of one person engaging in an action versus the aggregate effect of many people each engaging in that action. Is it OK for me to pollute a little bit by driving a gas-powered automobile? Is it OK, then, for 700 million Chinese to each have a car, now a scary ecological possibility in the burgeoning Chinese economy? Ironically, Kant's categorical imperative is at its best when used to force us to imagine aggregate consequences.

⁹⁶ A doctor friend told me that he fainted during surgery only once. In his own specialty, surgery was usually performed through a small opening in the operating cloth. On this particular occasion, though, he was observing as oral surgery was being conducted by another doctor. The patient was sitting in an operating chair; the patient's head and face were exposed. My friend noticed that the patient was “right there—a human being.” Upon experiencing these thoughts he began to lose consciousness.

⁹⁷ Whether attention ends up on the whole or the part has numerous consequences in the sexual arena. Based upon comments made by homophobic individuals, it would seem that their feelings result from the inability to redirect their attention from sexual mechanics to wider meanings of sexuality or personhood.

Equally dangerous is the failure to focus solely upon generalities. The haunting quote by Joseph Stalin is well known: “A single death is a tragedy; a million deaths is a statistic.”⁹⁸

Anyone who has seethed at the media’s approach to covering elections, knows that the real issues are often lost in a sea of articles obsessed with “horse-race politics.” The dangers of this type of coverage are becoming better known of late.⁹⁹ The public’s perception of who their candidates really *are* has been tremendously effected by the proliferation (and shortening) of sound bites & inkbites.¹⁰⁰ Such artificially focused coverage is the stuff upon which huge decisions are made.

Why one’s attention would be more apt to select a *part* (or a *category*) of a subject, rather than to the subject itself (or why it tends to go anywhere, rather than anywhere else) should probably be attributed one’s upbringing, education and habit. It is difficult to draw specific conclusions. It is perhaps redundant to note that, whatever the cause, attention’s selection of the whole versus the part has tangible, sometimes horrific, consequences for the application of principles.

IV. H. Models, Ideas and Theories as Possessions

We maintain our own ideas as possessions. We *adopt* beliefs, we *inherit* views, we *acquire* convictions, we refuse to *buy* arguments, and we *disown* earlier convictions. We also give ourselves special access to our own ideas.¹⁰¹

We constantly seek confirmation of our own hypotheses, because we are anchored to them and overconfident in them.¹⁰² The *confirmation bias* consists of the tendency to “seek out evidence which confirms rather than contradicts current beliefs . . .”¹⁰³ This tendency to focus upon positive instances arises from “preconscious heuristic processes which determine the locus of the subjects’ attention. In our view, all these different heuristics are manifestations of the same underlying mechanism: an inevitable focus on the explicit elements of models.”¹⁰⁴ This “focussing” is the tendency of people to “focus on what is explicitly represented in their initial models, and so they overlook alternative possibilities.”¹⁰⁵ In other words, “focussing” is a form of attentional bias [and a form of the confirmation bias], where the person’s models of a problem

⁹⁸ Laurence J. Peter, *Peter’s Quotations: Ideas For Our Time*, p. 134 (1977)

⁹⁹ See, for example, James Fallows, *Breaking the News* (1996) and Howard Kurtz, *Media Circus: The Trouble with America’s Newspapers* (1995)

¹⁰⁰ “In 1968, presidential candidates were given an average of forty-three seconds for uninterrupted speech on network even newscasts. By 1988 the average soundbite had shrunk to 9.8 seconds. Four years later another 1.4 seconds had been lopped off, and the early returns for 1996 . . . show the average soundbite down once again, to 7.2 seconds.” “On Shrinking Soundbites,” *Columbia Journalism Review*, p. 22, (Sept/Oct 1996).

¹⁰¹ T. Gilovich, *How We Know What Isn’t So: The Fallibility of Human Reason in Everyday Life*, p.85 (1991).

¹⁰² M.P. Palmarini, *Inevitable Illusions: How Mistakes of Reason rule Our Minds*, p. 129, 117 (1994).

¹⁰³ “Reasoning, Decision Making and Rationality,” *Reasoning and Decision Making*, ed. P.N. Johnson-Laird and E. Shafi, p. 174 (1993). See also,

¹⁰⁴ P. Legrenzi, V. Girotto and P.N. Johnson-Laird, “Focussing in reasoning and decision making,” *Reasoning and Decision Making*, ed. P.N. Johnson-Laird and E. Shafi, p. 59 (1993).

¹⁰⁵ *Id* at 50 (1993). See also M.P. Palmarini, *Inevitable Illusions: How Mistakes of Reason rule Our Minds*, p. 122 (1994):

There is psychological law that has been endlessly confirmed, even among professionals and experts, among doctors, psychiatrists, judges, teachers . . . and so forth: When someone is convinced of a positive correlation, however illusory that correlation can objectively be shown to be, that person will always find new confirmations and justify why it should be so . . . [W]e are naturally and spontaneously verifiers rather than falsifiers.”

represent less than all aspects of the problem explicitly.”¹⁰⁶ Focussing makes us easy prey for *post hoc ergo propter hoc*.¹⁰⁷ Placebo heaven!!

Contrary to the “Utility Theory” of decision making, people have a natural non-rational tendency to focus when a single option is offered for a decision and no obvious alternatives are available.¹⁰⁸ In decision making, focussing implies that individuals fail to make thorough searches for alternatives. People regularly fail to “consider alternative options or their costs when they are unstated. It is focussing which explains the repeated failure of people to reason properly from the modus tollens premises of the form *if p then q, not q*, by responding that nothing follows from this premises.¹⁰⁹

In theory, focussing should be reduced by any manipulation that makes alternatives to the action more available, and such manipulation was successfully shown to reduce focussing in experiments. Subjects were asked to make a riskless decision, whether to go to a movie, and were allowed to ask for further information (and it was provided to them) until they announced their decisions. Members of the control group (where no background context was provided) never asked any questions about alternatives to the focussed action (going to the movie). Regarding the context group (where the subjects were asked to imagine that they were in (*e.g.*) Rome for the first time and that the experimenter was an expert on the city’s attractions), 7 out of 8 subjects asked at least one question about alternatives to going to a movie (*e.g.*, “What else is there for me to do in Rome?”).¹¹⁰

Focussing takes a number of other forms too. Events that concern the central character in a narrative are particularly salient: “Readers take the character’s perspective; they follow the character’s thoughts, activating mental images of the same things that the character is thinking about.”¹¹¹ Perhaps this partially explains why the home team fans take the side of the home team on close plays.

Focussing also underlies the phenomenon of “psuedo-diagnosticsity,” (demonstrated by Doherty, Mynatt et al.)¹¹² Subjects were asked to determine whether a certain clay pot had come from Coral Island or Shell Island. After being advised of certain features of the pot, they were allowed to request (from the experimenter) statistical information regarding the features of the pots originating from those two islands. “Few subjects appreciated the need to examine the statistics for both islands. If they formed the hypothesis, say, that the pot came from Coral Island, then they tended to assess how many of the pot’s features were present in the pots from Coral Island, and they ignored the critical information about the same features in pots from Shell Island.”¹¹³

¹⁰⁶ P. Legrenzi, V. Girotto and P.N. Johnson-Laird, “Focussing in reasoning and decision making,” *Reasoning and Decision Making*, ed. P.N. Johnson-Laird and E. Shafi, p. 52, 58 (1993).

¹⁰⁷ *Id*

¹⁰⁸ Most formulations of the *expected utility theory* are based upon some subset of the following principles: Ordering of Alternatives; Dominance; Cancellation; Transitivity; Continuity and Invariance. See S. Plous, *The Psychology of Judgment and Decision Making*, 81 (1993).

¹⁰⁹ P. Legrenzi, V. Girotto and P.N. Johnson-Laird, “Focussing in reasoning and decision making,” *Reasoning and Decision Making*, ed. P.N. Johnson-Laird and E. Shafi, p. 59 (1993). The authors explain that this error “can be explained by a focus on the initial explicit model of the conditional, and a failure to represent the alternative possibilities where the antecedent is false.”

¹¹⁰ *Id at*, p. 52-55 (1993).

¹¹¹ *Id at*, p. 56 (1993).

¹¹² *Id at* p. 51 (1993).

¹¹³ *Id*.

A good recent compendium of such errors, at least in one specialized area, is James (“The Amazing”) Randi’s *An Encyclopedia of Claims, Frauds, and Hoaxes of the Occult and Supernatural*. For a monthly dose of exposés of the same sort of silliness, I recommend subscribing to *The Skeptical Inquirer*.

Because attention is so limited, it loves order. Attention gets hung up on our personal sense of “order.” We uncritically attend more to evidence which supports our theories by unthinkingly setting up *multiple* sets of endpoints, *after the fact*.¹¹⁴ We are quite adept at conjuring up ad hoc explanations. We insist upon finding order in nearly random¹¹⁵ and purely random sequences.¹¹⁶ We conjure up comically strained *explanations* for the disparate events constituting our dreams. “If people are erroneously led to believe that they are either above or below average at some task, they can explain either their superior or inferior performance with little difficulty.”¹¹⁷

Giving up on one’s previously held theory or sense of order is not like simply switching channels; it’s more like a personal Kuhnian paradigm shift. In fact, the ability to shift perspectives is further gummed up by our adoption of uneven burdens of proof for palatable (versus unpalatable) conclusions.¹¹⁸ Thus, the personal allegiance we maintain to our models and theories serves to distort and filter attention, thereby pre-biasing any attempted application of principles.

IV. J Framing

There are many ways to “frame” the world we encounter. A frame is “the decision maker’s conception of the acts, outcomes, and contingencies associated with a particular choice.”¹¹⁹ “It is in these relatively subtle shifts of criteria and interpretation that many of the most significant effects of the wish to believe can be found.”¹²⁰ The framing effects of decision making may well be accounted for by “focussing.”¹²¹ Frames are partly controlled by the task at hand, and partly controlled by the “norms, habits and characteristics of the decision maker.”¹²² Attention is manipulated shamelessly by framing. For example, subjects are affected in their choice by the characterization of the situation, as demonstrated by Tversky and Kahneman

¹¹⁴ T. Gilovich, *How We Know What Isn’t So: The Fallibility of Human Reason in Everyday Life*, p.58 (1991). Our hypothesis might be that regular drug usage leads to general moral breakdown, without deciding, in advance, what qualifies as a drug. Valium? Beer? Prozac? Cigarettes? marijuana? What qualifies as *regular*? What qualifies as *moral breakdown*?

¹¹⁵ A recent example is the alleged phenomenon of “Black church fires,” highly touted as evidence of a racists nationwide conspiracy despite the lack of evidence for such claims. “Of the sixty-four black-church fires examined, only four can conclusively be shown to be racially motivated.” “Who was burning the Black Churches?” *Columbia Journalism Review*, Oct-Nov, 1996, p. 26-33, 32. The media has largely failed to report these fundamental statistics, or to advise their readers that a significant number of those arrested for the fires have been African-Americans.

¹¹⁶ A study by Thomas Gilovich demolished the often-cited alleged phenomenon of the “hot hand” in basketball. T. Gilovich, *How We Know What Isn’t So: The Fallibility of Human Reason in Everyday Life*, p.11-15 (1991).

“The tendency to impute order to ambiguous stimuli is simply built in to the cognitive machinery we use to apprehend the world. It may have been bred into us through evolution because of its general adaptiveness: . . . The predisposition to detect patterns and make connections is what leads to discovery and advance. The problem, however, is that the tendency is so strong and so automatic that we sometimes detect coherence even when it does not exist.” *Id.* at p. 10.

¹¹⁷ T. Gilovich, *How We Know What Isn’t So: The Fallibility of Human Reason in Everyday Life*, p.21 (1991).

¹¹⁸ “For desired conclusions, it is as if we ask ourselves ‘Can I believe this?’, but for unpalatable conclusions we ask, ‘Must I believe this?’ . . . By framing the question in such ways, however, we can often believe what we prefer to believe, and satisfy ourselves that we have an objective basis for doing so.” T. Gilovich, *How We Know What Isn’t So: The Fallibility of Human Reason in Everyday Life*, p.84 (1991).

¹¹⁹ A. Tversky and D. Kahneman, “The framing of decision and the psychology of choice,” *Science*, p. 458 (1981)

¹²⁰ T. Gilovich, *How We Know What Isn’t So: The Fallibility of Human Reason in Everyday Life*, p.85 (1991).

¹²¹ P. Legrenzi, V. Girotto & P.N. Johnson-Laird, “Focussing in Reasoning and Decision Making,” in *Reasoning and Decision Making*, ed. P.N. Johnson-Laird and E. Shafir., p. 61 (1993).

¹²² S. Plous, *The Psychology of Judgment and Decision Making*, 70, (citing Tversky and Kahneman) (1993).

An Asian disease is expected to kill 600 people. Which of these two programs would you prefer:

If Program A is adopted, 200 people will be saved.

If Program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved.

72% of the people responding to this problem chose Program A. Other subjects were given the following problem:

If Program C is adopted 400 people will die.

If Program D is adopted there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die.

78% of the people selected Program D over C, now preferring to gamble rather than accept the sure loss of 400 lives.

In the legal profession, it is a truism that the attorney who successfully frames the argument usually wins the case. The dominant frame of argument directs the fact-finders' attention, making certain types of evidence salient and other types irrelevant.

Foveal tracings have powerfully shown that the patterns by which people attend to a picture differs dramatically, depending upon their purpose for looking at the picture.¹²³ This experiment proves that the experimenter's instructions (e.g., give the ages of the people in the picture) serve to establish a frame through which one attends to the image. The manner in which one attends (and the specific phenomena to which one makes repeated foveal "visits") is dependent upon this particular frame.

Establishing a frame is doubly powerful, in that we tend to *acquiesce* in frames set up for us: "when we are faced with a reasonable formulation of a problem involving choice, we accept it in the terms in which it is formulated and do not seek an alternative form."¹²⁴ Palmarini argues that acquiescence translates to "'mental sloth,' because that is indeed what underlies [acquiescence]."¹²⁵ Professional training and education set up their own specialized frames sensitive to particular types of objects (or *lacks* of objects); these frames often become invisible to those who engage in such specialized fields, often to the amusement of the rest of us.

Our repeated use of metonymy betrays the power that framing has over attention. Metonymy is the use of "one entity to refer to another that is related to it."¹²⁶ A diner waitress might say "The *ham sandwich* is waiting for his check." In a theater we might refer to "loud-

¹²³ D. Ballard, "Animate Vision," *Artificial Intelligence* 60 (1991).

¹²⁴ M.P. Palmarini, *Inevitable Illusions: How Mistakes of Reason rule Our Minds*, p. 57 (1994).

¹²⁵ *Id.* at 57. Reframing, of course, is something that pollsters are notoriously unwilling to allow us respondents to do (actually, this tendency can be seen in anyone with a point of view—in other words, all of us, some of the time). Compare the following two formulations of the capital punishment issue: A) Are you going to be as barbarian as the killers themselves by having capital punishment? B) Are you going to let heinous acts go unpunished? These reformulations place the issue into dramatically different frames, and will undoubtedly draw significantly different responses.

¹²⁶ G. Lakoff and M. Johnson, *Metaphors We Live By*, p 35ff (1980); The authors note that *synecdoche* is a special case of metonymy where the part stands for the whole (e.g., "All *hands* on deck"). *Synecdoche*, too, is evidence that attention has been framed by purpose.

mouth over there.” The referenced aspect would be confusing absent the (often implied) frame of reference.¹²⁷

The selective powers of attention, as evidenced by framing (or in any other way), are doubly significant: by selecting certain aspects of a subject, we are ignoring others. Framing (like all other attentional traps) takes place so often, so fast and so automatically, that it is largely beyond our conscious control, which limits the manner in which principles can be applied.¹²⁸ Yet, the type of framing determines the manner in which attention is to be deployed, all of this occurring *prior to* the point when the principles *are* applied.¹²⁹ Principles are, once again, a day late and a dollar short.

IV. J Dissociative States

Pain and attention have long been linked. “A focused attention is one that can tune out or ignore distractions, or at least mute them.”¹³⁰ Don’t worry. Be Happy: “Adults who report themselves as able to focus and shift attention also say they are less prone to depression and anxiety than those who report themselves as less able to control their attention.”¹³¹

Sometimes, however, in an attempt to divert attention from a painful thought, the mind throws out the baby with the bath water. The mind dissociates--not simply by diverting but *splitting* attention--walling off toxic memories, temporarily or permanently, from our otherwise integrated mental existence. “The brain has the means by which to sense, without conscious intervention, any ‘toxic’ associations that need to be *dissociated* in order to maintain psychic equilibrium.”¹³² Dissociation is not invariably linked to trauma, but is “properly considered a skill . . . This skill can be viewed as an ability to manipulate attention in various ways . . . Those persons with the requisite capacity to control attention can narrow the window for defensive purposes, focusing on a limited segment of experience (e.g., a sensation, an image, a fantasy) and excluding the rest, thus leaving out aspects of the self and not updating autobiography.”¹³³ John Schumaker seems to concur that dissociation constitutes a distortion of attention: “[A]ll forms of dissociation-based reality distortion and self-deception are limited to the window of consciousness. At the level of unconscious awareness, reality remains undistorted.”¹³⁴

¹²⁷ Note also, nicknames such as “Air Jordan.”

¹²⁸ Cf., the *idealized cognitive models* of G. Lakoff, *Fire, Women and Dangerous Thing: What Categories Reveal about the Mind* (1987).

¹²⁹ I know this might be off the trail . . . In that one’s sense of *self* does not change, as do the contents of one’s working memory, perhaps the *self* is the general cognitive resonance within a frame defined by the reach of attention and sustained by one’s encounters with that which is familiar. I recently wrote the following as part of an essay:

In the mental fog of each morning my initial attending to the objects in my room are a significant part of my daily booting. “Oh . . . light . . . a watch . . . glasses--*my* glasses . . . my bedroom . . . I’m me!” My microcosmic thirst for identity is nourished by an innocuous and familiar stream of artifacts, including regular glimpses of my own hands. As I awake, it happens so smoothly and quickly that, until recently, I didn’t recognize the intense transformation of that moment or the self-anonymity I enjoyed during the preceding instants.

¹³⁰ D. Goleman, *Vital Lies, Simple Truths*, p. 36 (1985).

¹³¹ Posner & Raichle, *Images of Mind*, Chapter 8.

¹³² J. Schumaker, *The Corruption of Reality*, p.36 (1995).

DSM-III-R defines “dissociation” as “a disturbance or alteration in the normally integrative functions of identity, memory or consciousness.”

¹³³ J.G. Allen & W.H. Smith, *Diagnosis and Treatment of Dissociative Disorders* pp. 4, 9 (1995).

¹³⁴ J. Schumaker, *The Corruption of Reality*, p.51 (1995). The mechanism by which dissociation occurs is puzzling, indeed. Schumaker suggests the following: “[A]n active cerebral process, operating outside of conscious

The dissociative process distorts rationality itself: “[D]espite our cerebral talents, it seems that the mental world of the human being is often at odds with the true nature of things. Not only that, we will fight to preserve what is false.

Dissociation consists of the creation of an artificial and palliative sense of order inconsistent with one’s reality. Such an artificial order, since it is more complicated and energy-intensive than justified order, can be achieved “only by *eliminating* competing data from consciousness.”¹³⁵ What is there to fear about the world, which would provoke such an involved mental maneuver? For starters, “Creation is certainly magnificent and can fill us all with a sense of awe and mystery. But creation is also horrific in its design, consisting mostly of mobile intestinal tracts eager to consume other intestinal tracts.”¹³⁶

Even those who characterize self-deceptive irrational desires, intentions and emotions as *not* dissociated hold that such overtly self-deceptive beliefs “mandate attentional division.”¹³⁷ Such a division effectively excludes insight regarding the self-deceiver’s bias from “the self-deceiver’s centre of attention.” The self-deceived person’s biasing desire focuses attention in such a way as to make evidence for the irrational belief “salient and available over other evidence.”¹³⁸ The self-deceiver is aware, but not “consciously” so (*i.e.*, aware with some degree of attention), that she is biasing her thinking and belief,” in that causal insight into the role of one’s biasing desire “relegates causal insight into its own role to the fringe of attention.”¹³⁹

Dissociation “covers a broad spectrum of experience ranging from ‘spacing out’ to multiple personality disorder.”¹⁴⁰ Within that range of dissociated experiences, some would also include religion, hypnosis, psychopathology, highway hypnosis and “unrestrained materialism.”¹⁴¹ This continuum includes many recurring and puzzling phenomena.¹⁴²

Intelligent, inquisitive, and cynical, people sometimes appear naïve only with regard to a narrow range of topics. Dissociation and other self-deceptive processes explain such

awareness, makes assessments on an ongoing basis in the course of *deciding* how and when the dissociative mechanism should distort reality by modifying the information available to us.” *Id.* at p. 49.

¹³⁵ *Id.* at 21

Schumaker suggests for following genesis for our ability to enter dissociative states:

[T]he human brain reached a critical developmental threshold wherein we became conscious to a potentially debilitating degree. It was then that a tandem brain capacity was needed to *absorb*, so to speak, the collision between amplified consciousness and many emotionally terrifying and confusing facets of this world existence. New irreconcilable conflicts needed resolution, and new unanswerable questions demanded pacifying answers . . . This evolutionary strategy came in the form of the capacity of the brain to *dissociate itself from its own data*.

Id. at 20-21

¹³⁶ *Id.* at 249. I would add the American method of celebrating Christmas to this list.

¹³⁷ R. Dunn, “*Motivated Irrationality and Divided Attention*,” *Australasian Journal of Philosophy*, Vol. 73, No. 3, pp 325 (Sept. 1995).

¹³⁸ *Id.* at 329

¹³⁹ *Id.* at 325, 329

¹⁴⁰ *Id.*

¹⁴¹ *Id.* at 214

¹⁴² Two examples come to mind: 1) Many of us have known of spurned lovers who *truly* believe that they are still the focus of their ex-lover’s affection, despite mountainous evidence to the contrary (regarding which they concoct truly elaborate and imaginative explanations). 2) Literal adherence to religious dogma by otherwise intelligent people has always confounded me. People who I know to be completely functional with regard to their jobs and family, and who I perceive to be *utterly* sincere, have regularly made statements which absolutely contradict scientific beliefs which they espouse when they are not in their religious “mode” (e.g., that the earth is only 6,000 years old, when they *do* give credence to carbon dating, or that a virgin can be pregnant, when they would never believe such a story, were it claimed by their pregnant unmarried daughters. I don’t know any way to square these contradictions semantically. When such people speak in their religious mode, such people are, literally, *different people*.

phenomena, and appear to deny attention access to particular perceptions, emotions and beliefs. If it is true that self-deceptive statements (whether dissociated or otherwise) effect all of us, some of the time, they present a significant challenge to the possibility for the “neutral and objective” perception prerequisite to a “neutral and objective” application of legal or moral principles.

V Attending to Principles

V. A Principles don’t enforce themselves.

How many different moral principles are there?¹⁴³ If there are too many to count, that means there are also too many to which to attend in real time. No discussion regarding moral or legal concerns will ever be conducted with a complete inventory, much less due consideration, of all conceivably relevant principles.

What is it that compels most of us to attend to principles at all? Again, one can only point to upbringing, habit and education.

People are of two types. They can live principle-lite lives, or they can wallow in deep-fried principles. Those of us who fret about moral or legal matters tend to relentlessly run a little mental program I will refer to as “Should I be considering any further principles regarding this subject?” In the absence of running such a program, or in the absence of having the issue of principles forced upon us by others, principles simply don’t matter.

To apply a principle always requires effort. Unless one attends to a principle, it will be left behind. To the extent that we each make real-time decisions, then, we are semi-sociopathic. At the other extreme, one can take dissect any moral or legal subject after the fact, and plaster it with principles to the point where one loses sight of what the subject really was, *e.g.*, whether Truman should have dropped the atomic bomb, or whether O.J. actually killed Nicole and Ron.

It bears suggesting, once again, that principles are tremendously vulnerable to the attention that precedes the attempt to apply such principles.

V. B Attention as Selecting Among the Multiple Meanings of Principles and their Elements

To discern the meaning of a law, one must consider the emphasis to give to each word of the law. To do this is highly dependent on attention. To which word shall one attend, and with what emphasis? There are always options. In 1896, for example, the courts developed the principle of “separate but *equal*,” to prevent “blacks” from riding in “white” railway cars. In 1954, that same principle was stricken, as reading “*separate* but equal,” to require school integration.

Similarly, we can, at any one time, attend to only limited numbers of aspects of individual words.¹⁴⁴ Of necessity, we must attend to some meanings of words, to the exclusion of others. To some, “the poor” are those people who *can’t* work; to others, they are those people who *won’t* work.¹⁴⁵ Because attention is so limited, it quickly fatigues us to maintain

¹⁴³ How many legal principles are there? Philip K. Howard estimates that our *federal* statutes and rules comprise 100,000,000 words. At the brisk pace of 400 words per minute, it would take a full-time worker two years to read it all once. *Howard* argues that we have achieved “the worst of both worlds: a system of regulation that goes too far while it also does too little. But it doesn’t work. Human activity can’t be regulated without judgment by humans.” *The Death of Common Sense: How Law is Suffocating America*, 11, 26, 51, (1994).

¹⁴⁴ The availability heuristic again rears its head.

¹⁴⁵ To some people, “abortion” gives rise to images of fetuses, to others, babies.

accurate images of categories (where “the poor” refers to a large heterogeneous group of people, including many who can’t work *and* many who won’t work).¹⁴⁶

Given that words are plurisignative, two people using the same word, then, can have *entirely* different notions of the meaning of that word, and each person’s meaning would be highly dependent upon the particular images and ideas the word triggers in each person’s mind.¹⁴⁷ This triggering process is so quick, and occurs so often, that we are largely at the mercy of our own attentional spotlights.

Reification

Those who believe in the efficacy of principles will, at this point, retort that words simply mean what they *mean*, and that this talk about the ambiguities of words is philosophizing at its worst. Unfortunately, the practical attempts to carefully apply words causes endless headaches, as verified by the countless trees which have lost their lives to legal and moral disputes. Much of this problem is caused by the tendency toward “reification.” No theory of anything would appear to be complete without a theory of language. It is reification which causes many to deny the primary cause of many of our most intractable disputes: attention doesn’t simply jump from word to word. It swims a narrow path *within* words, there being a wide channel always available, this channel consisting of both the prototypical (literal) word meanings and of wide metaphorical extensions of words. Accordingly, I feel compelled to spend a few paragraphs elaborating the concept of reification.

“[Studies regarding attention conducted in the 1970’s demonstrated that] selecting a word meaning for active attention appeared to suppress the availability of other word meanings.”¹⁴⁸ Once the utterance of a word triggers our own special blend of images and ideas in our minds, the illusion of perceptual *fullness* (combined with fatigue) tempts us to forget that other minds will be provoked to recall only *similar* (and often, different) images and ideas. Nonetheless, there is a tremendous temptation to conclude that one’s own perceived meaning is *the* meaning—that one is reading in the same way *God* reads; that one is being perfectly *objective*. Originalism and the “Plain Meaning Rule” are two of the jurisprudentially spawned bastard children of the literalization of the “conduit metaphor,” whereby words serve as containers for ideas.¹⁴⁹ To those who practice reification, arguments constitute clashes between scribbles and

¹⁴⁶ Lengthy laws containing numerous plurisignative and interacting inter-defined words quickly push the conscientious interpreter up against chaos theory. There is no way to consider all the permutations of long passages filled with vague terms. Attention will latch onto certain possibilities (and not others) and effectively determine meaning in a radically simplified way.

¹⁴⁷ Availability knocks, once again.

The queasiness resulting from this plasticity of words, the tools of the trade for lawyers, gave rise to the school of Legal Realism, represented in the following quote by Karl Llewellyn:

“I am not arguing that the United States ought to have the sort of constitution loosely designated as ‘unwritten.’ I am arguing that they have such a Constitution, and that nobody can stop their having such a Constitution . . . [I]t is only the practice which can legitimize the words as being still part of our going Constitution. It is not the words which legitimize the practice. This is the first principle of a sane theory of our constitutional law.” 34 *Columbia L REV* 1-40, 2, 12 (1934).

¹⁴⁸ M. I. Posner, “Attention: The mechanisms of Consciousness,” *Proc. Natl. Acad. Sci*, Vol. 91 pp. 7398-7403, 7398 (Aug. 1994).

¹⁴⁹ See R. Posner, *The Problems of Jurisprudence*, p. 2966 (1990):

To repeat the central objection to the plain-meaning rule: meaning does not reside simply in the words of a text, for the words are always pointing to something outside. Meaning is what emerges when linguistic and cultural understandings and experiences are brought to bear on the text.

grunts—to whatever extent the deep human element affects meaning, it is claimed that it can be set off to one side pending the conclusion of the argument.

There is no escaping that there is a wonderful and frustrating fluidity to the meaning of words. Except for the most encrusted bureaucrateese, they breathe human air. It is, then, naïve to claim (as many lawyers do) that their arguments rest upon words themselves, rather than upon the complex and living interrelationship and (ultimately) upon their ineffable embodiment of words, within and among human animals.

In short, to attend to the meaning of a word requires far more than attending to its utterance or to its most available meaning. The use of a word almost always presents options (and temptations) to attend to fewer than all of its many possible colors of meaning,¹⁵⁰ and yet to blithely assume that one is taking *all* such meanings into account. When a judge bellows that a legal argument would “obviously violate due process,” she is refusing to recognize that that small phrase (part of the two-sentence Fourteenth Amendment) has generated thousands legal decisions (many of them contradictory) over the past century. The sin of reification is the presumption that words can be understood without reference to the beliefs and practices of the people who use such words. It is the presumption that the images one does associate or is about to associate with a word are (or should be) universally associated with that word. It is a fixation upon the words themselves where one believes that the meaning lies in the words rather than in the people who utter words, coupled with a false confidence that one’s momentary understanding of that word is the only reasonable understanding. Reification appears, indeed, to be yet another manifestation of the availability bias.

The expression of the facts of life is, at bottom, *indeterminate*, despite our most persistent attempts to capture them with language (which often border on the heroic). Lawyers (and moralists) nevertheless have faith in “objectivity.”¹⁵¹ They cling to objectivism because, perceiving no middle ground, they fear that the only alternative is a free fall to nihilism or, at least, legal relativism.¹⁵² They cling not to just *any* “objectivity,” of course, but their *own*

¹⁵⁰ Cf. T.S. Eliot’s “People exercise an unconscious selection in being influenced.” [even by particular meanings of words].

¹⁵¹ “Objectivism,” as used in this paper, is not limited to any particular epistemology of that name, but refers to any philosophy making the following three claims: 1) the world is “filled with determinate, mind-independent objects with inherent characteristics unrelated to human interactions,” 2) categorization is about “natural sets of objects in the world” or “about objects with ascertainable properties or criteria that establish their commonality,” and 3) reasoning is about propositions and principles that are capable of ‘mirroring’ those objects and accurately describing their properties and relations.” This paradigm, says Winter, is said to animate “most of our conscious thinking. It is, however, mistaken. Surprisingly little of human rationality actually fits this paradigm.” Steven Winter, “*Transcendental Nonsense, Metaphoric Reasoning, and the Cognitive Stakes for Law*,” 137 U. PA. L. REV. no. 4, 1107 (1989).

According to Mark Johnson, objectivism fails to give “a central place to the operations of nonpropositional and figurative structures of embodied imagination. In fact, they don’t even mention such structures.” Johnson also criticizes objectivism for driving a permanent wedge between “the mental, conceptual, rational, cognitive, a priori, and theoretical, on the one side, and the physical, perceptual, imaginative, emotional, a posteriori, and practical, on the other . . . Objectivism asserts a connection between these two realms, but it can never explain that connection without calling upon processes and structures that it must exclude from its treatment of meaning and rationality.” *The Body in the Mind: The Bodily Basis of Meaning, Imagination and Reason, Preface*, p.xxxv (1987).

¹⁵²George Lakoff suggests additional motivation for believing in objectivism: “There is a major folk theory in our society according to which being objective is being fair, and human judgment is subject to error or likely to be biased. Consequently decisions concerning people should be made on ‘objective’ grounds as often as possible. It is the major way that people who make decisions avoid blame. If there are ‘objective’ criteria on which to base a decision, then one cannot be blamed for being biased, and consequently one cannot be criticized, demoted, fired, or sued.” *Women, Fire, and Dangerous Things: What Categories Reveal About the Mind, Preface*, p. xiv, (1987).

objectivity. Experientialism,¹⁵³ makes a strong case in showing the “objective” use of language to be a myth: there is no such thing as *abstract* and *disembodied* thought. Truly “objective” thought would require the impossible: a “logical propositional trajectory from principle to concrete application.”¹⁵⁴

Under the cover of “objectivism,” however, the widely-shared meanings of concepts have *always* been grounded in and constrained by our widely-shared biological, cognitive, social, and linguistic interactions.¹⁵⁵ These interactions, which constitute our bodily existences, extend imaginatively and metaphorically to give what substance there is to high-level concepts.¹⁵⁶ “Objectivity,” as used in the context of legal decision-making (and elsewhere), can exist only to the extent that these interactions are widely shared. It must not be overlooked that such interactions *are* widely shared, enabling extensive meaningful communication, even among people of divergent languages and cultures. No radical deconstruction of language is being suggested.

Sections III and IV, respectively, have been concerned with the manner in which attention primes the world, and primes our principles, respectively. The next section (VI)

¹⁵³ *Id.*, at xi. *Experientialism* brings together psychology, linguistics, anthropology, philosophy and computer science. It is based upon at least two positions fundamentally at odds with objectivism: 1) that “thought is *embodied*, that is, the structures used to put together our conceptual systems grow out of bodily experience and make sense in terms of it; moreover, the core of our conceptual systems is directly grounded in perception, body movement, and experience of a physical and social character,” and 2) “Thought is *imaginative*, in that those concepts which are not directly grounded in experience employ metaphor, metonymy, and mental imagery--all of which go beyond the literal mirroring, or *representation*, of external reality. It is this imaginative capacity that allows for “abstract” thought and takes the mind beyond what we can see and feel.” Lakoff, *Women, Fire, and Dangerous Things*, at 184.

¹⁵⁴ “*Transcendental Nonsense, Metaphoric Reasoning, and the Cognitive Stakes for Law*,” 137 U. PA. L. REV. no. 4, 1110 (1989).

¹⁵⁵ Johnson, *The Moral Imagination: Implications of Cognitive Science for Ethics*, at 34, and 237-240 (1993).

¹⁵⁶ Johnson (*The Body in the Mind*, at 15) explains that a metaphor is not merely a linguistic expression “used for artistic or rhetorical purposes; it is a process of human understanding by which we achieve meaningful experience that we can make sense of. A metaphor, in this ‘experiential’ sense, is a process by which we understand and structure one domain of experience in terms of another domain of a *different kind*.”

According to Johnson (*The Body in the Mind*, p. xii.), “There is a growing body of evidence that metaphor is a pervasive, irreducible, imaginative structure of human understanding that influences the nature of meaning and constrains our rational inferences.” Aristotle also wrote of the importance and irreducibility of metaphors “[T]he greatest thing by far is to be a master of metaphor. It is the one thing that cannot be learnt from others.” *Poetics*, Aristotle, §22 (McKeon trans.) 1941.

In “*Transcendental Nonsense*,” *supra*, at 1211, Steven Winter, gives numerous examples of metaphors connecting our immediate experience to high-level legal concepts. One of these metaphors is of law as a “person.” For instance, we speak of the *body* of law, we ask what laws *say* on their *face*. We refer to *seminal* cases, as well as their *progeny*. We *strike down* statutes, and sometimes recall *dead* legal concepts. The use of such imaginative extensions of words is essential to bridging the gap between high level (*e.g.*, legal) principles and the real world. Consider, for instance, such unabashed legal metaphors as *minimum contacts*, *corporation as a person*, and *possession*.

Responding to the Enlightenment claim that Reason itself is “rigorous, linear, cool, and unemotional” Winter points out that such a claim actually proclaims the *metaphorical* quality of reason: “reason is *cold*; it is *rigorous*; it is *linear*; it is *clear*; it is *felt*. Indeed, in its dependence on embodied experiences like temperature and rigor, the metaphorical quality of reason is anything but detached and impersonal.” Steven L. Winter, “*Death is the Mother of Metaphor*,” 105 HARV. L. REV., 745, 749 (1991).

Etymologies constitute another historical and compelling record of the power of metaphor. Through the study of etymologies, we can see that a relatively small number of simple and earthy roots (mostly and Greek) underpin our vast and nuanced language. Note, for instance, the etymologies of *substantiate* (to “stand under”) and *metaphor* (to “bear over”). See, generally, Eve E. Sweetser, *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure* (1990).

concerns the manner in which attention directs the *application* of primed-principles to our primed-worlds.

VI. Decision-making versus Problem-solving

HEADMASTER: All right, settle down, settle down. [He puts his papers down.] Now before I begin the lesson will those of you who are playing in the [Rugby] match this afternoon move your clothes down on to the lower peg immediately after lunch before you write your letter home, if you're not getting your hair cut, unless you've got a younger brother who is going out this weekend as the guest of another boy, in which case collect his note before lunch, put it in your letter after you've had your hair cut, and make sure he moves your clothes down onto the lower peg for you. Now...

WYMER: Sir?

HEADMASTER: Yes, Wymer?

WYMER: My younger brother's going out with Dibble this weekend, sir, but I'm not having my hair cut today sir, so do I move my clothes down or...¹⁵⁷

Only now, after attention has run amok, distorting the landscape and skewing the applications of our treasured caches of legal and moral principles, are we ready to apply the principles to the world.

On the streets, these two terms (*problem solving* and *decision making*) are used interchangeably, probably because they both involve high-level thought processes aimed at clarifying ambiguities, psychological or otherwise. It is my aim in this section to try to distinguish between problem solving and decision making.

It is apparent, though, that these two modes of judgment contrast sharply. For example, expert problem solvers do not necessarily make good decision-makers, and vice versa. Problem solving involves thorough, replicable, forward-moving judgment on the basis of well-defined terms and operators and pre-determined criteria by which one can consider immediately whether the judgment was successful. Decision making addresses our beastly wants and needs; its judgment is action-oriented kick in the pants, and it answers the question "What do I *want*?" by commandeering attention, then working *backwards* for justification, if need be.¹⁵⁸ These two forms of judgment have been contrasted more elaborately in Appendix B, attached to the end of this paper.

Cognitive scientists have drawn significant contrasts between reasoning tasks (which I will be referring to as *problem solving*) and *decision making*.¹⁵⁹ Problem solving has been said to involve "a process of reasoning from the premises which may or may not support the conclusion."¹⁶⁰ Decision making tasks, on the other hand, have been said to "involve choices between actions and normally involve commitment to particular acts at one point in time, whose consequences will only later be apparent."¹⁶¹ Decision making is intimately action-oriented.

¹⁵⁷ Monte Python, "The Meaning of Life" Python Pictures, Ltd. (1983)

¹⁵⁸ Perhaps decision making is best described as a salient shift of attention pointing one toward a course of action or a goal. *Conscious* decision making would be the conscious recognition of this same phenomenon.

¹⁵⁹ J.St. B.T. Evans, D.E. Over & K.I. Manktelow, "Reasoning, Decision Making and Rationality," in *Reasoning and Decision Making*, ed. P.N. Johnson-Laird and E. Shafir., p. 166 (1993).

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

See H.R.Arkes, *Judgment and Decision Making; an interdisciplinary reader*, p. 4 (1986) (decision-making inextricably ties one to possible courses of *action*).

Complex situations calling for decision making or problem solving contain elements of each other: Real world problem solving (e.g., engineering) will always involve elements of decision making. Since we are human animals occupying a world in which we are physically restrained (we don't have the power of telekinesis--we can't even fly by flapping our arms), episodes of problem solving will occur in the process of making any decision.

I look into my refrigerator, trying to *decide* what to eat. I see a piece of chocolate cake and a carrot. I can't keep from looking at the cake nor thinking about the carrots. I want to reach for the cake (proto-decision), but I'm restrained because I quickly calculate that cake has more calories, that more calories make one fatter (*problem solving*), and I had already *decided* that I should lose weight, and so reach for the carrot by manipulating my arm (problem solving), putting it back into the refrigerator (decision making/problem solving) and then grabbing and eating the cake (problem solving). Many judgments can be characterized, *overall*, as either problem solving or decision making. The refrigerator incident would be likely be characterized as a *decision*, despite the elements of problem solving.¹⁶²

The most prominent act of judgment (here, whether to eat the cake or the carrot), then, tends to characterize the whole. If a nutritionist opened the refrigerator door for the purpose of determining the caloric content of both foods within (with the help of a calorie-counting kit, again encountering only the cake and the carrot), the situation would be better characterized as one of *problem solving*, even though one has to decide which food to test *first*.

These real-world characterizations (of *problem solving* versus *decision making*), then, constitute a gestalt--a coherent, meaningful, unified and further irreducible whole--vivified with a *telos*. Many situations have elements of both *problem solving* and *decision making*, but enough situations fall close enough to one endpoint or the other to make the distinction meaningful and useful.

VII. Why Decision Makers Claim to be Problem Solvers

Many moralists and judges invoke metaphors of calculation, formal logic and mathematics to describe their endeavors. They speak of moral and legal *problems*, of *solving* or *figuring out* moral and legal dilemmas. Such metaphors run contrary to serious legal literature¹⁶³ and common sense.¹⁶⁴

See also, E.J. Gibson, "Trends in Perceptual Development," [from *Principles of Perceptual Learning and Development* (1969)]; perception is "exploratory activity (p.368); perception vs. action = chicken & egg (p. 367); the selective aspect of attention "implies" activity (p. 373). Gibson cites William James, with regard to the compelling character of attention upon a child's decision-making: "This reflex and passive character of the attention which . . . makes the child seem to belong less to himself than to every object which happens to catch his notice, is the first thing which the teacher must overcome."

See also, D. Ballard, "Animate Vision": Visual processing is "interlinked with behavior." (p. 61)
¹⁶² Assuming that a student was to be playing in the rugby match, the quote from Monty Python's "Meaning of Life" would be a schematic for *problem solving*.

¹⁶³ "The law embodies the story of a nation's development through many centuries, and it cannot be dealt with as if it contained only the axioms and corollaries of a book of mathematics." Oliver W. Holmes, *The Common Law*, 1 (1881); See also, Benjamin Cardozo's holding that "the common law does not work from pre-established truths of universal and inflexible validity to conclusions derived from them deductively. Its method is inductive, and it draws its generalizations from particulars." *The Nature of the Judicial Process*, 21 (1921). See also, Cass Sunstein's characterization of analogical reasoning: "Some people think that analogical reasoning is really a form of deduction, but this is a mistake. . . [W]e do not know what the [governing rule or principle] is until we have assessed the cases." *Legal Reasoning and Political Conflict* (1996). See also, R. Posner, *The Problems of Jurisprudence*, p. 48:

The legal profession actually does solve some *problems*. Many of such problems are those of procedure; they emanate from the courts' own complicated internal systems designed to guide the unfolding of litigation.¹⁶⁵ Other *problems* are peripheral to the making of *decisions*. For example, accounting experts sometimes testify in court, and to the extent that the court understands such mathematical elements of such findings in its decision, the court would be engaging in problem solving. Third, a fair number of statutes amount to schematics for problem solving—the court only needs to *plug in* prototypical real life variables. For instance, when a person with a gun walks up to a stranger, demanding and taking the stranger's wallet, the situation can easily be boiled down to an instance of robbery; such a situation arguably rises to the level of a gestalt. Applying the robbery statute in this case amounts to plugging the variables (the gun, the taking of property, and the lack of consent) into the schematic for robbery.¹⁶⁶

Much of a judge's work is this bureaucratic plugging-in of prototypical variables, work more suitable for a clerk, actually. Judges are paid *judges* salaries, though, for those other instances, where they are asked to apply ambiguous law to a world subject to multiple interpretations. Whenever a judge *interprets* law or fact, that judgment amounts to a *decision*. The interesting and difficult part of the judicial endeavor, then, is in the *decision making*, not the *problem solving*. The job of the moralist is even more clearly that of a decision maker, since no

Judges' reasons for generally sticking by rules have little if anything to do with logic and often are not 'reasons' at all. Without going so far as to argue that a judge's decisions are influenced by his digestion, or that judges who are sticklers for rules have an "authoritarian personality" and would benefit from psychoanalysis, I suggest that differences in temperament are indeed responsible for much of the evident differences among judges in willingness to interpret rules flexibly, recognize exceptions freely, transmute rules into standards willingly and cede discretion to juries and to lower court judges comfortably. Some judges have a greater tolerance for untidiness, even disorder, than others. They see law as exploration and dialogue rather than as governance and hierarchy.

¹⁶⁴ Calculation is the sort of thing a technician (or a court clerk) could do. Justitia, whose image adorns many courthouses, holds scales, not a calculator.

Even if the practice of law were based upon logic, one must further inquire regarding the basis of logic. Mark Johnson argues that logic, as well as the legal concept of "equality," are experientially based (ultimately based upon the container metaphor and the schemata of balance). See *Body in the Mind*, p.80ff, (1997). See also R. Posner, *The Problems of Jurisprudence* (commenting upon the cognitive importance of metaphor to logic) pp 38-39 (1990).

¹⁶⁵ For instance, one rule of civil procedure requires that interrogatories (written questions, to be answered under oath) must be answered within 30 days. Therefore, if more than 30 days pass without one's opponent providing answers, a simple *problem* is presented to the court, with the court making a determination that the answers were, indeed, *late*, and invoking one of the sanctions allowed by another section of the rules of civil procedure (*which* of several possible sanctions to invoke, however, is a matter of discretion of the court, and the court's choice of sanctions would amount to a *decision*).

¹⁶⁶ For another example, a Missouri statute requires that 9% interest per year be added to any judgment for breach of contract, where the damages are liquidated. Once the court makes a *decision* regarding the character of the damages, the court will essentially be solving a problem (calculating the interest).

However, I don't mean to limit *problem solving* to mathematically based judgment. I would consider the following to be essentially an instance of problem solving: A Springfield ordinance provides that dog owners must keep their dogs on leashes whenever in public parks [note that, for a violation to occur, the ordinance does not require that the dog-owner that the dog owner have acted with any particular mental state, whether negligently, knowingly, recklessly or intentionally]. Jane Doe is walking her dog in the center of the Springfield Municipal Park. The dog does not have a leash attached to its collar. A police officer cites Jane for violating the ordinance. The elements of the statute (dog-owner, leash, public park & leash) are terms which invoke prototypical cases which correspond unproblematically with the real world. In finding Jane guilty of violating the ordinance, the judge would, effectively, be *problem solving*.

moral principles are enacted at the outset, and the same factual indeterminacies abound for the moralist.¹⁶⁷

So why do judges and moralists play the role of decision makers in problem solver clothing? They seem to want *respect*. Decision makers crave the respectability, precision, logic, inevitability, validity and replicability of problem solving.¹⁶⁸

Once decision making is papered over with the respectable language of problem solving, the decision maker gains the august appearance of objectivity. Objectivity allows me to claim that I am more than simply another person holding an opinion—I am a person holding an opinion which *others* are compelled to follow, an opinion which rises to the level of *truth*, an opinion justifying the empowerment of a “system” allowing the opinion-maker to coerce others. Claims of objectivity put the process of enforcing one’s opinions outside of the realm of one’s personal wants; I am no longer enforcing *my* wants (“I’m not being piggish!”), but I am simply enforcing the (moral or legal) *law*. Those who enforce *law* are no longer personally responsible for the sometimes ugly results of the application of the law (“It’s out of my hands. Let the chips fall. I was just following *orders*.”). It’s easier to sleep at night when one is simply obeying the system and engaging in the bureaucratic minutiae, rather than taking personal responsibility for the difficult (and often thankless) work they do.

How objective is the system? “*Very objective*,” say the judges and moralists. “After all, we are problem solvers.”¹⁶⁹

But this response is evidence of a classic Freudian reaction formation. Judges and moralists *know* they can’t take “everything into account,” in arriving at their decisions. That would be far beyond the capacities of their attention and memory, especially after long trials with dozens of witnesses, hundreds of pages of exhibits and dozens of vague or clashing principles of law. Judges and moralists, like everybody else, are limited to a small perceptual slice of any reality in which they find themselves. They are, like each of us, severely limited in their attempts to see into the future.

The repressed fear of inadequacy seems to have generated the great faux-confidence with which many judges and moralists write and speak—not a cockiness, but a ponderous yet testy sanctimoniousness. For both legal and moral “specialists,” the underlying insecurity possibly explains their many accouterments (including huge and opulent arch-blocking courthouses, fancy robes, the incessant ritual, high and mighty pulpits, etc.).

If it’s problem solving they really practice, we should all be clamoring to know how they solve their *problems*. But the audience is notably silent, and there is a long line of thought amounting to “Spare us. Don’t bother telling us why you decided the case that way.”¹⁷⁰ As William James would say, “The noble thing tastes better and that is all that we can say.”¹⁷¹

¹⁶⁷ I’m assuming any bona fide moralist would at least attempt to set forth principles with which to work; absent such principles, a moralist would be just another person with an opinion.

¹⁶⁸ Their claims of objectivity are betrayed by effort to which attorneys go to seek the audience of some judges and to avoid or disqualify others.

From the moment a decision is made, a decider is tempted to rationalize the decision, finding ever more justification for so deciding. The decision becomes one’s own possession. Perhaps the psychological act of decision making, especially the most difficult cases, brings the decider a tremendous sense of relief which is confused with a false sense of certainty that one has decided “correctly.” This amounts to another source of a false sense of objectivity.

¹⁶⁹ Within a small and specialized community, decision making will often *feel* like problem solving. To avoid undeserved confidence in a decision making enterprise, periodic leave is advised.

¹⁷⁰ This issue is elaborated in a pair of law review articles: D. Shapiro, “In Defense of Judicial Candor,” 100 *HARV L. REV.* 731-750, 750 (1987) (“candor is to the judicial process what notice is to fair procedure”); S. Altman, “Beyond Candor,” 89 *MICH. L. REV.* 296-351, 299, 351 (1990) (“[J]udges holding inaccurate beliefs about their decisions might decide better than they would with a clearer understanding of their actions . . . By demanding that

VIII. Fine Tuning Attention

Our violent world has been deluged with often-ignored principles without which, we claim, we would constantly be at each others' throats. At first glance, principles *seem* to work. But where we need them most, on the difficult issues, they leave us in the lurch. It is when we call upon them in our moments of desperation that we sometimes realize that the words of principles are weasel words, chosen carefully to make moral and legal dilemmas only *appear* to be problems waiting to be solved.¹⁷² Those who promote reliance upon principles engage in an eternal regression of auxiliary-principles to explain the application and collisions of their primary-principles. These principles are always written in the absolute, but they are never absolutely enforced.

The reliance upon principles, then, is yet another all-too-human attempt to establish faux order. To many people it is too painful to admit that a few tired words simply cannot capture human organic complexity, and that personal decisions are really made inside of our bodies, not outside.

Whatever systematic formality appears to exist in the application of principles, it breaks down at the slightest doubt regarding the meaning of any one of the terms (or relations among the terms). At the point of this inevitable breakdown (caused because words are not mono-signative), the ostensible and highly desired problem solving aspect of many judgments is exposed as Problem Solving's homely cousin: Decision Making.

judges be wholly introspective, we risk cynicism and deception displacing somewhat inaccurate candor.”). See also, R. Posner, *The Problems of Jurisprudence*, “Judges’ reasons for generally sticking by rules have little if anything to do with logic and often are not ‘reasons’ at all.”

The cognitive scientists have also stepped to the plate:

“[A]most anything can be counted as a ‘reason,’ so that every decision may be rationalized after the fact. To overcome this difficulty, one could ask people to report their reasons for decision. Unfortunately, the actual reason that guide decision may or may not correspond to those reported by the subjects. As has been amply documented, subjects are sometimes unaware of the precise factors that determine their choices, and generate spurious explanations when asked to account for their decisions.”

Also, note the approach of Cass Sunstein who has introduced the notion of “incompletely theorize agreements.” To best resolve disagreements, according to Sunstein, leave the theory at home:

It is quite rare for a person or group completely to theorize any subject, that is, to accept both a general theory and a series of steps connecting that theory to concrete conclusions.” Incompletely theorized agreements allow people to develop frameworks for decision and judgment despite large-scale disagreements. . . Perhaps [participants in legal disputes] find theoretical disputes confusing or annoying. What is critical is that they agree on how a case must come out. . . Incompletely theorized judgments are an important and valuable part of both private and public life. They help make law possible . . . Most of their virtues involve the constructive uses of silence, an exceedingly important social and legal phenomenon . . . Silence—on something that may prove false, obtuse, or excessively contentious—can help minimize conflict, allow the present to learn from the future, and save a great deal of time and expense.

C. Sunstein, *Legal Reasoning and Political Conflict*, pp 35-39 (1996)

¹⁷¹ *The Moral Philosopher and the Moral Life*, §I

Or as Miles Dalby would say: Sometimes you just have to shruggingly say “What the Fuck.” “Risky Business” Geffen Pictures (1983).

¹⁷² Legal principles are peppered with technical-*sounding* words and phrases, such as *reasonable*, *unfair burden*, *good faith*, *negligent*, *without just cause*, *due process* and numerous others.

[N]ever when the facts are in dispute, can rules decide the case. At best, they set the framework for decision, and the bound within which it is to move . . . if there is any slightest doubt about the classification of the facts—though they be undisputed—the rule cannot decide the case; it is decided by classifying.¹⁷³

Decision making is far more likely to be buffeted upon the waves of attention than is problem solving. When we solve real problems, we repeatedly revisit tightly defined terms and operators, and we do so from numerous angles, to establish an airtight fit. This over-caution gives us our best shot at objectivity. Decision making, by the use of principles, does not proceed with many of the safeguards of problem solving.

To the extent we consult principles, though, we are reminded to diversify our attention, which encourages us to consider our wide horizons of options. The Golden Rule, for example, reminds us to attend to the perceived needs of others, and to “do unto” them after attending to and projecting our own needs and wants; this is not to say, however, that the Golden Rule in any sense *determines* the outcome of any particular conundrum—that depends, inevitably, upon who is applying the Rule. Nonetheless, a careful review of society’s long-accumulated collection of principles tends to thwart the availability bias, and to discourage the arbitrary, short-sighted and oftentimes dangerous actions that result from the other major alternative—not attempting to consider principles. To the extent that principles are efficacious, then, it is not due to their formal or systematic character, but upon their content and the indeterminate nudge that their content gives to attention. The moral and legal power of principles, then, is the same power had by songs, stories, and real-life examples: the power to increase the pool of options to which we can attend, which, in turn, protects us from being slaves to the availability heuristic.

Attention is almost synonymous with the manner in which we size up our world and our principles. Attention deserves much more credit than it generally gets for the manner in which we make decisions. In fact, discussing principles without considering the effects of attention is a total waste of time and an inevitably misleading enterprise.

But attention helps us be our best when it is kept somewhat in check. The hallmark of intelligence (a prerequisite for high moral character) is the tendency to be self-critical—to be willing to yank the reins of attention as a matter of habit. The self-critical person regularly pulls back to ask whether she has considered sufficient diverse alternatives, or at least gotten the lay of the land. She questions herself: “Is there another way?” “Am I asking the right questions?” “In what ways could I be wrong?” “What are the short and long range consequences?”¹⁷⁴ The person who is self-critical attempts to expose herself to alternative viewpoints, even to viewpoints which she finds distasteful. Our ultimate goal should be to keep attention limber—to make it *dance*:

Our successes will come from paying attention to our externalized species memory, to the knowledge of past successes and failures in human endeavors as depicted in historical, literary, political, economic, and philosophical accounts. Intuitions and gut reactions are not enough; they are not even trustworthy.¹⁷⁵

¹⁷³ K. Llewellyn, *The Constitution as an institution*, XXXIV Columbia L. Rev. 1 (1934).

¹⁷⁴ To what does such a person consciously refer at this point? Songs, stories, and real-life examples and, oh yes . . . principles. Of course, we are sub-conscious bubbling cauldrons of conflicting motivation and emotion, as well. I am not making any claim that we are primarily driven by that which is conscious, much less that which is rational.

¹⁷⁵ O. Flanagan, *The Science of Mind*, 2nd Ed. p 216 (1991)

Each of us is constituted by a vast number of such inconsistent intuitions and gut reactions each fighting for the same steering wheel. Each time one of these entities grabs our wheel we experience a shift of attention. It is by acquiescing in these intuitions and gut reactions that we become slaves to the availability heuristic. In America, the long-term symptoms of *availabilitus* include excessive hours viewing soap operas, sitcoms and professional sports, a slow but powerful drift toward abject materialism, and a pronounced susceptibility to third party manipulation. It's ugly and it's root cause is the failure to be self-critical.

We also need *each other* to bump each other out of our attentional ruts—to cultivate and articulate robust agonistic perspectives within ourselves—to become a semi-chaotic sort of person with the capacity for looking around our own corner.¹⁷⁶ Although we can't directly aim attention, we do seem to be able to nudge it off course, and by doing so, we broaden our horizons. It does seem paradoxical, but only by nudging attention off-course can we attain a modicum of true volition.

In a typically Nietzschean paradox, the freest thinker is he who realizes that his thoughts are not free, being the efflux of his often imperceivable instincts and affects. The true slave of his passions is he who does not recognize his slavery. The man Zarathustra loves for his honesty is he who knows that 'his head is only the bowels of his heart.'¹⁷⁷

Thoughts not free? Preposterous? Unprovable?

Perhaps someone who considers you to be clever or funny has put you on the spot by saying to you, in front of a group of strangers, "Hey! I told these people how clever (funny) you are. Say something clever (funny) to them right *now!*"

Sometimes a clever (funny) remark pops into our heads, and sometimes we are left "empty handed." What is truly remarkable about such moments, though, is that they expose the limited power we have over attention. It amounts to the exercise of a *veto* power. We are largely at the mercy of thought and ideas "served up from below," the content of which we cannot control directly. But the veto power seems to be always in our grasp. Try the experiment yourself right now: think of something *profound*.

Perhaps you said the first thing that "came to mind." If not, you effectively vetoed one or more such things, before putting you cachet on what then became your choice.

It is this power to *veto* rather than any power to directly create which, I believe, defines our control over attention. We don't have any direct power to decide what to think (or look at) next—the next thing just pops into our heads. We *do* seem to have the power to say *no*, however. We *can* change mental channels. In fact, we are *excellent* channel changers. It's no surprise that we can surf television and web sites so naturally and repeatedly, and for extended periods. These activities, like the dance of attention, allow us only indirect control over the informational content. Yet we feel *in control*.

By exercising this veto regularly, we can hope and wait for the production of more resonant material from *below* or (in the case of vision) we can see whether we want to stay with the new subject now being scoured by our foveas. An interesting existence more often comes to those who judiciously exercise their veto power and who, for that reason, are well-rounded.

¹⁷⁶ L.P. Theile, *Friedrich Nietzsche and the Politics of the Soul*, p.60 (1990).

"I say unto you: one must still have chaos in oneself to be able to give birth to a dancing star." F. Nietzsche, *Thus Spoke Zarathustra*, I, §5, p. 129 [from *The Portable Nietzsche*].

¹⁷⁷ L.P. Theile, *Friedrich Nietzsche and the Politics of the Soul*, p.57 (1990)

To exercise this veto too often leads to inaction, though, or to the other well known danger: paralysis-inducing skepticism (we are, after all, action-oriented beasts):

When he said that, his disciple cried impetuously: “But I believe in your cause and consider it so strong that I shall say everything, everything that I still have in my mind against it.”

The innovator laughed in his heart and wagged a finger at him. “This kind of discipleship,” he said then, “is the best; but it is also the most dangerous, and not every kind of doctrine can endure it.”¹⁷⁸

They are relatively rare individuals, those with the tremendous inner-energy, who can constantly and patiently criticize and question their own mental flows, and yet also demonstrate the strength to regularly pull out of such detours to live *actively* and productively. *How* they do it, we often sum up as a matter of “character.” They are driven, like all of us, by a complex human biology touched repeatedly by their idiosyncratic histories. Perhaps we can obtain only the most cursory glimpses into what drives them to decide as they do, by continuing to use cognitive science to look backwards into them, through their windows of attention.

¹⁷⁸ F. Nietzsche, *The Gay Science*, trans. W. Kaufmann, from §106, “Music as an advocate” (1887).

Appendix A - Stare Decisis

The case of *stare decisis* is one of the first things they teach in law school. It derives from a Latin phrase meaning “stand by the thing decided.”¹⁷⁹ More technically, it requires “that the holding of a similar case with sufficiently similar facts to the case at issue, be applied to courts of equal or lesser hierarchy within the same jurisdiction.”¹⁸⁰ In other words, lawyers are compelled to follow precedent.

Even assuming that we know how to discern “precedent,” *stare decisis* presents attorneys with a serious problem: *when* are we to follow precedent? As one legal scholar would ask, What is “the domain” of the rule?¹⁸¹ This is no frivolous matter; cases constantly overrule other cases, and various provisions of the United States Constitution have been ignored for decades.¹⁸² Perhaps, though, these examples are aberrations. Nonetheless, the general principle requires lawyers to follow precedent.¹⁸³

But not exactly. Not when doing so would be “unreasonable” or “inconvenient,” for example.¹⁸⁴ In other words, one is to follow the hallowed doctrine of *stare decisis* . . . unless one (for *good* reasons) does *not* follow it.

At bottom, the case of *stare decisis* is twice-removed from sure footing. The initial impetus is to re-apply a legal principle, but underlying this task is the Heraclitean question of whether one can apply the principle the *first* time.

¹⁷⁹ *Stare decisis et non quieta movere*, meaning “to stand by the decisions and not to disturb settled points.”

¹⁸⁰ R. Aldisert, “Precedent: What it is and What it Isn’t,” 17 *Pepperdine L.Rev.* 605, 608 (1990).

¹⁸¹ R. Posner, *The Problems of Jurisprudence*, p. 46 (1990). In other words, the application of any principle is governed by a large sub-set of principles purportedly determining *when* the principle is to be applied (but, I would argue, the sub-set of principles would make reference to a sub-sub-set of principles, and so forth.

¹⁸² For instance, no where in the *Constitution* does it indicate that the electoral college vote is to be the sham it is. An equally incredible example is the semantically unwarranted construction given, since Roosevelt’s 1937 court-packing plan, to the commerce clause of the United States Constitution, a topic analyzed by Andrew Kull, in “The Stealth Revolution,” *The New Republic*, January 22, 1996, 38, 39: “The text of the Constitution (and everything we know about the circumstances in which it was composed and ratified) makes it clear that the federal government was to exercise its enumerated powers to the exclusion of all others.” Kull quotes Madison, from *The Federalist No. 45*: “The powers delegated by the proposed Constitution to the federal government are few and defined. Those which are to remain in the State governments are numerous and indefinite. [The powers] reserved to the states will extend to all the objects which in the ordinary course of affairs concern the lives, liberties, and properties of the people.” Kull adds “Obviously it has not worked out that way. With the exception this past term of gun-free school zones [*United States v. Lopez*, 115 S.Ct. 1624 (1995)], the Court has never since discovered an effect on interstate commerce too indirect for national regulation.” As a result of the New Deal, “we see a constitutional revolution without constitutional substance.” *Id.* at 39.

¹⁸³ Can you think of any other allegedly critical thinking profession which demands that it’s practitioners “follow precedent,” for the sake of following precedent? Would you go to a surgeon who, instead of keeping up with new developments, followed precedent (by telling you to chew on a bullet instead of giving you anesthesia?).

¹⁸⁴ K. Yoshino, *What’s Past Is Prologue: Precedent in Literature and Law*, 104 *YALE L. J.* 471 (1994).

Appendix B

I. Problem-solving versus decision-making

Problem-solving	Decision-making
e.g., Math. Formal logic. Computer science. Tax law.	e.g., What to eat while staring at several options in one's refrigerator. Whether to marry one's sweetheart. Whether to take that new job. For whom to vote. Whether to answer the phone. Constitutional law.
Moves <i>forward</i> toward solution.	The "answer" is attended to prior to the decision-making. The answer is in front of the decider at the <i>beginning</i> of the process. The field is pre-culled of unacceptable answers prior the beginning the work [especially in law, where the opposing litigants propose the "answers" at the beginning]. We reach <i>backwards</i> for reasons and justifications.
Each part of the problem is subsumed into the solution (or specifically denied). Each term of the problem leaves its imprint upon the solution.	The decider turns his/her attention from the losing choice. Decision is made by <i>ignoring</i> certain factors. The point is to nullify possibilities, leaving only one of two or more options. This can also be accomplished by <i>highlighting</i> the winning option.
Involves well-defined terms (widely and consistently understood within the community) and operators (e.g., +, -, "on top of," "warmer than," "go to")	Can, does, and often <i>must</i> involve vague terms and, therefore, wide discretion. The meaning of terms is recast (sometimes inverted) during the decision-making process.
Result is repeatable—reliable.	No reliability that same choice would be made (even assuming exact same decision could be presented repeatedly).
<i>Rules</i> For the jurisprudential angle, see C. Sunstein, <i>Legal Reasoning and Political Conflict</i> (1996): "By a system of rules [as opposed to <i>standards</i>] I mean to refer to something very simple: approaches to law that aspire to make legal judgments in advance of actual cases. . . ." (p. 21)	<i>Standards</i>
Problems cannot be solved without <i>conscious</i> thought.	Decisions can be made without conscious thought (deciding an issue by not deciding).
A = A, at least for the duration of the problem.	A does not necessarily = A
The solution can be checked by running the problem backwards with confidence and consistency (within a community), thanks to the crisp terms and operators.	An arrow of time exists. For breach of transitivity, see M. Piattelli-Palmarini, <i>Inevitable Illusions</i> (1994): Before the "fall of communism," Americans were asked whether Jamaica was <i>like</i> Cuba (yes) and whether Cuba was <i>like</i> the Soviet Union (yes). But is Jamaica <i>like</i> the Soviet Union?
"Objective" <i>The answer</i>	"Personal" <i>My answer</i> . Requires a personal preference. We often listen to our own voice to determine what we've decided. Perhaps decision making is merely a personal preference buttressed by a declaration.
All terms reducible to a common scale, to enable one	Multi-scalar or non-scalar.

<p>to invoke the operators upon all terms.</p> <p>Rigorously defined common denominators used in order that: all terms can be taken into account. [3 +4 = 7 retains elements of all elements and operators in the conclusion</p> <p>The “human element” is absent in the terms, which are either: Tied <i>objectively</i> to physical things by machine measurements or inter-defined to comprise a formal “blackboard” system.</p>	<p>Loosely defined common denominators (money, psychological scales, evaluative scales).</p>
<p>All elements deemed relevant must be taken into account in the solution.</p>	<p>The decision hinges upon salient features alone, not all evidence. We make decisions while lacking evidence consider relevant, and relying upon evidence often deemed to be of questionable validity and relevance.</p>
<p>Often worked upon without any imminent application. Not necessarily action-oriented</p>	<p>A mental <i>action</i>. Mental <i>reaching</i>. Tied inextricably and inseparably to action. and enables (the first step of) action. Always action oriented.</p>
<p>The problem is solved when it is solved. Never do we set time limits for solving problem, if we want them solved correctly.</p>	<p>Often, a period of time is set aside a specific decision. When the bell rings, the decision must be forthcoming. In tough cases we sometimes decide by <i>not</i> deciding (social inertial forces carry on; there’s no analog to this is paradigmatic problem-solving!).</p> <p>No real-world Burriden’s ass. The idea is to get off-center, one way or the other.</p>
<p>When solution is reached, it is well-recognized as such (and often celebrated - Eureka!). We need not know the solution (answer), however, until after the problem is solved. We can know that we are about to solve the problem without yet knowing the solution.</p>	<p>Often, we know when we’re finished making a decision only because we hear ourselves declare it to ourselves and to others.</p>
<p>Independent of emotions, desires, motivation, or even obsessions with any terms or operators.</p> <p>Even-handed is only approach. Do not favor a solution, or else you will bias your work. Strive for the result anyone else can reach too.</p>	<p>Inextricable from one’s own attention, habits, emotions, desires, appetites, fatigue, etc. The realm of the political.</p>
<p>Made with greater confidence.</p>	<p>Made with less confidence, but often greater conviction. Capable of starting wars.</p>
<p>Difficulty (perhaps) but no inherent <i>tension</i> (twisted visceral feeling (?)) in solving problems.</p>	<p>There is <i>tension</i> inherent in legal/moral decision-making. The scales of justice - proof that there is no resolution, only attention shifting; why Justitia (the statue representing <i>Justice</i>) not holding a calculator?</p> <p>Legal and moral claims (all?) involve this tension (of investing one’s personal inclinations to effect coercion). Wherever there is a moral or legal claim versus a defense.</p> <p>Impressive reasons often exist to justify any possible outcome (split decisions are often the result of review by panels of highly trained appellate judges).</p>
<p>Tight structure, and careful survey of all possible values for variables usually protects from availability (and other) biases.</p>	<p>Availability bias (& others heuristics gone awry) directly and necessarily affect real-life outcomes.</p>
<p>No favorites allowed. Would make the entire endeavor suspect.</p>	<p><i>Requires</i> a preference</p>
<p>Does not feel legitimate, without defined terms.</p>	<p>Feels legitimate, even with poorly defined (or non-</p>

	defined) terms.
A “correct” answer (or set of answers); Claims of objectivity are commonly made and supported community-wide. Those who disagree or who cannot affirm the “correct” answer are sometimes claimed to be lacking intelligence; until the “New Age” movement, usually marginalized [oops! An editorial slipped in].	Reasonable minds often differ.
The steps of reasoning can be tracked, on the table.	The course of deciding is often indeterminate, ineffable & untrackable.
The solution is well-defined in terms of the problem itself.	The terms of the announced decision are often comically vague in terms of the impending situation. Decisions can <i>resolve</i> themselves by reference to upon a vague or plurisignative word or phrase (<i>e.g.</i> , political resolutions).

***addendum to Milgram

Stanley Milgram’s own comments are well worth reading. Obedience to Authority: An Experimental View is readily available. http://www.amazon.com/Obedience-Authority-Experimental-Perennial-Classics/dp/006073728X/sr=8-1/qid=1168398137/ref=pd_bbs_1/102-3734538-5025730?ie=UTF8&s=books

A commonly offered explanation is that those who shocked the victim at the most severe level were monsters, the sadistic fringe of society. But if one considers that almost two-thirds of the participants fall into the category of ‘obedient’ subjects, and that they represented ordinary people drawn from working, managerial, and professional classes, the argument becomes very shaky.

(p. 5).

Milgram concluded that “perhaps, the most fundamental lesson of our study [was that] ordinary people, simply doing their jobs, and without any particular hostility on their part, can become agents in a terrible destructive process. Moreover, even when the destructive effects of their work become patently clear, and they are asked to carry out actions incompatible with fundamental standards of morality, relatively few people have the resources needed to resist authority. A variety of inhibitions against disobeying authority come into play and successfully keep the person in his place.” (p.6).

The obedience is triggered by a set of “‘binding factors’ that lock the subject into the situation. “They include such factors as politeness on his part, his desire to uphold his initial promise of aid to the experimenter and the awkwardness of withdrawal.” (p. 7)

According to Milgram, a shift in viewpoint is the key to triggering obedience: “The essence of obedience consists in the fact that a person comes to view himself as the instrument for carrying out another person’s wishes, and he therefore no longer regards himself as responsible for his actions. Once this critical shift of viewpoint has occurred in the person, all of the essential features of obedience follow.” (p. xii)

One adjustment in the participants' thinking which keeps the participant obeying the experimenter is the

tendency of the individual to become so absorbed in the narrow technical aspects of the task that he loses sight of its broader consequences. Although a person acting under authority performs actions that seem to violate standards of conscience, it would not be true to say that he loses his moral sense. Instead, it acquires a radically different focus . . . [H]is moral concern now shifts to a consideration of how well he is living up to the expectations that the authority has of him. (p. 7- 8).

Milgram himself was surprised and dismayed by the results of his controversial studies.

The major problem for the subject is to recapture control of his own regnant processes once he has committed them to the purposes of the experimenter. The difficulty this entails represents the poignant and in some degree tragic element in the situation under study, for nothing is bleaker than the sight of a person striving yet not fully able to control his own behavior in a situation of consequence to him. (p. xiii).

The basic moral principle at risk in Milgram's experiments was simple: do not harm innocent human beings. Once the participants had focused on the immediate task of satisfying the professor, however, many of them never revisited that principle with regard to the person they were "shocking." Many others did attend to basic moral principles, protesting their own actions, but many of them were quickly brought back into line by the experimenter's simple request that they should "continue."

In my previous job as an investigator and prosecutor of consumer fraud for the Missouri Attorney General's Office, I repeatedly witnessed the incredible power of the assertion of authority. Devious telemarketers have repeatedly pulled off scams by simply cold-calling people and telling them to send money for some "good cause." Professional scam artists know that a significant percentage of people, many of them quite intelligent, simply cannot hang up their telephones, unless and until given permission by the demanding strangers. Recently, in my job as an attorney, I have filed suits against payday lenders and title loan shops charging their customers 300% or 400% interest or more. A "Just sign here" from a mini-authority figure behind the counter (coupled with a dose of self-interest) successfully invites thousands of people to willingly commit financial suicide.

The high-degree of obedience observed by Milgram dovetails with the Hannah Arendt's observations that she termed the "banality of evil." <http://dangerousintersection.org/?p=699> Both behaviors constitute exploitations of human attentional limitations, I believe. <http://dangerousintersection.org/?p=699> The difference is a matter of emphasis. For Arendt, Eichmann's focus was the habituation of low-level bureaucratic tasks, while Milgram's subjects attended immediately to the experimenter's requests. Either a bureaucratic itinerary or an emotionless request by an authority figure causes many participants (who, prior to being put in these situations, showed no propensities to initiate violence) to abdicate their attention to basic moral principles (a serious moral framework). These triggers cause humans to shift their limited attention from the big picture.

The solution, in my opinion, is that we need to train ourselves to attend to these well known human frailties. We all have potentially lethal mental Achilles' heels. We are creatures of limited attention, and we must be careful to not put all of our eggs in any one basket. We need to condition ourselves to check ourselves periodically—are we remembering to visit a variety of perspectives when absorbed in a trying situation? In particular, we must never cave entirely and without question to authority figures.

We should also (as you suggest, Deb) refrain from teaching our youngsters that rebellion is always bad.