The End of Illusion

Jacob Foster
Entry 144

> *When I was a child, I spake as a child, I understood as a child, I thought as a child: but when I became a man, I put away childish things.*
>
> *For now we see through a glass, darkly; but then face to face: now I know in part; but then shall I know even as also I am known.* --1 Corinthians 13:11-12 (KJ)

What does "Vision" mean? When we speak of a leader as a person of Vision, we actually mean two things: first, that he or she perceives the present clearly; and second, that he or she plans for the future wisely. The practical consequence of Vision—a conceptual framework structuring an organization and its relationship with the wider world—follows from seeing clearly and dreaming wisely.

But to see clearly and dream wisely, illusions must be rejected, no matter how seductive. We labour under a heavy burden of illusion, in the form of prejudice, instinct, and outmoded tradition. In many cases we bear some ponderous illusion because it was useful to our forebears; fear and suspicion of outsiders is highly adaptive in a hunter-gatherer society but disastrous for a citizen of cosmopolitan modernity. Some illusions (like this tendency to fear those different from ourselves) are likely hard-wired into our brains from the Pleistocene, and we must face up to this genetic legacy for good or ill. Other illusions, more recent but no less pernicious, form part of our cultural heritage. And there are two grand illusions—one cultural, one hard-wired—to which we cling ferociously. The first illusion is the Blank Slate, which denies there is such a thing as human nature and repudiates the role of genetics in forming our identity and personality. The second I call the Dream of Prophecy, our desire to know the future perfectly and plan accordingly. The blank slate is dangerous because it blinds us to many of our other illusions, or renders them cultural artefacts that can be socialized away; the dream of prophecy at best paralyses us for lack of perfect knowledge, and at worst leads us to act recklessly on our imperfect imagination of how things will be. The leaders of the 21st century must put aside these childish things. It's time for humanity to grow up.

The illusion of the blank slate is part of our Enlightenment heritage; it represents excessive faith in the power of rationality to shape behaviour, and forms the bedrock of the general liberal project of progress and social justice. By stating that every human being comes into the world cognitively naked, a "blank slate" upon which parental and societal Nurture can write desired behavioural and social norms, it posits an infinite plasticity, and promises that if only we could develop the proper tools of conditioning, or the correct method of child-rearing, or the perfect educational system, model citizens would result. It is a charming, tempting idea—but it is a fantasy. Projects predicated on the blank slate—from American flirtation with social engineering (leading to much of the practical apparatus of our consumer culture) to the vast and disastrous Communist adventures of the 20th century—have uniformly failed to produce the promised utopia (although they have led to an insatiable appetite for SUVs). Laboratory dreams of the perfect man usually become real-world nightmares of gulag and bread-line.

Then why do we cling to this illusion? In part, the blank slate conceals the intractability of the demons of our worse nature, which are in fact deeply ingrained and genetically programmed. But more importantly, since the blank slate implies the fundamental identity of every new human life, it has underwritten the historical struggle of women and ethnic or racial groups for equality. Certainly it is preferable to the pseudo-scientific theories of sexual difference or racial inferiority that were used to naturalize and hence forgive enormous injustice (denying women the vote and education, slavery, colonialism, etc.). But arguing that moral equality must be predicated on substantial identity is a dangerous trap; it is certainly not *necessary* that individuals be literally identical (in some way) for their moral status to be equal, and by clinging to the idea that this must be so, those who engage in a contemporary struggle for moral and legal equality put themselves at tremendous risk. For the blank slate, this straw man of human identity—which is in fact routinely undermined by our everyday experience of enormous human diversity in ability, preference, and disposition—is destroyed by current research in behavioural genetics and developmental and evolutionary psychology.

The most clear-cut evidence against the blank slate comes from studies of identical twins—who

are clones, genetically—in the same and different households. Regardless of whether the twins are raised together or separately, they demonstrate extraordinary correlations in interests, musical taste, political alignment, intelligence, and so forth. The data seem to indicate, in fact, that roughly half of our personality is formed by genetic factors. Nature, it seems, shapes our personalities, deny it how we will. What hews the remaining fifty percent is the dark matter of developmental psychology: some scientists (Frank Sulloway) advocate inter-sibling competition for parental resources, some brute chance (Steven Pinker), and some socialization within a wider community of peers (Judith Rich Harris). What the twin studies rule *out* is the notion that parenting makes up the missing half of personality; twins raised in the same household display as much variation in the second fifty percent as those twins separated at birth and raised in different households. Harris in particular has a compelling story for why input from parenting makes little evolutionary sense: if you are dealt a "bad hand" by your parents in the fifty percent of your behaviour that is genetically determined, what is the benefit in supplementing this by learning from their (probably) bad example? In this sense socialization by peer group makes a great deal of sense as a "safety valve". And what is beyond dispute is that serious interrogation of this issue is essential if we are to understand how to properly educate and socialize the young: therein lies the solution to the problem of youth crime plaguing the UK, to give a concrete example.

Any discussion of the genetic basis of personality and behaviour conjures up the frightening spectre of genetic determinism and (hence) eugenic solutions to social problems. Let me be clear that this is in no way a natural conclusion of these facts about the world. While genetics plays an indisputable role in forming our personalities, there is enormous room left in the processes of development and socialization for "environmental" intervention, as Helena Cronin calls it. What she means by "environmental" factors are of course the traditional Nurture-based tools for modifying human behaviour. By understanding the role of genetics in personality formation, we also acknowledge that there can be an irreducible and inherited *human nature*, composed of both capacities (e.g. language learning) and dispositions (e.g. the male tendency towards aggression). Recognizing that there is such

a thing as human nature helps those who would build a better nation, corporation, or community intervene more effectively; by seeing the present circumstance *clearly*, they can lead with Vision.

A more controversial, but nevertheless important, consequence of abandoning the blank slate is facing up to the reality of evolved sex differences. Because the history of patriarchal oppression is so long, and discrimination is still so real, simply raising the *possibility* that there are intrinsic differences between men and women is a sure-fire way to draw lightning. Larry Summers, erstwhile President of Harvard University, fell from grace for suggesting that biological difference in mathematical ability might be one of the (many) factors contributing to the under-representation of women in the mathematical and physical sciences. As in the previous example, great care is needed in specifying exactly what we mean: claims about biological differences between the sexes are statistical, and are assertions about the *distributions* and *averages* of particular traits, preferences, and abilities. These claims are not crude 1950's notions that “girls aren't good at maths”. Rather, there are two specific biological factors at play. First, in a direct comparison of performance of certain cognitive tasks, there are statistical differences between the sexes: for example, women will, on average, outperform men on tasks involving verbal fluency or interpersonal intelligence, while men will, on average, outperform women in mechanical reasoning or mental 3D rotations. Second, in most species (including humans) the distribution of traits in males tends to be broader than in females: Nature gambles more with her sons than her daughters, and hence one sees more men at several standard deviations above and below the norm. These are brute facts about the sexes, and no amount of wishing will make them otherwise.

Why is any of this pertinent? If we accept the reality of sex differences, our notion of justice alters subtly from the current goal of “equal representation,” which would not rest until there were equal numbers of men and women in every field of endeavour, to “preference representation,” which aims to remove obstacles preventing women (or men) of ability from achieving in their chosen field, without having target proportions in sight. And the interesting thing is that taking sex differences seriously helps enormously with the latter project. Let's return to the example of the under-representation of women in the hard sciences, specifically in mathematics—an example Helena Cronin

discusses extensively in “Getting Human Nature Right”. One likely obstacle is the very pedagogy of mathematics, which was developed to teach boys (erroneously thought to be the only ones capable of learning mathematics) and hence relies unnecessarily on mechanical reasoning and mental rotation, capacities in which boys have an edge. Studies where pedagogy was retooled to remove excessive emphasis on these cognitive capacities largely removed the difference in male/female performance—in this case, facing up to gender difference was a substantive help!

Weaning ourselves from the comfort of the blank slate will be difficult; it hides a lot of human ugliness beneath the blanket of excess faith in our power to change. But we have reached the point where our delving into our mind and genome leaves us no room for illusion; rather, clinging to the blank slate increases the likelihood that results in behavioural genetics and evolutionary psychology will be perverted to justify racism or sexism, as the truth is much subtler than the simple cipher of the blank slate and hence more amenable to misinterpretation and abuse. As a matter of mental hygiene, the leaders of the 21st century must be prepared to turn the harsh light of science onto our very natures, and to face up to whatever we find. It is crucial to their understanding of the present reality; and applying these hard-won insights from behavioural genetics and evolutionary biology to policy won't be merely helpful—it will be ridiculous to do otherwise.

The Dream of Prophecy relates less to our assessment of the present than to our planning for the future. Our preoccupation with knowing the future precisely is a self-evident fact; the role that prophets and sooth-sayers play in our mythology, the intellectual and emotional investment of millions in astrology, and the intellectual and financial investment of millions (billions, actually) in mathematical forecasting all testify to this basic psychological need. That prophecy in mythology and history is frequently baffling and vague reveals, I think, a certain frustration with our limited ability to peer into the future. We forecast as a matter of course in everyday life; our brains have a remarkable ability to imagine future scenarios, assign them probabilities (although we're not so good at this), and plan accordingly. Cognitive science suggests that in our planning we recognize the uncertainty inherent in our projections and build our strategy around that uncertainty, developing contingency plans to take

less likely eventualities into account and generally aiming for robustness across the set of possible futures. But the ideal remains the dream of prophecy—the *perfect* forecast of future events—which would allow us to plan flawlessly.

While the edge of science cuts against the illusion of the blank slate, it represents a great temptation for the dream of prophecy. Our capacity to model extraordinarily complex systems on the computer breeds a certain degree of hubris, and feeds into the fantasy that, with enough effort, we could know the future perfectly and hence best lay our plans. Of course, modelling is an important tool in the natural sciences and should play a role beyond the realm of the boffins; but what must carry over is an understanding of the fragility of our computer models.

Most systems that require computer modelling are chaotic and involve millions or billions of strongly interacting components; in essence, this means that they display an extreme sensitivity to initial conditions, and that very close initial conditions diverge exponentially as the system evolves. Given the difficulty of measuring the initial conditions in, say, a weather system, the long-term reliability of the model is questionable; while it may provide substantial qualitative insight, as a quantitative forecast of the *actual* future it is unreliable at best. An important current example is the debate over global warming, and in particular the reliability of various climatological prophecies as a guide to policy formation.

The global warming example dramatises a general danger of the application of modelling to policy: that we may fall victim to the dream of prophecy, and invest enormous energy and resources into perfecting a definitive, "predictive" model. The climate is ridiculously complicated, and our quantitative understanding of it relatively modest; nevertheless, much policy discussion seems to focus on addressing this or that particular climatological prediction. In this case we succumb to the dream of prophecy, forgetting our common-sense understanding of the uncertainty of the future (not to mention the dismal track record of almost all prior prophets) in pursuit of the chimaera of perfect knowledge. It is because the threat of climate change is so great that the danger of this particular dream is so dramatic—as recent work by Steven Popper, Robert Lempert, and Steven Bankes of the RAND

institute demonstrates. The RAND group suggests that instead of trying to perfect models and design policy around their predictions, we should ape our innate approach to future uncertainty and test policy against an ensemble of possible futures (an ensemble informed by modelling insight, of course). In the case of climate change, they find that while some strategies may perform well on a certain narrow subset of possible futures, they perform quite badly in most other circumstances; whereas more robust strategies exist that perform at least passably and in some cases beautifully across the space of possibility.

Leaders in every arena would be wise to take this lesson on board. The 21st century will be one of unprecedented change; climate change is but the tip of the iceberg. The pace of current technological innovation is so rapid that imagining the world a mere decade from now is difficult; the maturation of the so-called "GRIN" technologies (genetic, robotic, information, and nano) only exacerbates the problem. Just as abandoning the illusion of the blank slate demands greater subtlety in our understanding of human nature, so abandoning the dream of prophecy will require a more nuanced approach to forecasting—we will no longer be able to confidently assert the success of a particular policy or strategy in addressing a specific future, but must satisfy ourselves with the performance of a given policy across an uncertain set of possibilities. But uncertainty is a brute fact, and at the expense of illusory certainty will come much greater robustness in the face of that uncertainty; likewise, the RAND approach allows greater flexibility, promising quantitative methods for the design of strategies that change as what might be becomes what is—in other words, as we know more.

We shouldn't be blithe about the end of illusion. We've lived with the blank slate and the dream of prophecy for a long time, and like all habits, mental ones die hard. There is a non-trivial intellectual investment in absorbing the lessons of behavioural genetics and evolutionary biology for our understanding of human nature, and in adjusting our approach to forecasting to allow for greater robustness and flexibility. But for those facing the challenges of 21st century leadership, putting away our childish illusions is essential if they are to see the present not darkly, but clearly; if they are to plan

for the future wisely. Those who embrace the end of illusion will see each other face to face, and know each other as they are known; they will speak a common language, and share a common name. We will call them leaders of Vision.