

## BOOK REVIEW

**The Moral Landscape: How Science can Determine Human Values** by Sam Harris, New York, Free Press, 2010, 304 pp.

In his new book, *The Moral Landscape: How Science can Determine Human Values*, Sam Harris makes a bold claim:

‘I believe that we will increasingly understand good and evil, right and wrong, in scientific terms, because moral concerns translate into facts about how our thoughts and behaviors affect the well-being of conscious creatures like ourselves. If there are facts to be known about the well being of such creatures – and there are – then there must be right and wrong answers to moral questions. Students of philosophy will notice that this commits me to some form of moral realism (*viz.* moral claims can really be true or false) and some form of consequentialism (*viz.* the rightness of an act depends on how it impacts the well-being of conscious creatures).’

While a philosophical emphasis on realism and consequentialism appears, at first glance, altogether reasonable alongside a scientific focus on well being as the core outcome variable of interest for moral decision makers, unfortunately, Harris fails to provide his readers with a very coherent account of the complex interface between morality, science, and well being. After a brief description of where Harris stands in relation to morality, science, and well being research, I will argue that, in order to defend and develop his view that science can ‘determine human values’ and thus ‘facilitate human flourishing,’ Harris will need to develop his understanding of both basic psychological science (Gleitman, Reisberg, & Gross, 2007) and applied systems science (Bertalanffy, 1968; Warfield, 2006). As it stands, Harris presents us with little more than an empty landscape with no tools of navigation to help us survive, adapt, and flourish.

### Harris’s science and morality

Unlike David Hume, who argued that there is a clear conceptual distinction between facts and values with only facts – and not values – being open to rational investigation, Harris argues that values can be uncovered by science, because values are reducible to facts in relation to the well being of conscious creatures. We can make ‘good’ or ‘bad’ moral decisions – decisions that impact positively or negatively on our well being. Harris points to an analogy: just as it is possible for individuals and groups

to be wrong about how best to maintain their physical health, it is also possible for them to be wrong about how to maximize their personal and social well-being. However, because Harris offers no substantive review of the empirical literature on well being (Cartwright & Cooper, 2009; Cattani, 2009; Diener, 2009; Haybron, 2008; Keyes & Haidt, 2003; NESC, 2009; Ryff & Keyes, 1995), and no substantive review of the literature describing the relationship between morally right acts and increased well-being (Hogan, 2008b; Peterson & Seligman, 2004) there are no functional relations in Harris’s theory. Harris’s theoretical position exists largely as a vague *a priori* assumption. Other than valuing well being as a *super-ordinate* value around which all other values should naturally converge – an issue that is contested by others, including Johnathan Haidt, who describes multivariate value systems with complex interdependencies (Haidt, 2005, 2007) – it is unclear exactly what Harris’s *sub-ordinate* value system actually includes (truth, justice, equality?), or how science might allow Harris to *move through* the moral landscape using this system as a guide. In other words, Harris presents his readers with no theory and no methodology.

Nevertheless, Harris is concerned about the many ‘bad’ decisions that are being made around the world, decisions that impact upon the well being of people, for example, the continued use of corporal punishment in schools in the southern states of America. However, Harris’s anecdotal style of argument tells us very little about the content and structure of psychological science as it pertains to human problems, or scientific methodologies for the resolution of these problems.

Philosophically, Harris is a curious mix of rational and idealistic. He suggests that ‘whatever can be known about maximizing well-being of conscious creatures – which is, I will argue, the only thing we can reasonably value – must at some point translate into the facts about brains and their interaction with the world at large’ (p. 11). However, his apparently rational proclamations in relation to brain science are about as profound and useful as saying rather idealistic and vague things like: ‘once we understand brain-behavior-environment relations we will be able to make good and wise decisions.’ But nowhere does Harris provide us with a definition of what wise decision making might entail. Sternberg (2003) has suggested that wisdom involves: . . .the application of intelligence and experience as mediated by values toward the achievement of a common good through

a balance among (a) intrapersonal, (b) interpersonal, and (c) extrapersonal interests, over the (a) short and (b) long terms, in order to achieve a balance among (a) adaptation to existing environments, (b) shaping of existing environments, and (c) selection of new environments. Harris says little about the balance and perspective that will be needed by scientists as they seek to make difficult moral decisions, or how science education might be redesigned such that the requisite training in wise scientific decision making is provided.

Nor does Harris grapple with the gap between description and control in science. If you wish to address the issue as to ‘how science can determine human values’ and thus use this knowledge to facilitate wise decision making and wise action, you have to grapple with the issues of prediction and control in human systems; and while Harris appears to abhor any form of moral relativism, the reality of scientific control in relation to collective problems implies some coordination of the knowledge and perspectives of the stakeholders who have a vested interest in resolving a particular problematic situation. In the absence of this coordination of perspectives no consensus and collective design solution in relation to moral problems can be achieved (Warfield, 1974, 1995, 2006; Warfield & Cárdenas, 1994).

Shaping and selecting environments to further enhance the well being of the collective is a veritable challenge. Although Harris refers to the work of Derek Parfit, who has grappled with some of the difficult philosophical questions that arise as a consequence of consequentialism – How should we weigh present well-being against future well-being? How do we compare the well-being of different people? – Harris is inclined to push the philosophers aside and simply endorse his ecstatic view that science will eventually help us to achieve new peaks of well being. And while one might expect the greatest power of reasoning to be demonstrated by Harris in his own research domain – neuroscience – fellow neuroscientists will be disappointed to find very little discussion on the neuroscience of emotions and well being (Immordino-Yang, McColl, Damasio, & Damasio, 2009; Lewis, 2005), or the thorny issue of how subjective experiences can be reduced in a meaningful way to states of the brain (Hogan, 2006, 2008a). Although Harris describes the results of his PhD thesis, where he found similar brain activation patterns for moral belief and factual belief, from which he infers that moral decision making is much the same as factual decision making, he fails to consider the implications of his findings for understanding factual decision making and well being.

As a director of ‘Project Reason,’ Harris demonstrates his capacity for some simple argument mappings (AM), but there is no system to organize his thought and this makes his book very difficult to analyze. Philosophically, he is less of a contextualist

(or pragmatist) and more of a formist. Formists seek to maintain a radical freedom in their relationship with the dispersive field of observation, because systematic organizations of facts are not assumed by formists, and if operational principles were used by formists to organize facts, formism would begin to look like mechanism (Pepper, 1942). Harris is not a mechanist, because he nowhere seeks to describe a system. And while Harris seeks to integrate his formist and pragmatist tendencies by endorsing (in principle) both realism and consequentialism, he appears to be unaware of how difficult it is to achieve this integration on a deeper philosophical level (Hogan, 2009; Pepper, 1942), because to move freely (like a formist) through the field of psychological science, from one set of facts to another, requires some grounding force, something that grounds all the particulars in the field of observation by reference to some character. And perhaps the easiest solution for the formist is to frame these particulars by reference to some *universal* character that cannot be readily disputed, for example, the character of ‘human nature,’ (Pinker, 2002) or ‘the well being of conscious creatures’ (Harris) and then place alongside this universal character some simple mechanistic account of how the discrete forms that constitute this character work together, which some authors at least attempt to do (Pinker, 1997, 2002, 2008). But formism and mechanism always come up short when the ultimate goal is a theory of human *development* – for example, a developmental account of how movement upward on the moral landscape is achieved – because development itself always points to *process* and by implication to the philosophical stance of organicism (Pepper, 1942; Piaget, 1955), which in turn points to the *function* of any such process and by implication the philosophical stance of contextualism (or pragmatism). Some theories of human development seek to integrate organicism and contextualism (Fischer, 1980), but there is no ‘process’ and ‘function’ in Harris’s account of values in action, or in his description of how science can determine human values. Harris needs to return from his state of ecstasy in relation to the value of science as a decision making tool – like the Zen master, he needs to return from nothingness to the forest path where other people walk. It is here where joy and modesty first collide.

### **The challenge of modesty to joy**

A modest psychologist once said that an acquaintance with the details of fact is always reckoned, along with their reduction to system, as an indispensable mark of mental greatness (James, 1918). Indeed, William James grappled with the range of individual differences in human personality associated with optimization of positive experiences, and his own sentiment and

experience lead him to believe that the laws describing the optimization of positive experiences will be different for everyone. As intuited by William James, the mathematics describing human functioning – and the functioning of living systems generally – has turned out to be less orderly and harmonious, more dynamic, variable, and complex than are the mathematics describing concrete physical systems (Bertalanffy, 1968; Fischer & Bidell, 2006).

Some have argued that human beings are probably better designed to draw moral value judgments than truth value judgments. Explicit in theories of gene-culture co-evolution is the idea that many norms are valued and internalized not because of their truth value, but because of their moral value (Boyd, Gintis, Bowles, & Richerson, 2003; Boyd & Richerson, 2002; Richerson & Boyd, 2005). While Harris appears to align himself with rationality and the *truth* as valued by scientists, he does not adequately address how the *truth* can be balanced with the evolved heuristics that shape moral decision making and moral action, and how scientific decision making can adequately align itself with – or co-opt – heuristic decision making in this context (Gigerenzer, 2008).

Naturally, when it comes to behaving like a scientist, sentiment and formal logic are inextricably bound (Warfield, 2003, 2004), for example, by reference to the facts and relations a thinker (or group of thinkers) select for inclusion in models describing the phenomena of our world. And although gene-culture co-evolution has equipped us with a capacity for cooperation (Boyd et al., 2003; Boyd & Richerson, 1995; Richerson & Boyd, 2005), our style of collaborative thinking – our use of numeracy, literacy, and graphacy – is not well suited to understanding complexity (Warfield, 2004). The immense challenge of producing an integrated, functional *outsight* – an integrated behavioral and social science that operates as a beneficial product of gene-culture co-evolution – implies that any joy we experience (associated, for example, with the perception of a ‘harmonious’ system) be shared with others who likely ‘see’ otherwise.

To understand why people ‘see’ otherwise when developing models in science, all we need do is describe two decision-making systems, each with two core elements: a limited *working memory capacity* (Miller, 1956) and a *value-filter* that excludes (or inhibits) ‘bad bits’ of information and includes (or selects) ‘good bits’ of information (Hasher, Stoltzfus, Zacks, & Rypma, 1991; Hasher & Zacks, 1988; Kennedy, Mather, & Carstensen, 2004). We can assume that the probability of two independent decision-making systems selecting the same bits of information as the ‘good bits’ is less than one even if we constrain our analysis to identical twins behaving in the same context (Emde & Hewitt, 2001).

Now, let us assume we wish to design a model of ‘optimal human being’ (Sheldon, 2004), or a model of human strengths and virtues (Peterson & Seligman, 2004), where  $k$  variables are taken into consideration. As noted by Warfield (2003), if a school of thought is defined to be an explanation of a problematic situation based on  $k$  variables, and suppose that the problematic situation under study actually involves  $n$  variables (where  $n$  would generally be more than  $k$ ), then the number  $T(n, k)$  of schools of thought that can be formed is given by the formula

$$T(n, k) = n! / (n - k)! k! \quad (1)$$

which is the same as the number of combinations of  $n$  things, taken  $k$  at a time. If all values of  $k$  from 1 to  $n$  are allowed, the sum over  $k$  of  $T(n, k)$ , which is equal to  $2^n - 1$ , would give all possible schools of thought. For  $n = 7$ , which is the average number of items a young adult can hold in short-term memory, this number would be 127.

Even if an understanding of ‘successful development’ and ‘good life dynamics’ is achieved – an understanding that will be limited due to the fact that, in Equation (1),  $k$  is always smaller than  $n$  – *controlling* a human system, and thus *promoting* successful development and a good life, is inherently difficult. Specifically, Ashby’s Law of Requisite Variety states that for effective control, the variety available to the controller should be the same as the variety available to the system to be controlled. Ashby’s Law implies that if, for example, a bio-psycho-social system to be controlled has  $n$  variables, the controller must be able to control all  $n$  variables; otherwise they risk the consequences of leaving some subset of those variables uncontrolled. Therefore, if a group of psychologists or a government wishes to control (and develop) virtuous behaviors in a group, a studious way to proceed is to determine how many variables there are to be controlled, and then make available that same number of control levers to the controller. While Harris appears to value both rationality and scientific control, in the sense that he hopes that ‘scientific moral’ decision making and action will result in greater well being for all those upon whom these scientific moral decisions and actions have an impact, he makes no reference to applied psychology or applied systems science, or principles of system control that may facilitate his primary objective. To reiterate, while Harris appears to abhor any form of moral relativism, scientific control implies collective problem solving and some coordination of the knowledge and perspectives problem solvers. In the absence of this coordination of perspectives no consensus and collective design solutions can be achieved.

### Resolving problematic situations using systems science

Resolving complex scientific and social problem is contingent upon the collective action of groups working within an applied systems science framework that incorporates at least five elements. According to Warfield (2006), systems science is best seen as a science that consists of nested sub-sciences. It is presented most compactly using the notation of set theory. Let **A** represent a science of description; **B**, science of design; **C**, science of complexity; **D**, science of action (praxiology); and **E**, systems science. Then

$$\mathbf{A} \subset \mathbf{B} \subset \mathbf{C} \subset \mathbf{D} \subset \mathbf{E} \quad (2)$$

We can learn something of systems science by first learning a science of description (e.g., physics, chemistry, biology, psychology, sociology, economics). Then, we can learn a science of design that includes a science of description. The science of design is fundamental if our goal is to redesign systems (e.g. the intelligent redesign of school systems *via* effective knowledge import from biology, psychology, sociology, and economics). The science of design implies the use of tools that facilitate the building of structural hypotheses in relation to any given problematic situation, a problematic situation that may call upon the import of knowledge from any given field of scientific inquiry. Next, we can learn a science of complexity that includes a science of description and a science of design. The science of complexity is fundamental if our goal is to integrate a large body of knowledge and multiple disparate functional relations that different stakeholders believe to be relevant to the problematic situation. Next we can learn a science of action that includes a science of description, a science of design, and a science of complexity. The science of action is fundamental if our goal is to catalyze collective action for the purpose of bringing about system changes that are grounded in the sciences of description, design, and complexity.

Warfield's vision for applied systems science is instantiated in part in the systems science methodology he developed, interactive management (IM). IM is a computer facilitated thought and action mapping technique that enhances group creativity, group problem solving, group design, and collective action in the context of complexity. There are a series of steps in the process. First, a group of key stakeholders with an interest in resolving a problematic situation come together in a situation room and are asked to generate a set of 'raw' ideas (commonly 500–200) about what might potentially have a bearing on the problem that they all agree exists. Group discussion and voting helps the group to clarify the sub-set of ideas that bear upon the most critical problem issues. Next, using IM software, each of the critical issues are compared

systematically in pairs and the same question is asked of each in turn: 'Does A influence B?' Unless there is majority consensus that one issue impacts upon another, the relation does not appear in the final analysis. After all the critical issues have been compared in this way, IM software generates a problem structure (or *problematique*) showing how the issues are interrelated. The *problematique* can be viewed and printed for discussion. The *problematique* becomes the launch pad for planning solutions to problems within the problem field. The logical structure of problems is visible in the *problematique* and when generating solutions, action plans are aimed at resolving problems in a logical and orderly manner. When the group is happy that they have modeled both the problem field and the best possible set of solutions, the IM session closes and each member leaves with a detailed action plan, a specific set of goals to work on, and the roadmap and logic describing how all the various plans and goals of each member will work together to resolve the original problem. IM has been used successfully in many different organizations and with many different groups (Broome, 2006; Warfield, 2006).

As noted by Harris, we can reject all pronouncements on the relationship between moral action and well being if those views ignore or distort the science of well being. Nevertheless, the 'problem' of human flourishing remains: only now, in the modern era of science, the facts and relations relevant to a description of the problem (and the various descriptions of the problem itself) have changed.

'Project Reason' and Sam Harris's book on well being should really address the challenge of science education and applied systems science. Not only does Harris show little awareness of the science of well being, he shows little awareness of the challenge of science education. Resolving complex scientific and social problem is often impeded by three interdependent human limitations: poor critical thinking skills, no clear methodology to facilitate group coherence and consensus design, and limited computational capacities. Third level science education is designed to facilitate the development of generic critical thinking skills, but often does so with limited success (Kuhn, 2005). Furthermore, third level science education generally focuses on domain-specific computational skills that do not necessarily transfer well outside of the domain in which they are normally used, and training in the use of systems science methodologies that facilitate group coherence, consensus design, and collective action is rarely observed (Warfield, 1974, 2006).

I think it is possible to address these problems by integrating three thought structuring technologies: AM for critical thinking, IM for system design, and structural equation modeling (SEM) for

mathematical modeling. This integration can best be achieved in the context of the design and evaluation of a new Systems Science educational tool embedded within a new Systems Science curriculum. My hope is that Sam Harris and others can learn to use these tools to facilitate good decision making and thus catalyze collective action focused on enhancing well being. In the absence of some concerted effort to redesign our educational system to focus more attention on collective enquiry and collective action, the power and potential of the group may be lost and we may be left with little more than a fragmented science, a fragmented society, and a fragmented moral discussion that leads nowhere useful.

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