The virtue of human universals and cooperation: A review essay of Matt Ridley's *The Origins of Virtue*

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Abstract

In reviewing Matt Ridley's *The Origins of Virtue* we do five things: (1) Discuss and challenge the basic assumptions of the Standard Social Sciences Model which permeates management scholarship. (2) We present some alternatives to this model, particularly Evolutionary Psychology. (3) We look at how these alternatives provide a framework for understanding cooperation; (4) We enumerate some of the difficulties (both real and imaginary) with Evolutionary Psychology. (5) Finally, we suggest that management scholars work more closely with scholars from the many other disciplines that are developing solid theories of cooperation.

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Throughout the 20th century, one general model of human societies and cultures has come to dominate the way scholars in America—including management scholars—have come to think. This model is so pervasive and dominant and alternatives have so rarely and meekly been considered that the adherents of the model (which has lately been dubbed the Standard Social Sciences Model (SSSM)) have not explicitly recognized that they all adhere to any model at all.

In this essay we look at Matt Ridley's new book, *The Origins of Virtue* (1996), to see how one alternative to the SSSM, evolutionary psychology (EP), can help us to get a better understanding of why people cooperate with other people, and why by doing so we can achieve so much. Although Ridley builds on EP, he does not spend much time arguing explicitly against the SSSM in detail. For the most part he assumes that his reader will suspend belief in the SSSM long enough to see the pay-off. The SSSM has been given an extremely thorough going over by Tooby and Cosmides (1992) who analyze its history, motives (always well meaning) and deep and ultimate failures. Among others who have made explicit challenges to the SSSM are the anthropologist Donald Brown (1991), the linguist Steven Pinker (1994), Matt Ridley in his previous book (Ridley, 1993), and the anthropologist/philosopher Dan Sperber (1996). All of these tend to cite each other and present various portions of the case against the SSSM (as we do below). Any scholar seriously interested either in challenging the SSSM or defending it against a challenge should read Tooby and Cosmides (1992). Ridley's book demonstrates some of the value of rejecting the SSSM, and despite its extremely useful and pertinent view of human cooperative behavior, its challenge to the SSSM may be its most important feature for management scholars. Because we cannot expect that you will rush out this instant and read Tooby and Cosmides (1992), we briefly present our own take on the SSSM below.

1 The Standard Social Sciences Model and its Discontents

We believe that the challenges to the SSSM are basically correct and that this should radically change the way that all social scientists conduct research. What is this SSSM? Tooby and Cosmides (1992, p. 32) state that it includes, among other claims and assumptions, that "the process [of cultural transmission from generation to generation] is maintained through learning, a well-understood and unitary process, that acts to make the child like the adult of her culture", which as a group process is "called 'socialization', imposed on the child by the group" and that "the individual is the... passive recipient... and product of her culture." Ultimately "what is organized and contentful in the minds... comes from culture and is socially constructed." Brown (1991) points out that it involves, among other things, the "dictum that social facts should be explained by social facts" (p. 60).

What is also important is what the SSSM plays down, denies, or more often ignores: The model holds that "in discussing culture, one can safely neglect a consideration of psychology as anything other than the nondescript 'black box' of learning, which provides the capacity for culture." Learning "must be the explanation for any aspect of organized human life that varies from individual to individual and from group to group" (Tooby and Cosmides, 1992, p 32). In sum these two points of the SSSM are that the mind of the individual is almost entirely shaped by their culture and that facts about a culture are not products of human nature.

The spectrum illusion

The SSSM's strength is its focus on variation in human societies. Laudably, it has led us to delight in diversity. When we look for differences we find them, and when we look for universals.... Well we didn't look for universals. As

Ridley puts it in his prologue "We have idiosyncratic, species-specific ways of behaving that distinguish us from chimpanzees and bottle-nose dolphins—we have, in short, an evolved nature. It sounds obvious when we put it like that but we so rarely do put it like that. We are always comparing ourselves to ourselves, a dismally narrow perspective." This "dismally narrow perspective" must be recognized so that we can broaden it. It is as if we blind ourselves to all but the color green. When looking at color we would see differences from one end of the green spectrum to the other. All we would see are differences. If we look at the range from red to violate, however, we will see that green is narrow band indeed. The problem of looking at a narrow range of behavior and only seeing the variation within that limited range instead of seeing the range itself we call the **spectrum illusion**. In Ridley's previous book (1993) he addresses the spectrum illusion thus

> Human culture could be much more varied and surprising than it is. Our closest relatives, the chimpanzees, live in promiscuous societies in which females seek as many sexual partners as possible and in which a male will kill the infants of strange females he has not mated with. There is no human society which remotely resembles this particular pattern. Why not? Because human nature is different from chimp nature. [chap 1]

In the *The Origins of Virtue*, Ridley asks us to take the broad view, to see through the spectrum illusion, so that we can come to see what human nature is.

> Suppose [...] you have been commissioned to write a book on life on earth, perhaps for a Martian publisher. You are devoting a chapter to each species [...] and you [now] have before you the job of describing *Homo sapiens*. How would you characterize the behaviour of this funny-looking ape? One of the first ideas that would come to mind is 'social:

> lives in large groups with complex inter-relations among individuals'. It is that which is the theme of my book. [p. 7]

According to the SSSM a person is the product of their culture through the mechanism of learning. If human cultures can vary almost without limit and in unpredictable ways then humans must be able to learn just about any set of rules, mores, values, rites, etc. Psychologists were happy to provide us with exactly such a learning mechanism. Watson and Skinner provided social scientists with the gift of behaviorism. As Watson (1925), a founder of behaviorism, writes:

> Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him [*sic*] to become any type of specialist I might select—doctor, lawyer, artist, merchant-chief, and yes, even beggar-man and thief, regardless of his talents, penchants, abilities, vocations, and race of his ancestors.[p 82]

Notice, however, that we still have the narrow band of human activities. Watson is saying that from a human, he can make the human do anything that a human can do. That is hardly an interesting claim. Can he make a human who has the social skills to live successfully among, say, baboons? Or more to the point of Ridley's book, could Watson make a human being who could live entirely outside of human society, with no social or economic contact? That is, could Watson make a viable Rousseauian Nobel Savage? Maybe Watson could do this, but the task is of a different order of difficulty than teaching a human to play a particular role in human society.

Cognitive constraints

Those who challenge the SSSM do not necessarily dispute its view that individual differences are largely the result of upbringing. But we agree with Brown

(1991, p. 61) that the standard view of differences leads to the view that "people are products of their societies or cultures; change society or culture and you change people" or "Society is not the product of human psychology, [the SSSM] asserts, but vice versa" (Ridley, 1993, chap. 1).

Even if later behaviorism was rejected for its unwillingness to talk about internal mental life, the central holistic behaviorist view of the mind as a generalized learning device ready to learn whatever was around remains in place to this day among social scientists. It seems as if behaviorism, in its deeper sense, did not die. A willingness to talk about internal states and structures by which we learn does not signal the end of behaviorism if those internal states and and structures are themselves learned through general behaviorist learning mechanisms. B. F. Skinner himself proposed such learned internal structures in *Verbal Behavior* (1957). It is only when we take some learning structures as part of human nature that we truly take a view of the mind that is distinct from the behaviorist one.

For the learning of language this was first made abundantly clear by Chomsky (1959) in his review of Skinner's *Verbal Behavior*. But it is more general than that.

> Results out of cognitive psychology, evolutionary biology, artificial intelligence, developmental psychology, linguistics and philosophy converge on the same conclusion: A psychological architecture that consisted of nothing but equipotential, general-purpose, content-independent, or content-free mechanisms could not successfully perform the tasks the human mind is known to perform. (Tooby and Cosmides, 1992, p. 34)

The well known Müller–Lyer optical illusion in Figure 1 on the following page is an extreme example of something surprising about how we think and perceive which simply isn't culturally dependent or learned.

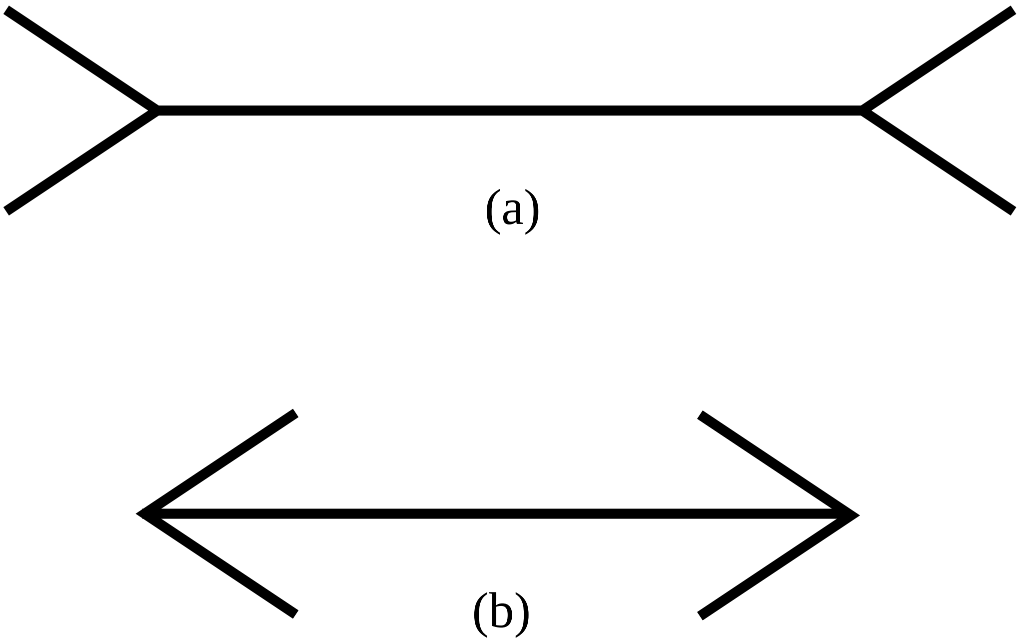

Figure 1: The Müller–Lyer Optical illusion: Which line is/appears longer?

> The apparent difference in length of the Mueller–Lyer figures, for example, doesn't disappear when one learns that the arrows are in fact the same size. It seems to follow that at least *some* of one's perceptual processes are insensitive to at least some of one's beliefs. Very much wanting the Mueller–Lyer illusion to go away doesn't make it disappear either; it seems to follow that at least some of one's perceptual processes are insensitive to at least some of one's utilities. The ecological good sense of [perceptions being somewhat insensitive to beliefs and desires] is surely self-evident. Prejudiced and wishful seeing makes for dead animals. (Fodor, 1990a, p. 198–199)

Another universal — which we will discuss more of later — is cooperation among humans. A small part of that cooperation may be supported by the nonconsequential reasoning that underlies arguments like "don't pick the flowers in the park, because what would happen if everyone did that." Goldberg and Markóczy (1997b) discuss this reasoning at great length and suggest that a tendency to think that way is part of human nature.

Alternatives to the SSSM

When it comes to arguing against the SSSM there are two approaches. One is to observe and document the fact of human universals. The other is to deduce from other principles that human universals must exist. The first of these involves clearing away the spectrum illusion and pointing out the human universals are the rule and not the exception. We will refer to this approach as the universalist approach. Brown (1991) takes the universalist approach, and so do many psychologists studying human cognition.

The other approach is to deduce from other principles that the nature of culture and learning could not be as the behaviorists assume. This is the view of the Evolutionary Psychologists (EP). An understanding of how and why behaviors evolve or persist through millions of years of evolution forces us, they say, to deduce a relationship between mind and culture in which culture is more the product of the mind than the other way around.

It is important to note that every Evolutionary Psychologist is, strictly speaking, a universalist as well, since EP entails human universals. However, we will use the term "universalist" to mean "universalist but not Evolutionary Psychologist".

Another way to characterize the difference is that Evolutionary Psychologists (EPers) believe that it is not only possible and reasonable to talk about human nature when trying to understand society and culture, but that it is inevitable that the nature of evolution will make human nature an overwhelming determinant of culture. Universalists point out for all to see there simply are important universals of human culture and mind. Cognitive psychologists, linguists and more recently some anthropologists are at a minimum universalists. They have been demonstrating that there are many things about mental operations that are a part of human nature.

Some universalists, most notably Noam Chomsky, take an anti-EP position; Pinker and Bloom (1992) and especially Dennett (1995, §13.2) review Chomsky's position extensively. Other universalists maintain a public neutrality on EP where they can. That is, they choose to commit themselves to the minimum necessary to argue their individual case. Because they tend to be silent on the matter, it is difficult to identify them.

Even if there is disagreement among the anti-SSSM squad about these approaches, they each draw well from each other. There is also a division that can be made between the EPers. There is **strong** EP and **weak** EP. The strong EPers believe that our understanding of evolution should drive our theory construction about human nature. The weak ones believe that at a minimum any theory about human nature should not be evolutionarily implausible. The caution that the weak ones exercise is because stories about what can and can't evolve are too easy to construct.

> Danny Kaye once described an oboe as "an ill wind that nobody blows good." Much the same could be said—and with some justice—of teleological explanations in psychology. There is an irresistible temptation to argue that the organization that one's favorite cognitive theory attributes to the mind is the very organization that the mind ought to have, given its function. One knows that such arguments are, in the nature of the case, post hoc; one knows that the cognitive theories they presuppose invariably come unstuck, leaving the teleologist with a functional explanation for mental structures that don't exist; one knows that there are, in general, lots of mechanisms that can perform a given task...One knows

> all this; but the temptation persists. (Fodor, 1990b, p. 207)

And the temptation surely does persist. The above quotation is the introductory paragraph to a essay in which Fodor gives a teleological account of his theory of mind! The general view seems to be that these sorts of accounts are acceptable only if they are properly labeled as speculation or “Just-So Stories”.

Impact on management

So far we have said little about why these questions should be of interest to the management scholars and what the challenge to the SSSM has to do with us. We will return to this in the concluding remarks of this essay, but basically there are four families of reasons: (1) To the extent that we are social scientists, we have bought into the SSSM as strongly as our sociologist and anthropologist colleagues. The SSSM is like the air we breath, its ubiquity makes it hard to notice, but any serious challenge to it will have a profound impact. We feel that after coming to terms with evolutionary psychology and the role of human nature it will be impossible to think about behavior, especially social and group behavior, the same way. (2) It has become popular in the field to specifically talk about culture and explicitly evoke certain aspects of the SSSM. This is not only the case in the discussion of international or cross-cultural management where this is prevalent, but in the so-called cultural view of organizations as well. Whether or not we do so explicitly, we are claiming to be anthropologists of organizations, and we bring the whole of the SSSM to bare on it. Anything that reshapes anthropology, reshapes management research. (3) The developments in these areas, and particularly in explicating the relationship between psychological universals and variations (within universal limits) of cultures, societies and organizing, are beginning to show a way of doing research that can lead to theories of a depth, power and sophistication that the study of organizations has yet to see.

Somewhat distinct from the three reasons listed above is that *The Origins of Virtue*, to which we now return, is about cooperation as a part of human nature. It is Ridley's desire to understand cooperative behavior in humans that drives his book. He points out that it is this same cooperation that leads to the specialization of labor that drives the wealth of nations. It is this same cooperation that drives us to work in and form organizations for the benefit of its members. Anyone interested in studying why and how people form organizations and how they behave within them, will need to understand cooperation generally.

2 Cooperation and the selfish gene

What sorts of evolutionary accounts have there been of cooperation? Ridley starts off reporting on the work of a Russian anarchist, Prince Petr Kropotkin (1902), who argued based on examples of social insects and symbiosis that evolution may have provided us with an instinct to cooperate. Two of Kropotkin's principle arguments were wrong, but his conclusions appear to be correct. One of his arguments was wrong because it depended on "group selection" the now largely discredited view (*pace* Wilson and Sober, 1994) that evolution can select genes for organs or behaviors that are good for the group but bad for the individual by acting on the differential survival of groups and species. His other error was made because he couldn't then know what makes social insects special (Hamilton, 1964). Both Ridley (chapter 1) and Gould (1991a) give Kropotkin a sympathetic hearing while also both pointing out his errors.

Work on cooperation and evolution over the past few decades has brought evolutionary thinking back to Kropotkin through the work of biologist and non-biologist alike. Fisher (1930) worked out much of the mathematics of gene based evolution; Hamilton (1964) applied this mathematics to something he called "kin selection" and showing exactly how cooperation in social insects works; Trivers (1971) described generally under what conditions "reciprocal altruism" might exist; Dawkins (1989) presented all this previous work to a wider audience; Axelrod (1984) showed that that reciprocal altruism may be more common than one first might think; Gauthier (1986) provided an argument (although flawed) for how cooperation could exist which is more optimistic than Axelrod's; Frank (1988) showed how human emotions may "implement" Axelrod's and Gauthier's models in human societies; Brown (1991) showed how universal of human culture may reflect these; and Cosmides and Tooby (1992) showed that certain aspects of human cognition may mediate an evolved cooperative nature. Cronin (1991) provides an intellectual history of these ideas. Dennett (1995) gives us an extremely thoughtful, thought provoking, beautifully written, and well researched account of what Darwinism must mean for the modern thinker. Although we disagree with Dennett's eventual defense of the SSSM, his discussion of these issues is the least clouded by the partisanship that has accompanied most of the other discussions.

These developments lend support to the EPers. Cooperation no longer needs to be explained away, it just needs to be explained. Although EP has gained some ground the universalist position remains highly viable.

The differences between universalism, weak EP and strong EP, while seeming to cover a large spectrum, are miniscule when compared to the differences between them and the SSSM. For much of the discussion that follows, the differences between three anti-SSSM positions is irrelevant. The strong EPers have been protesting the SSSM the loudest, so we will hear mostly from them. Although Ridley falls near the strong end of the continuum, the reader does not have to buy into strong EP to benefit from and enjoy the book.

Much of the work on cooperation in recent years has been extraordinarily interdisciplinary. Because the literature is filled with biologists writing for economists and economists writing for psychologists and psychologists writing for philosophers and philosophers writing for biologists, much of the work is highly readable by people without specialized training in the particular fields. Some of those involved are simply very good writers on their own merits.

The intelligence, brevity, wit and clarity of Ridley's book make it an outstanding place to start a venture into this area, but what it lacks is an annotated bibliography. It lacks a bibliography altogether! While we make no attempt to provide anything close to a full review of the various literatures that have been either discussing the SSSM or developing theories of human cooperation, we do wish to provide the reader with some reference to the principle works.

3 Virtue as Cooperation

Let's give an example of one kind of cooperation. There were several people involved in the production of the book. Ridley was one, and the indexer was one of the many others. The index is important in this book because of the inexcusable lack of a bibliography and the endnote form of citations. So the indexer was a necessary part of the operation. Or was s/he? The index includes "names" like "Olduvai George" and "Rosenburg, Schloss". Clearly the indexing would have been better if Ridley had indexed the book himself. But would the book be better as a consequence? Probably not. The time and effort that Ridley would have spent both indexing and learning how to index would have had to come from somewhere. The book or something else that Ridley may be uniquely qualified for would have suffered. The world is a better place because he did not do his own indexing. More value is created if we each pursue our comparative advantages.

The division of labor is part of human nature. Whether it is between fishers and hand-ax makers or authors and indexers or butchers and bakers the principle is the same. The division of labor is not some consequence of the industrial revolution, but one of its causes. We evolved to pursue comparative advantages.[1] And this may account for humanity's success as a species. Ridley introduces this concept in chapter two, but fleshes out the argument in a later chapter. It is here where we just begin to see why a management scholar should be interested in this approach to cooperation. (The first chapter is dedicated to Kropotkin, and getting the reader up to speed with genetics and kin selection.)

The third chapter of the book introduces the reader to the Prisoner's Dilemma, which is one of many situations in which all participants would be better off if they agree to cooperate and comply with the agreement despite a temptation to cheat. Ridley's introduction to the problem, and his explication of why there is a problem to be solved, is amusing and clear. He uses real life (or literary) examples, instead of the decision scientists variables and expected utility functions. This makes the work far more readable, and may enhance its impact. But the reader should be warned that if they want to make use of these notions in their own work, they will have to read some of the many other sources (e.g., Rapoport and Chammah, 1965; Rapoport, 1966; Kreps, 1990; Hirshleifer and Riley, 1992; Sigmund, 1993). It is also in this chapter that he first introduces the work of Trivers (1971) and Axelrod (1984) who show how reciprocal altruism can lead to cooperation (and overall benefits) that a more narrow selfishness would not. Ridley concludes chapter 3 with stating:

> our frequent use of reciprocity in society may be an inevitable part of our natures: an instinct. We do not need to reason our way to the

[1] Claiming that we are born to specialize is not the same as claiming that we are each born with a tendency toward a particular specialization. We are not saying that someone is born to be a hand-ax maker, but instead s/he is born to specialize. Many circumstances, such as opportunity and training, will lead him/her to become a hand-ax maker as the case may be. In other words the claim about the naturalness of the division of labor says *absolutely nothing at all* about the "nature vs. nurture" debate.

> conclusion that 'one good turn deserves another', nor do we need to be taught it against our better judgments. It simply develops within us as we mature, an ineradicable predisposition, to be nurtured by teaching or not as the case may be. And why? Because natural selection has chosen it to enable us to get more from social living.

Chapter 4 explains what is wrong with the ideas presented in chapter 3. It is more than just technicality. The extensions, refinements and conditions that need to be added in order to get reciprocal altruism to work are where we start to recognize ourselves. Humanity is in these details.

The next two chapters are where we first see Ridley draw upon anthropology (as well as prehistory and economics) to bring us a fuller picture of human cooperation. It is in chapters like these where Ridley's knowledge really shines. He is not only drawing on so many fields, but he clearly has a solid understanding of them, making this book one of the most valuable interdisciplinary books around.

Thomas Hobbes' Foole was a fool because of his extreme rationality, and so could not enter into certain sorts of cooperative or constrained behavior which requires apparently irrational actions. Amartya Sen (1977) has been one of the most persistent contemporary voices arguing that much of the approach in economics (and he would doubtless extend this to evolutionary psychology) would have us all be "rational fools". Economics and evolutionary psychologists bring in emotion as a defense. Emotions are what get us to perform those behaviors that for the most part are needed for us to survive in human society. We feel guilt, indebtedness, gratitude, love and other emotions which affect our decisions in many ways. Can these prevent us from being rational fools? According to Robert Frank (1988, p. x) they can and do:

> Jones has a $200 leather briefcase that Smith covets. If Smith steals it, Jones must decide whether to press charges. If Jones does, he will

> have to go to court. He will get his briefcase back and Smith will spend 60 days in jail, but the day in court will cost Jones $300 in lost earnings. Since this is more than the briefcase is worth, it would clearly not be in his material interest to press charges [assuming other things prevent Jones from repeating the crime]. Thus, if Smith knows that Jones is a purely rational, self-interested person, he is free to steal the briefcase with impunity...
>
> But now suppose that Jones is *not* a pure rationalist; that if Smith steals his briefcase, he will be outraged, and will think nothing of losing a day's earnings, or even a week's, to see justice done. If Smith knows that Jones will be driven by emotion, not reason, he will let the briefcase be.

Having a known disposition to behave irrationally, whether through outrage or love, can lead to benefits which straightforward rationality could not. There are other ways in which emotions prevent us from being rational fools. In addition to Frank, other economists and philosophers have been looking at the role of emotions this way (e.g., Hirshleifer, 1987; Elster, 1989; Elster, 1996). It is not just emotions that interact with rationality this way. Cosmides and Tooby (1992) argue that certain sorts of reasoning ability are tied to notions of social exchange. People can more easily detect a violation of a rule when that rule has some sort of duty or social conformity content to it then if its content is not tied to social exchange.[2] Ridley's chapter 7, titled "moral sentiments", deals with exactly these issues.

Philosophers have also been trying to cope with the rational fool. Straightforward maximizers miss opportunities to cooperate, while constrained maximizers reap those benefits. David Gauthier (1986) shows how a disposition for

[2]In a small pilot we replicated one of their experiments and found virtually the same pattern of abilities they reported, but our sample was too small ($N = 16$) to yield significant results.

being a constrained maximizer works if others can make a reasonable guess at your disposition (and you can guess reasonably well at theirs). By having a disposition, we mean someone like Jones in the example above. He maintains a disposition to enforce the law and follows it through even in cases where it is narrowly irrational to do so. Gauthier argues that chosing and maintaining certain dispositions to act in a narrowly non-optimizing way can be optimizing. Frank shows how emotions get us to optimize in exactly that way.

Gauthier's book (Gauthier, 1986) may be the most important development in ethics since Rawls (1971) and has been followed up by many workshops and symposia and several collected volumes (e.g., Gauthier and Sugden, 1993; Vallentyne, 1991). Very roughly speaking, those who have looked at his work fall into two categories. (1) Those who are exposing the flaws in order to repair the theory, and (2) those who are exposing the flaws in order to repudiate the theory. Frank (1988), on whom much of Ridley's chapter 7 is based, would definitely fall into the first group, as would Ridley himself.

Chapters 8 and 9 discuss tribalism, groupishness and war. Although there is less new here then in the other chapters, some of Ridley's examples are beautifully and surprisingly choosen. Even for readers already familiar with much of the literature he draws on, Ridley's presentation and ability to illustrate a point so solidly it make even the less innovative sections wonderful to read. Also, it is safe to say that after reading chapter 8 you will never look at trios of dolphins jumping through ocean waves the same.

In chapter 9 he highlights many of the ways that we geared up for "groupishness". We can generally benefit by conforming to group expectations. One argument he makes is that our own instincts for "groupishness" may include a tendency to delude ourselves that we are motivated by benefiting the group and not ourselves. We certainly have a tendency to exaggerate cultural differences, and if we are not careful, this can affect not only everyday perception, but systematic misattribution in scholarly research as well. In management research this may be a particular problem (Markóczy and Goldberg, Forthcoming; Markóczy, 1996).

Chapter 10 returns to the notion of the divison of labor introduced in chapter 2, but instead of applying it to the individual, Ridley applies it to the group. The management scholar will be on more familiar ground here where Ridley describes the notion of comparative advantage and the benefits of trade. Ridley does not discuss organizations other than family, tribe, village or nation in these chapters, but that is not to say it wouldn't be interesting for scholars to look at organizations in this way. We may not only have economic motives for being members of organizations (Coase, 1937), but we may have instincts for it.

The remaining three chapters are simultaneously more controversial and less controversial than the rest of the book. They are more controversial because they address public policy (and certainly take what may be very unpopular positions), but they are less controversial in that they are not so much part of a shake up of the approach to social sciences. As such we will leave off discussion of those final chapters, titled "Ecology as Religion", "The Power of Property" and "Trust". The final chapter is where Ridley reveals himself as an anarchist, like Kropotkin, who believes that human nature left to itself will find community sized cooperative solutions to many of its day to day problems.

4 The case for the opposition

There are many points raised by critics of evolutionary psychology (EP) and defenders of the SSSM, and we should consider what they have to say. First it is important to note that not every critique of evolutionary psychology is a defence of the SSSM. We cannot stress this too much. It is perfectly possible to reject both the SSSM and EP as universalists do.

We feel that the facts about human universals, once we are no longer blinded by the spectrum illusion, demolish the SSSM. We hope that we have indicated why we believe that not everything interesting about the mind and the way we think, including values, norms, reasoning, etc is the product of an arbitrary culture. But that the constrained range of possible human cultures may be a fact about the nature of the human mind. Like Ridley, we believe the point is obvious once stated, and so the puzzle is to understand why the SSSM has maintained such a firm grip on social thought for so long. What's its appeal? Why is it so difficult to reject? We also need to understand its appeal to help separate the legitimate concerns about EP from the misplaced fears.

The appeal of the SSSM

The SSSM has had a powerful hold on the 20th century American social scientist, and not without good reason. At its inception, it was a much needed reaction to the racism of 19th and early 20th century social thought. A great deal of that thought was founded on misconceptions of Darwinism. And now the most vocal critics of the SSSM are Darwinists.

> It is important to recognize that Darwinism has always had an unfortunate power to attract the most unwelcome enthusiasts—demagogues and psychopaths and misanthropes and other abusers of Darwin's dangerous idea. [Steven Jay] Gould has laid this sad story bare in dozens of tales, about the Social Darwinists, about unspeakable racists, and most poignently about basically good people who got confused... It is all too easy to run off half cocked with some poorly understood version of Darwinian thinking, and Gould has made it a major part of his life's work to protect his hero from this sort of abuse. (Dennett, 1995, p. 264)

So, what are those misconceptions Gould wants us to avoid?

> If we wish "meekness and love" to triumph over "pride and violence" (as Tolstoy wrote to Gandhi), then we must repudiate Darwin's vision of nature...
>
> This charge against Darwin is unfair for two reasons. First, nature (no matter how cruel in human terms) provides no basis for our moral values. (Evolution might, at most, help explain why we have moral feelings, but nature can never decide for us whether any particular action is right or wrong.) Second, Darwin's "struggle for existence" is an abstract metaphor, not an explicit statement about bloody battle. Reproductive success, the criterion of natural selection, works in many modes: Victory in battle may be one pathway, but cooperation, symbiosis, and mutual aid may also secure success in other times and contexts. (Gould, 1991a, p 327)

Many scholars reacted against both the racism and Social Darwinism that was being "justified" by science. Franz Boas in the first decade of the century correctly taught his students (including Edward Sapir and Margerate Mead) that many of the particular behaviors that appear in any particulary culture must be understood by examining their relationship to other aspects of that culture. Each culture is as rich and meaningful as our own, and our own contains rites and symbols, which we as insiders often fail to recognize.

Boas and his students sought out diversity and they found it. They delighted in showing how human societies could differ from one another and how what might be anathema in one culture could be obligatory in another. A resurgence of racialist anthropology in Europe and America in the 30s led Boas's students to redouble their efforts. That we are monogomous and many native australian cultures are polygomous is as arbitrary as the fact that our word for H_2O is "water" and theirs might be "bana". Neither is more advanced or civilised than the other. They are just different ways of doing things. We are as bizarre and barbaric to them as they are to us.

To challenge the SSSM, and in particular to challenge it with evolutionary thinking, has been to be branded as politically incorrect at best and unspeakable at worst. Yet a search for human universals is probably the most anti-racist thing anthropology and sociology can do. Furthermore, talking about inherited psychologies runs the risk of being confused with those who talk about inherited psychological differences. But that confusion, although apperently tempting, should be avioded at all costs. We are not talking about inherited differences between individuals and groups, instead the evolutionary psychologists (EPers) are talking about those psychological predispositions and faculties, the output of millions of years of evolution, which are shared by each and every human being.[3]

One universal is that we learn some practices and beliefs from the societies we are raised in. Another may be that we try to adopt practices that distinguish our group from others. These universals can easily be and often are argued for on an evolutionary basis by the both EPers and its critics (e.g., Dawkins, 1989; Simon, 1990). Does this mean that the SSSM is vindicated or that those particular claims about universals defeat the universalist program? Dennett (1995, §16.4) describes his "Only Slightly *Non*standard Social Science Model" as differing from the SSSM by stating that instead of believing the culture is *completely* autonomous, it is merely *largely* autonomous. And "Learning is

[3] Many of those who have commented on previous drafts of this have immediately assumed that we were talking about individual differences and supporting some sort of social Darwinism, although we had stated several times throughout the draft the exact opposite. It appears that one cannot mention the words "evolution", "biology", or "Darwinism" when discussing social behavior without being mistaken for a social Darwinist or racist. The strength of the tendency to see these evils in all talk about evolution and human behavior is fascinating in and of itself, but for the immediate concern it requires that we insert footnotes such as this that repeat: we are talking about human universals, not about human differences.

not a general-purpose process, but human beings have so many special-purpose gadgets, and learn to harness them with such versatility, that learning *often* can be treated as if it where an entirely medium-neutral and content-neutral gift of non-stupidity."

In principle this is a viable alternative to the SSSM, but we believe that Dennett, who otherwise sees things very clearly, has fallen victim to the spectrum illusion. And we must not forget that variation is not the enemy of universals. A snowflake, as a totally unrelated example, can have a large (practically infinite) number of shapes and still be "snowflake shapped". Even if every snowflake is unique, and there are an (almost) infinite number of possible shapes they can take, the shape of a snowflake is still highly constrained by the nature of how snowflakes are made and the laws of physics involved. Just as there is a snowflake nature and a human nature, there may well be a culture nature and an organization nature. Universals and diversity coexist perfectly when we come to understand that universals are often best stated as constraints on systems rather then claims that some superficial entity must appear in every system (Goldberg and Markóczy, 1997a). We don't demand that a theory of snowflake nature should be able to predict the exact shape of any snowflake; we only demand that it define and explain the (infinite) class of possible shapes and tell us what can't be a possible snowflake. We should demand no more and no less from a full theory of organizations.

EP, stay home

All this is to say that except for the fact that some degree of culturalization obviously occurs, we consider the SSSM indefensible. What then of EP? Are there serious criticisms of EP that need to be looked at? Here the answer is yes. We have already noted above that some might claim that we just don't know enough about the links between evolution and the complexity of human behavior. But there is something more. Should biologists and zoologists start pronouning on the social sciences? "It is bad enough when scientists misidentify their own social preferences as facts of nature in their technical writing," writes Gould (1991b, p .428), but is is "even worse when writers of textbooks... promulgate these (or any) social doctrines as the objective findings of science." Or

> All [desciplines] gain strength, respect, and acceptance by working honorably within their bounds and knowing when transgressions upon other realms counts as hubris or folly... Science teaches us many wonderful and distrubing things... But science cannot answer these [great questions of morals and aesthetics] alone and cannot dictate social policy. [p. 429]

If Gould means by "bounds" that biologists should not make pronouncements about social policy *qua* biologists, then there is little to dispute; we are all in agreement. If he is stating that scientists should not say things that might have policy implications, that is indefensible. We would never expect a geologist who predicted a large volcanic eruption near a population center to keep quiet about it. If he means that biologists shouldn't consider human societies and behavior within the domain of their science, he is simply mistaken. Just as the behavior of honey bees is within the scope of biology, why shouldn't the behavior of our species be in that scope?

But returning to the argument, made by Gould and others, that in the face of our "profound ignorance" we should maintain humility. Dennett (1995), when commenting on Darwin's reluctance to publically speculate on the origins of life itself, wrote

> [T]he "cutting edge" [of science] is almost always composed of several rival edges, sharply competing and boldly speculative. Many of these speculations soon prove to be misbegotten, however compelling at the outset, and these necessary by-products of scientific investigation should

> be considered to be as potentially hazardous as any other laboratory wastes...If their misapprehension by the public would be apt to cause suffering...scientists should be particularly cautious about how they proceed, scrupulous about labeling speculations as such, and keeping the rhetoric of persuasion confined to its proper place. [§7.1]

It can't be denied that some EPers and their supporters have been less than diligent in taking that advice (e.g., Wright, 1994), but the field of management is hardly in a position to cast the first stone.

Gould and others are correct to say that we should be especially cautious when our science coincides with our ideologies. It is easy now to condemn Social Darwinism as not only bad science and bad policy but also as transgressing the bounds. But it feels harder to make that last condemnation when we feel that some policy implication is good, and we don't see anything wrong with the science. We are far more tempted to transgress the boundries when presenting ideologically more appealing discoveries like Curry (1996) reporting on work by Wilkinson (1996).

> Inequality, perceived as much as real, can literally be the death of us. Evolutionists argue there is scientific evidence as to why [inequality] is the harbinger of crime, pessimism and moral breakdown.

Not all universals are adaptations

Another caution we must always consider is that not all universals are necessarily adaptations. There just may not be an evolutionary story to tell about those universals. Or more precisely, it will always be possible to come up with some Just So Story to tell, but there won't be any correct one.

First we must recognize that not everything that is universal is innate. A well used example is the human navel. This is a human universal, which is arguably not innate. Another is that when we fall, we fall downward instead of upward. The second point is that some innate characteristics are not neccessarily adaptations. They may be side effects (even maladaptive ones) of design constraints. That we blink both eyes simulteneously instead of one at time is probably one of these. These sorts of by-products of design constraints is probably what Gould and Lewontin (1979) mean by “spandrel”. Dennett (1995, §10.2) discusses the difficulty with actually trying to pin down the spandrel argument. Dennett (1995, §10.2) and Cronin (1991, ch. 4) argue that Gould and Lewontin may have been attacking a straw man, since no one seriously believes that all characteristics are adaptations. The real question is then about the boundries.

> What characteristics should we expect natural selection to explain? The eye, the kangaroo's pouch, the human chin, the cheetah's sprint, the chameleon's camouflage? What about the peacock's tail, the bee's suicidal sting, the crimson of blood, the flash of colour on a bird's wing? Should we expect it to explain human altruism, our love of music, feelings of aggression, sexual jealousy? And divorce rates, wars, political oppression? What, in short, is the scope of natural selection? (Cronin, 1991, p. 81)

There will be consensus on some of these. The crimson of blood is not an adaptation in anyone's view, without weakening the notion of adaptation to the point of making it uninteresting. But after examining the general question, Cronin concludes (p. 110) that “non-adaptive explanations cannot be treated as other than a last resort.”

Dennett, in his discussion of spandrels, comes to the same conclusion; but when he discusses human behaviors he takes the opposite view that we should first look at other explanations for a cultural universal before looking for an evolutionary one.

> We need to look at each remarkable similiarity [of culture] in turn to see if any of them *needs* a genetic explanation, for in addition to cultural cross-fertilization (cultural descent) and chance, there is the possibility of reinvention. There *may* be specific genetic factors operating in many or all these similarities, but, as Darwin stressed, the best evidence will always be idiosyncrasies — quirky homologies — and no-longer-rational survivals. (Dennett, 1995, §16.4)

Dennett goes on to point out that some EPers have found exactly such "quirky homologies" which are best explained by evolution, but we do have a shift of the burden of proof onto the evolutionary explanation for facts about human society and culture. Dennett loves extreme examples:

> [S]howing that a particular type of human behavior is ubiquitous or nearly ubiquitous in widely separated human cultures goes *no way at all* towards showing that there is a genetic predisposition for that particular behavior. So far as I know, in every culture known to anthropologists, the hunters throw their spears pointy-end-first, but this obviously doesn't establish that there is a pointy-end-first gene that approaches fixation in our species. (Dennett, 1995, §16.4)

We can't quite make sense of how Dennett supports his emphasized expression "goes *no way at all*", but the general point is taken. As Dennett himself says, the best work in EP does not look for pointy-end-first genes, but some of its supporters may start falling into that trap.

Not enough time and reflection has passed for anyone to be able to say whether the fruits of EP are poisoned or are from the tree of knowledge. That debate will continue. We are attracted to the study of human universals and working with scholars from a variety of disciplines. EP is where that is happening the most boldly, and we are enthusiastic; but wish to temper our enthusiasm with a great deal of caution.

5 More cooperation to come?

It is our contention that discussing management and organization while ignoring the part of human nature that is relevant for cooperation is not in the long term interest of the field, especially when there is a clear interdisciplinary movement involving the fields closely related to management developing a theory of cooperation in humans. Yet it won't be easy to shift from our current course. We will have to abandon the SSSM which is so basic to beliefs of so many we don't even recognize it as an ideology the field adheres to. We will have to learn how to enter into dialogue with scholars from other social sciences. Even if we ultimately reject the assumptions and approaches of those fields, we need to understand why those approaches are attractive to other scholars instead of merely searching for ways to dismiss them quickly.

This will be a difficult transition and it will meet with much internal resistence. But it is necessary. As soon as this interdisciplinary group extends their study of cooperation to organizations, they will develop theories of organizations and behavior within them which will be attractive to anthropologists, biologists, cognitive scientists, economists, philosophers, and psychologists. As they are making great gains in discovering the nature of cooperation, management scholars ought to be working with them. It's good to cooperate.

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