

EVOLUTION AND A DUAL PROCESSING THEORY OF CULTURE: APPLICATIONS TO MORAL IDEALISM AND POLITICAL PHILOSOPHY

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Abstract

Psychology has reached a consensus that there are two types of processing, implicit and explicit. Implicit processing characterizes the modular brain as described by evolutionary psychologists, while explicit processing enables humans to creatively imagine possible worlds in a rational manner and in conformity to a moral ideal. Research is reviewed indicating substantial control of explicit processing over implicit processing. Implications for moral idealism (altruism) and philosophical idealism as a basis for political organization are discussed. Although explicit processing enables the construction of societies according to moral ideals, such societies may result in widespread dysphoria because they conflict with human proclivities resulting from our modular psychology.

Introduction

Psychological research over the last two decades has produced a consensus that there are two types of processing, implicit and explicit, that may be contrasted on a number of dimensions (e.g., Geary, 2005; MacDonald, 2008; Stanovich, 1999, 2004; See Table 1). Implicit processing is automatic, effortless, relatively fast, and involves parallel processing of large amounts of information.

Table 1: Characteristics of Implicit and Explicit Cognitive Systems

Implicit System	Explicit System
Not reflectively conscious	Conscious
Automatic	Controllable
Fast	Relatively slow
Evolved early	Evolved late
Parallel processing	Sequential processing
High capacity	Limited by attentional and working memory resources.
Effortless	Effortful
Evolutionary adaptation or acquired by practice	Acquisition by culture and formal Tuition

Implicit processing is typical of modules as originally conceptualized by evolutionary psychologists (Stanovich, 2004). That is, modules are functionally specialized mechanisms that respond automatically to domain-relevant information. For example, the visual system of monkeys and humans contains numerous areas specialized for responding to different aspects of environmental stimulation (e.g., cells sensitive to horizontal lines or to motion, respectively) (Zeki, 1993). When looking at objects, the various mechanisms of the visual system take in narrow slices of information peculiar to each mechanism. The processing of horizontal lines is performed automatically and outside of conscious awareness. Without implicit processing, we would have to consciously think of each action, no matter how routine (see Figure 1).

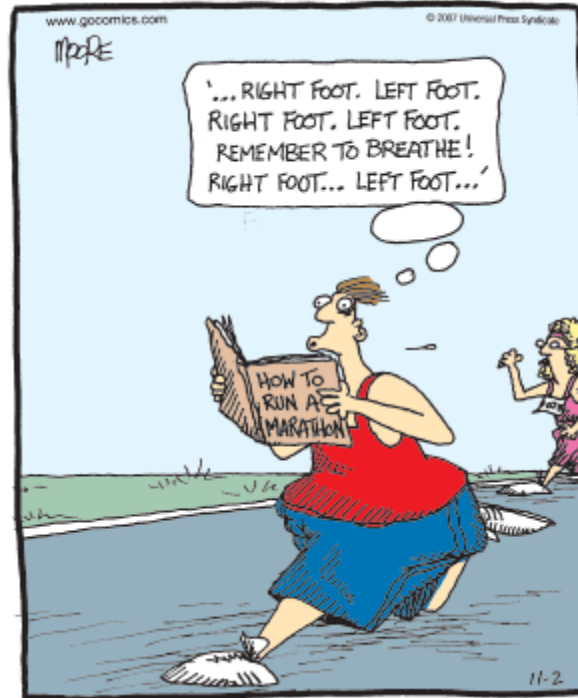


Figure 1: Life without implicit processing: Each movement would require conscious, effortful control.

In general, when the environment presents long-standing problems and recurrent cues relevant to solving them, the best solution is to evolve modules specialized to handle specific inputs and generate particular solutions (Geary, 2005; Tooby & Cosmides, 1992). Evolutionary psychologists have proposed a large number of modules, including modules for social exchange (Cosmides, 1989), theory of mind (Baron-Cohen, 1995), fear (Bowlby, 1969; Gray, 1987), folk physics (Povinelli, 2000), and grammar acquisition (Pinker, 1994).

Explicit processing is the opposite of implicit processing: conscious, controllable, effortful, relatively slow, and involves serial processing of relatively small amounts of information. Explicit processing is involved in the operation of the mechanisms of general intelligence (Chiappe & MacDonald, 2005) as well as controlling emotional states and action tendencies (MacDonald, 2008).

Explicit processing is a relatively recent evolutionary innovation and may be uniquely human (Penn, Holyoak, & Povenelli, 2008). Explicit processing is centered in the prefrontal cortex which is at the apex of a hierarchy of processes that enables top-down control of behavior. A critical point for an evolutionary theory of culture is that explicit processing is able to regulate and control, at least to some extent (depending at least partly on individual differences related to the personality trait of Effortful Control/Conscientiousness), the implicit processing characteristic of evolved modules (MacDonald, 2008). Explicit control of implicit processing

includes control of internal feeling states and behavior based on explicit representations of cultural contingencies, including social norms and possible punishments from breaking laws (MacDonald, 2008). The basic logic is as follows: Evolutionary regularities result in affective states as a cue to action (Wilson, 1975). For example, evolutionary theories of fear propose that recurrent cues to danger (intense stimulation such as loud noises, evolutionary dangers such as snakes and heights, and social stimuli such as strangers or being left alone during infancy) are natural cues producing the affective state of fear (Bowlby, 1969; Gray, 1987). These affective states are emotional reflexes—the result of implicit processing utilizing thalamic pathways directly to the amygdala (LeDoux, 2000).

However, these emotional reflexes are subject to effortful control via explicit processing. The inputs to these explicit processing mechanisms include a very wide range of non-recurrent information—that is, information resulting not from evolutionary regularities (as in the prototypical modular mechanisms described by evolutionary psychologists) but from explicit appraisals of costs and benefits. These explicit appraisals are based on representations of context and they are sensitive to rapidly changing and unique cultural contexts rather than contexts that were recurrent over evolutionary time.

For example, in the case of aggression, explicitly calculated costs and benefits need not be recurrent over evolutionary time but are typically the result of explicit appraisals of current cultural contexts and producing mental models of possible consequences of behavior. Using explicit processing, a prospective criminal may become aware on the basis newspaper or television accounts that it is unwise to leave body fluids at the scene of a crime. On the basis of his explicit understanding of the possible costs of his actions, he may decide not to commit the crime. The cultural environment related to criminal detection and punishment is constantly changing and can only be appraised using mechanisms of explicit processing.

These explicit assessments of costs and benefits need not be true and they need not be adaptive. For example, explicitly held religious beliefs may be a reason for performing a certain behavior without the belief being true. Religious beliefs may be manifestly maladaptive, as Richard Alexander (1979) noted in commenting on the Shakers, a group that believed in strict celibacy. Or religious beliefs may be evolutionarily adaptive, as indicated, for example, by the finding that Mormons tend to have high fertility (Mosher, Williams, & Johnson, 1992).

Given the control function of explicit processing, this implies that an ideology, such as Shaker or Mormon religious ideology, may have an important internal control function for humans — that is, control that is independent of external social controls such as the threat of incarceration (see MacDonald, 2009). The psychological research on explicit processing discussed above suggests defining ideologies as explicit belief systems that may motivate behavior in a top-down

manner. That is, explicit construals of the world — for example, explicit construals of costs and benefits mediated in turn by human language and the ability of humans to create explicit representations of events — may motivate behavior. However, in order to be interesting and important for thinking about cultural conflict in historical societies, the belief system must characterize a historically significant group (see MacDonald, 2009).

Ideologies are important because they characterize significant groups. They often define the group to its members, regulate relationships among group members and with non-group members, provide rationalizations for social controls, and explain the way things are and how they came to be (and, in some cases, even describe the way things will be after death).

This paper will discuss two forms of ideology that are important for developing a dual process theory of political culture: Moral idealism will be discussed as indicating the psychological mechanisms that enable behavior in opposition to the modular mechanisms influencing human moral psychology. This section sets the stage for the larger project, which is to develop a dual process theory of philosophical idealism in which philosophical idealism is seen as a special case of as moral idealism — moral idealism writ large. That is, philosophical idealism enabled by explicit processing has imagined social and political structures based on ideal forms of human social organization — forms that may or may not be in synchrony to the modular mechanisms influencing human wants and needs. Discussion will emphasize the interplay between explicit and implicit processing in theorizing about human social and political organization.

Moral Idealism

Evolutionary perspectives on moral development begin with the proposition that natural selection has not designed organisms to behave “for the good of the species.” Rather, the received wisdom is that natural selection designed organisms to act in ways that benefit themselves and their relatives according to the logic of kin selection (Hamilton, 1964a, b).

Assuming this is correct, this implies that the modular psychology of moral reasoning and behavior (i.e., affective states and action tendencies mediated by evolved implicit processing) should fundamentally be aimed at increasing inclusive fitness (e.g., Wilson, 1978). I ignore here the possibility that group selection has been common among humans because explicit processing has enabled efficient methods of social control, including the suppression of cheaters (see MacDonald, 2009). If group selection enabled by human ability for social control lasted sufficiently long to influence selection for psychological mechanisms within some human groups, group conformity promoting mechanisms (Cochran & Harpending, 2009, p. 112) or even altruism (MacDonald, 2001) may have occurred.

However, even if this is the case, any putative evolved psychological mechanism promoting altruism by implicit processing is likely to be triggered only under very restrictive circumstances, such as, possibly, extreme threat to the group in which all group members share a common fate of death if defeated — the phenomenon of martyrdom (see MacDonald, 2001). In general, research on moral psychology indicates a very strong tendency toward self-interest in moral reasoning and behavior (Krebs, 2004, 2008; MacDonald, 1988). The primacy of self-interest in human behavior implies that self-interested behavior should “feel good” — that is, the evolutionary architecture of moral reasoning and behavior performed out of perceived self-interest should be psychologically rewarding, while altruism and failures of reciprocity should result in psychological dysphoria and moral outrage, respectively. Evolutionary psychologists have argued for cheater detector mechanisms (Cosmides, 1989) and moral outrage mechanisms (Sanfey, 2003) compatible with this logic. These perspectives are compatible with supposing that moral reasoning occurs in humans, but that moral reasoning simply camouflages and rationalizes self-interest.

This evolutionary perspective conflicts with the cognitive-developmental tradition of moral development as represented by Kohlberg’s classic formulation (Kohlberg & Candee, 1984). According to Kohlberg, moral reasoning becomes more cognitively sophisticated as children become older. This increasing cognitive sophistication (i.e., cognition that is increasingly differentiated, integrated, logical and that takes account of others’ perspectives) allows them to become more moral in the sense that their moral decisions may be based on reasoning that is more prescriptive, universal, impartial, and objective.

As expected by an evolutionary perspective, Krebs (2004; see also MacDonald, 1988) found that in general people reasoned at a lower level when they were reasoning about real-life moral dilemmas than abstract dilemmas presented in an academic setting. Indeed, Greene, Sommerville, Nystrom, Darley, and Cohen (2001) found that brain areas associated with emotional processing are not activated when people make abstract moral judgments but are activated when people make more personal moral decisions — results highly compatible with a dual process model. This implies that moral reasoning is affected by self-interest in the predicted direction and suggests that moral reasoning itself is an epiphenomenon: People’s explicit evaluations of moral situations are influenced by their evaluations of how the moral dilemma affects their appraisals of costs and benefits to themselves.

Further, as Krebs (2004) notes, people often use moral reasoning pragmatically to persuade others to behave in a certain manner, and they use moral reasoning to justify their behavior in an *ex post facto* manner: Rather than act on the basis of a

rationally derived moral principle (i.e., moral idealism), people act and only later justify their behavior by appealing to moral reasoning. “Individuals who are adept at moral reasoning (i.e., perform at the higher stages) are better able to provide reasons that rationalize their self-interested actions in a manner that would justify their behavior to other individuals” (MacDonald, 1988, p. 143).

In the following I present a dual process model of moral reasoning in which there are conflicts between moral emotions (e.g., moral outrage at being treated unfairly) and rational decision making processes. Within this perspective, moral behavior is the outcome of two, possibly conflicting forces: moral emotions that paradigmatically favor self-interest and operate implicitly, and rational processing that is the product of explicit moral reasoning.

It is noteworthy that Kohlberg’s theory does not imply a direct link between moral reasoning and moral behavior, and in fact, research has indicated that the linkages are weak. People may arrive at an objective, universal and impartial moral judgment but fail to act on it because of lack of “ego strength” (Krebs, 2004). Kohlberg’s account therefore is consistent with a dual process model. That is, people are seen as capable of making impartial moral evaluations but failing to behave morally because they are unable or unwilling to control self-interested tendencies. The present paper attempts to explicate self-interest and rational control processes in terms of dual process theory as a prelude to sketching the implications of this model for a general theory of political culture.

Both the Kohlberg model and the evolutionary model appear to be incomplete. The Kohlberg model does not adequately address the pragmatic quality of moral reasoning in justifying behavior to self and others — i.e., the finding mentioned above that people’s explicit moral evaluations often appear to be little more than window dressing masking self-interest. On the other hand, the evolutionary model does not adequately account for the possibility that people can, at least on occasion, make morally principled decisions and act on them even though they conflict with their own appraisals of costs and benefits and even though they must overcome morally relevant emotions that operate automatically via implicit processing.

There are several possibilities for morally relevant behavior. The following is based on the theoretical perspective of MacDonald (2008).

(1) Impulsive immoral behavior. Impulsive immoral behavior is linked to dysfunction in ventromedial prefrontal regions linked to effortful control and conscientiousness. Impulsive actions by definition indicate dominance of sub-cortical structures motivated by modular emotion systems linked, for example, to aggression and sexuality; these systems operate via implicit processing. For example, impulsive murderers respond unthinkingly, often while in a rage that they cannot control (e.g., Duntley & Buss, 2004, 2005; Raine et al., 1998). Impulsively altruistic behavior stemming from an evolved altruistic emotion seems unlikely to

be a psychological adaptation, given the general understanding among theorists that a biological predisposition to altruism is unlikely to have evolved.

(2) Controlled immoral behavior. Behavior typically thought of as immoral and as egregiously self-interested may result from planning and foresight (e.g., a planned murder or other type of victimization). Thus predatory murderers have activated sub-cortical brain regions linked to aggression but also have a high level of prefrontal control, enabling them to suppress their aggressive tendencies until a time when they are more likely to avoid detection or other negative consequences (Raine et al., 1998).

(3) Controlling egoistic action tendencies for self-interested reasons. People may refrain from immoral behavior because they make a conscious, explicit decision to act based not on moral principle, but on the desire to avoid negative consequences to themselves (e.g., going to prison). Such a decision implies suppressing sub-cortically generated action tendencies toward, say, murder or other sorts of victimization of others.

Similarly, people may suppress moral emotions like moral outrage, empathy and guilt because they lead to non-self-interested behavior in particular situations. For example, Sanfey et al. (2003) showed that prefrontal rational choice mechanisms could suppress moral outrage at people who make unfair offers in a one-shot ultimatum game (presumably a modular mechanism promoting self-interest by producing anger directed at people who behave unfairly). In this game, proposers made offers for dividing up \$10 between themselves and responders. Responders could accept the offers or decline them, but if they declined the offer, neither the proposer nor the responder receive any money. Subjects reacted with moral outrage at unfair offers (e.g., 9-1 or 8-2), but some subjects were able to suppress their moral outrage in the interests of making a rational choice (i.e., some money is better than none).

(4) Controlling evolutionarily based action tendencies in order to comply with experimenter-generated instructions. Beauregard, Lévesque and Bourgouin (2001) presented erotic stimuli to young male subjects. After they became sexually aroused, subjects were asked to distance themselves from the stimuli. Subjects became non-aroused — an effect associated at the neurological level with prefrontal control of sub-cortical regions linked to sexual arousal. The authors comment:

The normal functioning of the neural network linking the right dorsolateral PFC, right ACC, right amygdala, right anterior temporal pole, and hypothalamus may constitute a fundamental psychobiological mechanism through which human beings can consciously and willfully self-regulate their emotional responses, using various metacognitive processes. From a phylogenetic perspective, such a circuit may implement one of the most remarkable human faculties that has emerged in the course of human evolution. At both an individual

and a collective level, a defect of this neural circuitry . . . may have disastrous psychological and social consequences. Ontologically, the present findings suggest that humans have the capacity to influence the electrochemical dynamics of their brains, by voluntarily changing the nature of the mind processes unfolding in the psychological space. (Beauregard, Lévesque & Bourgouin 2001, p. 1755)

This expands (3) above (i.e., controlling egoistic action tendencies for self-interested reasons) to the ability to control automatic processing on the basis of arbitrarily imposed experimenter-generated instructions.

(5) Controlling moral emotions for considerations of the greater good (utilitarianism). Greene has developed a dual-process theory of moral psychology in which moral emotions may be overridden by utilitarian concerns (see Greene et al., 2009, for a summary). The starting point is that people answer very differently on two classic moral dilemmas. In the switch dilemma, a runaway trolley is hurtling down the tracks toward five people who will be killed if it proceeds on its present course. The subject can save these five people by diverting the trolley onto a different set of tracks, one that has only one person on it. But if so, then that person will be killed. Is it morally permissible to flip the switch so that the trolley kills only one person instead of five? Most people say "Yes." The dilemma as stated does not evoke moral emotions, so that rational utilitarian reasoning tends to win out.

However, in the footbridge dilemma, the trolley is again headed for five people. The subject is standing next to a large man on a footbridge spanning the tracks. The only way to save the five people is to push this man off the footbridge and into the path of the trolley. Is that morally permissible? Most people say "No."

Greene and colleagues (2009) have shown that in the footbridge case, subjects tend to fail to act in a utilitarian manner (saving the most people) because they must suppress a strong intuitive negative moral emotion against killing. Such results are entirely analogous to those of Sanfey et al. (2003): Both studies result in evoking moral emotions that pull for behavior in opposition to rational or utilitarian concerns. Many subjects make choices in accord with these moral emotions, but some subjects are able to suppress these emotions in order to satisfy other interests (rational self interest in the case of Sanfey et al., and utilitarian concerns in the case of Greene et al.).

Further supporting the proposal that people can suppress morally relevant emotions, Greene and Paxton (2009) found that people who dishonestly inflated their scores on a coin-flipping task had high levels of activity in executive control areas, possibly involved with unsuccessfully resisting temptation (i.e., failure to suppress a self-interested action tendency) or in actively deciding when to lie. Again, the suggestion is that rational control processes are able to suppress sub-cortical

emotions or selectively succumb to them in a controlled manner that would avoid detection.

(6) Principled morality. Finally, people may act on the basis of moral principle to consciously suppress self-interested behavior, not because of negative consequences to themselves as in (3) above, but because the behavior would conflict with a consciously held, explicitly articulated moral principle (i.e., moral idealism). People may make such decisions even if in doing so they must suppress sub-cortically generated egoistic action tendencies.

Of these six possibilities, the last is of most interest. Experimental evidence for principled morality is sparse. Greene et al. (2009) found that honest subjects asked to report their success in predicting coin tosses did not show activation of prefrontal executive control areas. Such people are presumably acting according to a moral principle, but there is no evidence that they are suppressing egoistic action tendencies emanating from sub-cortical areas linked to reward seeking. These results are consistent with proposals that moral reasoning may become automatic if repeated sufficiently often (Bargh, 1996). Subjects were not questioned after the experiment on their own perceptions of their actions. I suggest that increasing the temptation by increasing the rewards of cheating and making detection seem to be impossible to the subject would be an adequate test for principled morality. If the rewards of cheating were high enough, presumably they would activate egoistic tendencies in all subjects. Those capable of suppressing these tendencies would be behaving in a morally principled manner, assuming they believed there was no possibility that their cheating would be detected.

Nevertheless, taken together, the data reviewed thus far indicate that people can suppress morally relevant emotions in the service of rationally self-interested behavior (Sanfey et al., 2009), experimenter instructions (Beauregard et al., 2001), and utilitarian concerns (Greene et al., 2009). It therefore is a short step to suppose that a moral ideal could also motivate people to control sub-cortical egoistically inclined modular systems independent of self interest or utilitarian considerations. The psychological literature therefore supports the proposal that moral idealism is possible. This implies that altruistic behavior is possible because of the power of explicit processing over implicit processing. Explicit processing is able to control egoistic moral emotions in the service of a moral ideal, including an altruistic moral ideal.

In summary, there is a large main effect in the literature supporting the general importance of an evolutionary account in which self-interest motivated by egoistic moral emotions is primary. Of the six types of morally relevant behavior mentioned above, all but the last, morally principled behavior, imply that perceived self-interest is the main force underlying morally relevant behavior. Moreover, based on the literature reviewed above, people engaged in self-interested behavior described in

(1) to (4) above may rationalize their behavior in a way that presents their behavior as moral or even altruistic.

These results show that the same psychological mechanisms supporting explicit, top-down control of behavior can also result in morally principled behavior in which self-interest is suppressed. This leads naturally to the proposal that ideology, including political ideology, is an important independent force in motivating human behavior. The following elaborates on this proposal and discusses historical examples.

Ideology

The psychological research on explicit processing discussed above suggests defining ideologies as explicit belief systems that may motivate behavior in a top-down manner. That is, explicit construals of the world — for example, explicit construals of costs and benefits mediated in turn by human language and the ability of humans to create explicit representations of events — may motivate behavior. This is implied, for example, by the Sanfey et al. (2003) study reviewed above.

However, in order to be interesting and important for thinking about cultural conflict in historical societies, the belief system must characterize a historically significant group. Ideologies characterize a significant group of people and motivate their behavior as described above — that is, top-down control of behavior via explicit processing. This definition is essentially the same as that of Samuel P. Huntington (1957, p. 454): “By ideology I mean a system of ideas concerned with the distribution of political and social values and acquiesced in by a significant social group.” As Gerring (1997) and Knight (2006) point out, at their core, all reasonable definitions conceive ideology as a coherent set of beliefs.

As in the case of moral reasoning, ideologies emphasize the idea that factors internal to the individual, such as an individual’s personal beliefs and attitudes, often rationalize behavior and provide a proximate mechanism of motivation. The basis for this claim is the above analysis of explicit processing. That is, explicitly held beliefs are able to exert a control function over behavior and over evolved predispositions. Such beliefs are indeed sensitive to construals of the costs and benefits of various courses of action. For example, a person may refrain from engaging in behavior despite predispositions to do so resulting from modules (e.g., modular aggression as proposed by Duntley and Buss [2005]), and he may do so because of he believes that he would be sent to prison (see MacDonald, 2008).

Beliefs need not be true in order to alter cost/benefit decisions based on explicit processing. Thus a person may refrain from sexual transgression (including acts like masturbation which are regarded as sinful by the Catholic Church) because of a belief that such behavior will be punished in an afterlife. The costs of such behavior might be entirely illusory but nonetheless at least somewhat effective with some of

the people some of the time. For example, the success of Calvinism in 16th-century Geneva depended not only on the threat of externally applied sanctions, but also on the persuasiveness of the explicit beliefs that constituted religious ideology (D. S. Wilson, 2002): Calvinists believed that the strictures of their religion emanated from God and that to disobey them would result in severe punishment in the afterlife. Without an internally motivated set of beliefs that resulted in self-control for the great majority of the inhabitants of Geneva, the task of controlling a city of that size according to Calvinist principles would have been impossible.

Individually held beliefs may be maladaptive for a variety of reasons. Beliefs and attitudes are products of explicit processing, so that there is no reason to expect a one-to-one correspondence between beliefs and self-interest. Explicit processing is resource-limited and fallible, so that even under the best of circumstances explicitly held beliefs about anticipated consequences of one's actions may be inaccurate. One may have inaccurate beliefs about the costs or benefits of behavior because of inaccurate or incomplete information about rapidly changing and complex modern environments.

Further, as discussed above, it is at least theoretically possible that people may make decisions at perceived and actual cost to themselves because they are acting in conformity with a moral principle. Moreover, even when beliefs are influenced by modular adaptations that reflect recurrences in the EEA, they may be maladaptive in the radically changed environments of the modern world. For example, there is evidence for modular mechanisms that influence male perceptions of female attractiveness resulting from natural selection for a correlation between fertility and attractiveness (Singh, 1993). These modular mechanisms may result in maladaptive negative appraisals of some women because they fail to reflect changes in fertility technology.

While individually held beliefs may well be maladaptive, there are special additional reasons that may result in the maladaptiveness of ideologies for at least some of the people who believe them. Ideologies often characterize virtually an entire society (e.g., communism as an official ideology in the USSR; the supra-ethnic, supra-regional status of Christianity in medieval Europe [Lynch, 1992, p. 71; Tellenbach, 1993, p. 58], or Islam as the official religion in some contemporary societies). Ideologies may also characterize the vast majority of people who belong to voluntary subgroups within a society (e.g., a Protestant religious denomination in the United States). In at least some cases, authorities (e.g., in a state such as the Soviet Union) are able to promulgate an ideology because of their control over education and the media, and they may be able to punish dissenters because of their control over the police and the judicial system. As a result, individuals who do not benefit from adopting the ideology will be socialized to do so or punished if they fail to publicly support the ideology. As discussed further below, ideologies are often

intimately intertwined with various social controls — rationalizing the controls but also benefitting from the power of social controls to enforce ideological conformity in the schools or in religious institutions.

Like social controls (see MacDonald, 1995, 2009), the imposition of ideology is often the result of conflict within societies. As in the case of social controls and also because ideologies are so often intricately bound up with social controls, evolutionary theory is unable to predict which ideology will prevail in a particular society. Ideologies may be egalitarian or anti-egalitarian. They may promote the deregulation of human behavior or they may rationalize strong social controls on behavior. If the Czar had won the war of the Bolshevik Revolution, no evolutionary or ecological laws would have been broken, and there would be no violation of anything we know about evolutionary psychology. However, the success of the revolution resulted in a very different type of society, with a very different official ideology than would have occurred had the Czar won.

The indeterminacy of the outcome of the internal political processes resulting in ideology should be emphasized. Ideologies can be influenced by historical events such as the outcome of battles, or the religious conversion or death of a leader which are themselves underdetermined with respect to evolutionary/ecological theory. For example, the outcome of the Battle of Tours in 732 and the Battle of Vienna in 1683 halted the advances of Islam into Europe and therefore had major effects on the religious ideology (as well as the genetic profile) of the area. Similarly, Donahue (1979) showed that marital property law in England and France in the 13th century was influenced by the success of the Norman invasion. Both countries had similar agricultural economies and a similar feudal social structure, as well as a similar ethnic composition and ecclesiastical influence. However, because of the success of the Norman invasion in the 11th century, there were differences in the power of centralized political control between the two areas, with the king being much more powerful in England than in France; there was also a correspondingly greater power of aristocratic families in France as well as a generally greater importance of extended kinship groups in the latter area.

Notice the rich interplay between evolutionarily expected tendencies and historical circumstance here. Kinship is expected to be of great importance in an evolutionary account of human affairs because of its role in lowering thresholds of cooperation and altruism within the group. This power of the extended family, however, conflicts with the power of centralized authorities, and in this case the outcome of this conflict over the construction of property law was influenced by the outcome of a particular battle. The point here is that the relatively stronger central authority in England cannot be meaningfully related to what we think of as ecological variables. However, *given that certain events occurred*, then the

disintegration of extended kinship and the establishment of a new form of property law are expectable.

German Philosophical Idealism

Philosophical idealism originated in Germany in the late 18th century and exerted a dominating influence until late in the 19th century. After a period of decline, idealism has seen a resurgence within contemporary philosophy.

In the last decades of the 20th century the outstanding work of a new generation of German philosophers ... has coincided with developments in philosophy outside of Germany to create an international influence for German idealism that appears to have reached a new high point. (Ameriks, 2000, p. 3)

At its basis, idealism is the proposal that the human mind is creative and able to imagine possible worlds in a rational manner and in conformity to a moral vision. Idealism is “the purposive structure of the ideal, in the sense of optimal, form of our one world of ordinary objects” (Ameriks, p. 9). Thus, for Hegel, the human spirit (*geist*) “is conscious of its own potentialities, and it possesses a drive to actualize these potentialities” (Kenny, 2006, p. 301). Simplistic models in which the contents of the mind are determined by outside stimulation (i.e., classical empiricism and behaviorism) are rejected. In the same way, idealism rejects the models of some evolutionary psychologists (e.g., the jukebox metaphor; Tooby & Cosmides, 1992) in which the contents of the human mind are a deterministic result of environmental variation interacting with universal human psychological adaptations.

The link to dual processing is clear: Idealism emphasizes the primacy of explicit processing in imagining possible worlds according to a moral, aesthetic, or political ideal. Such a stance does not deny the reality of material objects that are publically knowable (Ameriks, 2000, p. 10), but it does assign a major creative role to the human mind as *sui generis* (Beiser, 2000). For example, Hegel’s moral philosophy proposed a dual process theory of morality in which people were divided between a “lower” desire to break a law and a “higher” commitment to a moral principle (Jones, 1975, 135).

Here I discuss American Transcendentalism as an example of an influential offshoot of German idealism. In their search for an intellectually rigorous grounding of religion, the American Transcendentalists rejected Locke’s empiricism and turned instead to the idealism of Kant, Schelling, Fichte, and Coleridge. The early Transcendentalists made pilgrimages to Germany to obtain instruction firsthand, and, upon returning, they produced translations of the German idealists and elaborated their own ideas, which often reflected their Puritan religious background. The attraction of idealism to the Transcendentalists was its conception of the mind as creative, intuitive, and interpretive rather than merely reactive to external events (Gura, 2007). Their idealist images of humans were egalitarian and universalist.

“Universal divine inspiration—grace as the birthright of all—was the bedrock of the Transcendentalist movement” (p. 18). Ideas of God, morality, and immortality are part of human nature and do not have to be learned. As Gura notes, this is the spiritual equivalent of the democratic ideal that all men (and women) are created equal.

The Transcendentalists rejected materialism with its emphasis, as Ralph Waldo Emerson (1842) phrased it, on “facts, history, the force of circumstance and the animal wants of man.” Fundamentally, they did not want to explain human history or society, and they certainly would have been unimpressed by a Darwinian view of human nature that emphasizes such nasty realities as competition for power and resources and how these play out given the exigencies of history. Rather, they adopted a utopian vision of humans as able to transcend the misery and corruption of the real world by means of the creative powers of the human mind — powers that many of them viewed as God-given.

Not surprisingly, this philosophy led many Transcendentalists to become deeply involved in social activism on behalf of the lower echelons of society—the poor, prisoners, the insane, the developmentally disabled, and slaves in the American South. Transcendentalists were also much attracted to utopian communities such as Brook Farm in Massachusetts during the 1840s designed according to their moral and philosophical pre-conceptions (e.g., Delano, 2004).

In other words, they acted in ways designed to make into reality their idealized images of human potential and human society. For example, many Transcendentalists were actively involved in the movement to abolish slavery and they were strong supporters of the Civil War because it offered the promise of making their world of idealized moral universalism a reality.

After the Civil War, idealism lost its preeminence, and American intellectuals increasingly embraced materialism. Whereas Locke had been the main inspiration for materialism earlier in the century, materialism was now exemplified by Darwin, Auguste Comte, and William Graham Sumner. By the early twentieth century, Transcendentalism was a distant memory and the new materialists had won the day. The result was that the early part of the twentieth century was the highwater mark of Darwinism in the social sciences. Darwinism eventually became eclipsed in the social sciences for complex reasons — not the least of which was the ascendancy of Marxism as a revolutionary leftist form of materialism.

The Transcendentalists came along before their intuitions could be examined in the cold light of modern evolutionary science. Lacking any firm foundation in science, they embraced a utopian form of moral universalism that ignored the evolutionary importance of conflicts of interest among all genetically non-identical life forms.

Of course, the Transcendentalists would have rejected such a “positivist” analysis. Indeed, one might note that the dual processing theory of contemporary mainstream

psychology supports the Transcendentalists in the sense that, as described above, explicitly held ideologies are able to exert control over the more ancient parts of the brain, including those responsible for ethnocentrism (MacDonald, 2008). The Transcendentalist belief that the mind is creative and does not merely respond to external facts is quite accurate in light of modern psychological research. In modern terms, the Transcendentalists were essentially arguing that whatever the facts of human history, “the force of circumstances, [or] the animal wants of man” (Emerson, 1842), humans are able to imagine an ideal world and exert effective psychological control over it, including, for example, control over biological tendencies toward ethnocentrism.

The Transcendentalists would have acknowledged that some people have difficulty controlling these tendencies. But this is not fatal to their world view, because non-conformists can be forced to comply via the power of the state (or the utopian community) to enforce idealized social norms — that is, they are able to form cohesive, groups — the historical Puritans being one such example (MacDonald, 2002; Wilson, 2002). At least some utopian visions can become reality if people are willing to use the state to enforce group norms of thought and behavior. As discussed below, such societies may not be in synchrony with our evolved psychological tendencies, so that mismatches may well occur, resulting in difficult psychological adjustments for many. But there is nothing at all to prevent such societies from becoming established and persisting for significant periods of historical time.

Discussion

The main point here is to establish the psychological mechanisms underlying moral idealism and to briefly describe how idealism has been an important part of the Western philosophical tradition, at least since the late 18th century, and that it has had effects in the real world. Idealism is inherently revolutionary because it is less concerned with the way things are than with the way things could be as imagined by mechanisms of explicit processing. However, revolutionary ideals may embody either what would now typically be labeled as progressive or as reactionary ideals. The mind is substantially emancipated from the control of psychological mechanisms derived ultimately from environmental invariances over evolutionary time.

Nevertheless, there are obvious limitations of idealism in promoting blueprints for real human societies. Idealistic visions of human society that fail to take account of the evolved emotional proclivities of the human mind run the risk of creating dysfunctional dystopias where the mismatches between human psychological predispositions and current realities lead to psychological dysphoria for many. At the extreme, one could imagine a human society constructed as a replica of the social

system of a honey bee in which large classes of people were assigned non-reproductive roles in support of a very small minority who were the genetic parents of the next generation. Such a regime would result in psychological dysphoria for the vast majority of its inhabitants deprived of family life and the joys of parenting, unable to have children of their own. It would therefore be politically unstable and could only sustain itself through brutal force.

Quite possibly, this is the lesson of Marxism. Despite advertizing itself as grounded on a scientific, materialist conception of history and human nature, it was a utopian movement based on an idealized future founded on false science. Marxism foundered as an acceptable form of government, at least partly because of negative popular perceptions of people living in Marxist societies in the USSR and Eastern Europe. Despite high levels of social controls and intensive propaganda emanating from the state-controlled media, there was widespread discontent in these societies, so that the end of communism was accompanied by widespread popular support. Even after decades of communist regimes and even mass murder of non-conformists in the USSR, people had still not internalized the ideals of communism, despite outward compliance made possible by explicit processing and its control over the lower parts of the brain.

The current multicultural zeitgeist, based as it is on moral idealism and idealized images of human nature, may also suffer a similar fate. While there is no question that the ideology of multiculturalism supported by strong social controls may result in compliance and even a substantial degree of internalization of the ideology, there is accumulating empirical evidence suggesting that, like Marxism, it is based on inadequate science and therefore likely to suffer a similar fate. A widely replicated finding is that, because of closer ties of kinship and culture, ethnically homogeneous societies are more likely to invest in social capital for the entire society (e.g., welfare programs, universal health care) (e.g., Salter, 2005). Multicultural societies therefore are likely to have more conflict as different groups attempt to influence public policy in their favor while tending to avoid contributions to public goods. Moreover, Putnam (2007) has shown that ethnic homogeneity is associated with greater social solidarity and greater social capital, as well as more trust of others and greater political participation. Trust (even of one's own race) is lower, altruism and community cooperation rarer, friends fewer.

It's interesting that beginning in the late 19th century, philosophical idealism collapsed because of the onslaught of Darwin and then Marx. While Marxism was a form of idealism masquerading as science and materialism, Darwinism formed the basis for a real science of the mind divorced from idealism. The Darwinian science of the mind — conceptualized as the quest for psychological mechanisms that evolved to deal with environmental regularities in the EEA — continues apace under the banner of evolutionary psychology. Understanding the role of our prefrontal

architecture of explicit processing and control over evolved modules adds to a complete understanding of Darwinism.

Because of the ability of explicit processes of effortful control to control automatic processing and because of the power of explicit cultural messages to influence behavior, the control of explicit cultural space assumes enormous importance in an evolutionary account. It has long been noted that the fundamental evolutionary goal of maximizing biological fitness has not been programmed into humans as a proximal mechanism—that is, there is no mechanism that directly tracks fitness over an individual's lifetime. Moreover, even modular mechanisms related to reproduction may be maladaptive in environments that depart from the recurrent invariances that shaped their evolution. (For example, evolved mechanisms promoting male promiscuity may lead to maladaptive behavior in an environment with easily available contraception.) The conclusion is that even the proximal mechanisms that have resulted in the set of evolved prepotencies have come under the control of explicit processing and its ability to frame goals which may or may not converge on evolutionary interests. Explicit goals are influenced by a deluge of culturally available information and are often infused with political and religious ideologies. They need not be linked even remotely to evolutionary success.

The result is that there is an additional layer of uncertainty between evolutionary success and human evolved psychology. It is this additional layer that enormously complicates the evolutionary analysis of human behavior compared to that of animals.

In conclusion, an appreciation of the importance of explicit processing provides a rich view of culture as a force in evolution, particularly for organized groups and for state-level societies able to exert significant degrees of social control. Explicit processing is a double-edged sword. It allows for intensive cooperation in human societies, enabling levels of organization and control of group members that are impossible for animals, and often resulting in formidable, highly competitive groups. However, these same groups may use their superior organization to oppress, exploit, or destroy other human groups. Explicit processing also allows for erecting oppressive group structures that are able to mute or even obliterate the interests of individuals within the group; such groups may well impose controls that result in widespread disparities between our evolved predispositions and the reality of life within the group — a prescription for widespread unhappiness and political instability.

An important point of this paper is that such outcomes are not inevitable. Indeed, I would argue that because of our knowledge of both the implicit modular processes and the explicit non-modular processes of the human mind, we are in a better position than ever before to imagine human societies that are in conformity with our

evolved predispositions — the confluence of philosophical and moral idealism with a materialist conception of the human mind rooted in human evolutionary history.

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