

TAKING SIDES

Clashing Views on
Psychological Issues

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ISSUE 6



Is Evolution a Good Explanation for Psychological Concepts?

YES: Glenn Geher, from "Evolutionary Psychology Is Not Evil! (. . . And Here's Why . . .)" *Psychological Topics* (December 2006)

NO: Edwin E. Gantt and Brent S. Melling, from "Evolutionary Psychology Isn't Evil, It's Just Not Any Good," An Original Essay Written for This Volume

ISSUE SUMMARY

YES: Evolutionary psychologist Glenn Geher maintains that evolution provides the best meta-theory for explaining and understanding human psychology.

NO: Theoretical psychologists Edwin Gantt and Brent Melling argue that an evolutionary account of psychology omits many important and good things about humans.

Given the wide-spread success of evolutionary explanations in biology, many psychologists have suggested that these explanations can adequately and powerfully explain psychological and social behavior. Evolutionary Psychology (EP) has become an increasingly recognized field, with numerous programs and institutes dedicated to researching its explanations. However, EP is not without its critics. Going beyond methodological issues (see issue 4 of this *Taking Sides* volume), those who are uncomfortable with EP argue that its philosophical assumptions ultimately deny important aspects of humanity, such as morality and personal responsibility. In response, evolutionary psychologists often observe that "evolution is not evil . . ."

There's little argument that evolutionary explanations have been useful, and not "evil," in the biological sciences. Still, there is considerable debate about whether such an explanation can account for all facets of human experience and behavior. Can it explain, for example, the human sense of morality? Some scholars have held that morality itself is evolutionarily derived, with our own innate sense of rightness and goodness evolved from what is evolutionarily effective and efficient. On the other hand, critics argue that such a stance confuses morality with biology and that morality involves much more than can be explained by biological mechanisms.

The author of the first article, Glenn Geher, disagrees. As the Director of the Evolutionary Studies Program at the State University of New York at New Paltz, he argues that the best way to understand all psychological phenomena is to borrow evolutionary explanations from the biological sciences. EP makes the "modest" claim, according to Geher, that "minds are on the same footing as bodies where . . . natural selection is concerned." He maintains that evolutionary explanations do no harm, because they do not deny important human meanings or morality. Critics who see EP as "sexist, racist, [or] eugenicist" are misinformed about the point of EP. Evolutionary psychology merely tries to explain human behavior, not prescribe what humans *should* do.

Psychological researchers Edwin Gantt and Brent Melling argue that evolutionary psychology is not as innocent as it seems and, in fact, has major negative implications for the study of human behavior. They suggest that EP has a number of implicit biases that distort the world of human meaning but are rarely discussed in the EP literature. Despite claims to the contrary, for example, Gantt and Melling argue that EP presumes humans have no real choices about their behaviors, and thus no personal responsibility for them. For this reason and others, Gantt and Melling prompt caution in wholeheartedly accepting the latest scientific "facts" of EP. They note, instead, that scientific history is littered with "obvious facts that are later found to be not only questionable but on occasion outright false and misleading" (e.g., phlogiston, phrenology). Gantt and Melling conclude that such misleading facts and assumptions ultimately undermine the efforts of evolutionary psychologists to promote neutrality and morality.

POINT

- Critics have unreasonable or outmoded biases against Evolutionary Psychology (EP).
- EP research is objective and shows the world as it is.
- Evolutionary psychology is not evil.
- EP is a powerful tool for understanding all aspects of psychology.

COUNTERPOINT

- Rational, thoughtful individuals can have serious issues with Evolutionary Psychology (EP).
- EP has implicit biases that skew how researchers understand their data.
- EP denies the possibility of good or evil.
- EP cannot account for many important aspects of human psychology.

YES 

Glenn Geher

Evolutionary Psychology Is Not Evil! (. . . and Here's Why . . .)

Abstract

Evolutionary psychology has faced 'implacable hostility' (Dawkins, 2005) from a number of intellectual fronts. Critics of evolutionary psychology have tried to paint this perspective variously as reductionist and overly deterministic, at best, and as sexist, racist, and downright evil at worst. The current paper argues that all psychological frameworks which assume that human beings are the result of the organic evolutionary forces of natural and sexual selection are, essentially, evolutionary in nature (regardless of whether they traditionally fall under the label of evolutionary psychology). In other words, the perspective presented here argues that all psychology is evolutionary psychology. Two specific mis-characterizations of evolutionary psychology ((a) that it is eugenicist in nature and (b) that it is a fully non-situationist, immutable perspective on behavior) are addressed here with an eye toward elaborating on how these distorted conceptions of evolutionary psychology are non-constructive and non-progressive. A final section focuses on how the social sciences in general could benefit from being evolutionized.

"Evolutionary psychology (is) . . . subject to a level of implacable hostility which seems far out of proportion to anything even sober reason or common politeness might sanction."

If you are a modern scholar of human behavior who uses evolutionary theory to help guide your research and, accordingly, label yourself an evolutionary psychologist (as I do), you may find Dawkins' aforementioned quote as capturing the essence of how evolutionary psychology (EP) is perceived in many modern academic circles. In fact, based on my experiences, this quote captures the current state of affairs regarding EP in the broader landscape of academia in general so well that it is actually a bit unsettling.

Worded another way, this implacable hostility seems to result from scholars across disparate disciplines who conceptualize EP as downright evil. EP is often framed as evil by all sorts of people for all sorts of reasons. In terms of purely academic critiques, EP is often framed as overly deterministic and



reductionistic while social critics of EP with more applied concerns paint EP as a sexist, racist, and even eugenicist doctrine designed with a hidden political agenda that should serve the status quo by, presumably, justifying such amoral acts as sexual harassment, murder, and war.

An unfortunate outcome regarding the current state of affairs pertains to the fact that EP is attacked from people holding political perspectives that span the spectrum of ideologies. Fundamentalist Christians, who necessarily reject ideas that are premised on evolution as an accepted theory of speciation, reject EP simply due to its reliance on evolutionary theory. This ideological hurdle is by no means small: A recent survey found that 87% of United States citizens do not believe that evolutionary forces in general (and natural selection, in particular), unaided by a supernatural deity, are responsible for human origins. Such individuals, whose numbers are, simply, daunting, are likely to reject EP as a sustainable perspective on any aspect of human functioning.

However, in addition to the resistance to EP presented by fundamentalist religious individuals, there is, in effect, a new kind of creationist, so to speak, rooted in secular intellectualism. These so-called new creationists are, in fact, very different from fundamentalist Christians in their ideological foundation. The new creationists may be conceptualized as academics and scholars who study varied aspects of human affairs from the perspective of the Standard Social Science Model, a model for understanding human behavior which is largely premised on the notion of the blank slate. The SSSM essentially conceives of human psychology as qualitatively different from the psychology of all other species. The SSSM presumes that there is no basic human nature—that the mind (and its corresponding physiological substrates) are fully malleable based on environmental stimuli and that all behavioral and psychological aspects of people are the result of experiences with environmental stimuli across ontogenetic time.

This denial of human nature, which is prevalent in many of the social sciences, has come to serve as the only politically acceptable paradigm in much of academia. Champions of this perspective are often more critical of EP than are adherents of fundamentalist Christianity. From the perspective of the SSSM, EP is problematic largely because its basic premises focus on understanding the nature of human nature.

For instance, consider David Buss' work which revolves around understanding sex-differentiated mating strategies in humans from an evolutionary perspective. Research by Buss and his colleagues has documented many basic sex differences in the psychology of human mating. Several different studies, using varied methods, have replicated Buss' basic finding that men desire more lifetime sexual partners than do women. Buss' evolution-based explanation of these findings is rooted in Trivers' parental investment theory which suggests that males and females should differ in their mating tactics as a result of fundamentally different costs faced by each sex associated with bearing and raising children across the evolution of our species. From this perspective, women in our ancestral past who were driven to pursue short-term sexual strategies would have, on average, had less reproductive success compared with males pursuing similarly promiscuous strategies. A result of this sex-specific differential

reproduction associated with variability in promiscuity over deep time would have led to sex-specific mating strategies (favoring promiscuity in males over females).

Critics of EP who may be thought to represent new creationism have tried hard to argue that findings which demonstrate such sex differences in mating strategies are based on flawed research. Further, such critics argue that even if such phenomena as sex differences in number of sex partners desired have been documented via sound research, these findings are best understood as resulting completely from environmental conditions during ontogenetic time. In other words, the SSSM perspective argues that all differences between the sexes in number of sexual partners desired results from males and females learning different messages about sexuality across their lifetimes. In short, this perspective argues that this phenomenon does not reflect basic and natural differences between male and female mating psychology—it only reflects differences in socialization between the sexes (differences that exist, in varying degrees, across human cultures).

Adherents of the SSSM perspective argue that appealing to evolutionarily shaped differences between the psychologies of men and women to explain something such as universal sex differences in desire for multiple sex partners is an inherently sexist approach. In short, these new creationists believe that any appeals to an evolutionarily shaped human nature to explain psychological phenomena (regardless of how well the said phenomena are documented) imply that human behavior is highly constrained by our nature, is genetically determined, and is, in effect, immutable. As such, adherents of the SSSM feel something of an obligation to fight EP, as they believe they are fighting an intellectual doctrine which sees human behavior as largely immutable and which ultimately provides a scholarly rationale for the status quo (which inherently treats people unfairly).

From the SSSM perspective, EP paints a picture of humans as fully under the control of genes. Further, the SSSM perspective sees EP as a doctrine that endorses all aspects of the status quo related to sexism. As seen through the lens of the SSSM, all phenomena documented by evolutionary psychologists and, subsequently, framed as resulting from evolutionary forces, are implicitly endorsed by evolutionary psychologists. As such, phenomena such as male promiscuity, filicide, rape, murder, and war are seen, from the SSSM perspective, as phenomena that are, essentially, supported, condoned, and, perhaps, encouraged by evolutionary psychologists as they are phenomena that evolutionary psychologists have studied from an evolutionary perspective and have tried to explain in terms of the nature of human nature.

Let me go on the record saying that I am very uncomfortable (on both moral and intellectual grounds) with any perspective that sees humans as fully incapable of choosing their own behaviors. Further, I am ardently opposed to sexism—ardently opposed to the idea that men and women (and boys and girls) should be treated differently by rules created by a society and should be given different opportunities within a society. I am, further, from a personal standpoint, not someone who encourages males to engage in promiscuous behavior and not someone who supports men who fly into violent jealous

rages with females as targets of their anger and aggression. Additionally, I am strongly opposed to war, murder, rape, and filicide. I would feel a moral obligation to reject outright any doctrine which is inconsistent with these fundamental aspects of my belief system. In sum, I would see such a doctrine as downright evil.

So herein lies the problem, a problem which, as I see it, is largely one of perspective. If EP were the kind of intellectual doctrine that I describe in the prior paragraph, then it would be a morally disturbing framework. However, as several scholars have argued before me, EP is simply not such a doctrine. In the remainder of this paper, I argue that EP is the following:

- A. A basic intellectual framework for understanding all psychological phenomena
- B. A set of principles which, at its core, simply asserts that the human nervous system and resultant behavior are ultimately products of organic evolutionary processes
- C. One of the most situationist/contextualist perspectives that exists within psychology writ large
- D. A perspective that has the potential to serve as an underlying meta-theory to guide all the behavioral sciences in the future.

Evolutionary Psychology Is Not Evil

In engaging in the thought exercise of trying to empathize with academics who characterize EP as downright evil, I have concluded that the problem seems to lie largely in the naturalistic fallacy. Often, when people hear that some phenomenon is being framed as part of our nature, shaped by evolutionary forces across thousands of generations, they infer that the scientists who are documenting said evolutionarily shaped quality see this quality as something about us that should be the case. In other words, for instance, if one hears Daly, Wilson, and Weghorst argue that male sexual jealousy, and violence that has been directed toward countless women as a result of such jealousy, may be part of our evolutionary heritage, one may infer that these authors are arguing that men should show marked, intense, and emotional jealousy when faced with cheating partners and, further, that they should use violence against women as a solution to such problems.

Of course, Daly et al. believe nothing of the kind. Documenting that something is part of our nature is not synonymous with arguing that it should be condoned by society. Similarly, when David Buss argues that natural selection has shaped patterns of homicide and murder in a non-random way, such that our ancestors were most likely to murder when murder was likely to have increased the possibility of passing on genes of the murderer (i.e., under conditions in which murder had fitness benefits), he is not arguing that murder is good and/or that society should support murder. He is, rather, using evolutionary theory, the most powerful intellectual framework that exists in the life sciences, to help understand behaviors that are of high relevance to the functioning of society.

In sum, the naturalistic fallacy corresponds to conflating phenomena that naturally are with phenomena that should be. As evolutionary psychologists are charged with the task of understanding the nature of human psychological processes, they are at particular risk of having their work mis-characterized by others who are employing the reasoning that typifies the naturalistic fallacy. Further, for someone who is conflating some findings and ideas from EP with statements by evolutionary psychologists regarding how things should be, EP is likely to come across as appearing morally deficient and, yes, perhaps even evil!

What Evolutionary Psychology Is

While there are different brands of EP, with some variability in basic assertions, EP is, in its most basic form, simply an understanding of behavior that is guided by evolutionary theory. In the words of Richard Dawkins: "The central claim . . . (that evolutionary psychologists) . . . are making is not an extraordinary one. It amounts to the exceedingly modest assertion that minds are on the same footing as bodies where Darwinian natural selection is concerned."

As such, EP is an explanatory framework that has implications for understanding all psychological phenomena. It essentially conceptualizes humans as products of natural selection—thereby not conceiving of our species as somehow immune from the laws that govern the natural world. It is a humbling perspective in some respects.

In any case, this perspective is monistic at its core; it conceives of human behavior as resulting from the nervous system—including the brain—which was, according to this perspective (and to most modern scientists who study psychological phenomena), shaped by evolutionary processes such as natural selection.

If the nervous system were shaped by natural selection, then individual humans with certain neuronal qualities in our ancestral past (e.g., those with features of the autonomic nervous system) were more likely to survive and reproduce compared with conspecifics (other humans) with nervous systems that were less likely to ultimately lead to reproduction.

Ancestral humans with features of the autonomic nervous system were more likely to respond optimally to immediate threatening stimuli in requisite situations (e.g., running from a predator). Thus, they were more likely to survive than others with less advanced autonomic nervous systems. A simple logical truth is that being more likely to survive necessarily increases the likelihood of reproduction (corpses are not very good at successfully mating). As such, this (partly) genetically shaped feature of human anatomy (with integral implications for human behavior), the autonomic nervous system, was 'naturally selected' and has thereby come to typify our species.

This same reasoning applies to all domains of psychology. Human behavioral patterns are part of the natural world—and human beings are living organisms that have come about by evolutionary processes. As such, attempts

Table 1

Web-Based Resources that Provide Basic Information about Evolutionary Psychology

1. Syllabus from Glenn Geher's section of Evolutionary Psychology taught at SUNY New Paltz: <http://www.newpaltz.edu/~geherg/classes/fall08/syl307r.doc>
2. The website for the international Evolutionary Studies (EvoS) Consortium: <http://www.evostudies.org>
3. Information on the Evolutionary Studies Program at the State University of New York at New Paltz <http://www.newpaltz.edu/EvoS>
4. Information on the Evolutionary Studies Program at Binghamton University <http://evolution.binghamton.edu/evos/> directed by David Sloan Wilson (<http://evolution.binghamton.edu/dswilson/>)
5. Ed Hagen's Chapter on Controversies Surrounding Evolutionary Psychology (published in David Buss' Handbook of Evolutionary Psychology) <http://itb.biologie.hu-berlin.de/%7Ehagen/papers/Controversies.pdf>
6. Leda Cosmides and John Tooby's Introduction to the Field of Evolutionary Psychology <http://www.psych.ucsb.edu/research/cep/primer.html>
7. Ed Hagen's "Frequently Asked Questions about Evolutionary Psychology (e.g., "Is Evolutionary Psychology Sexist?")" <http://www.anth.ucsb.edu/projects/human/evpsychfaq.html>
8. Russil Durant and Bruce Ellis's Introduction to Evolutionary Psychology http://media.wiley.com/product_data/excerpt/38/04713840/0471384038.pdf
9. Human Behavior and Evolution Society page introducing the field: http://www.hbes.com/intro_to_field.htm
10. Personal Accounts about Applying for Academic Jobs While Branded as an Evolutionary Psychologist <http://human-nature.com/ep/articles/ep02160173.html>

at understanding such basic aspects of the human experience—mind and behavior—without understanding the broad evolutionary factors that have given rise to our species and, ultimately, to our psychology, is, from the perspective of EP, simply misguided. We can do better in understanding human psychology by understanding the nuances of evolutionary principles.

From my perspective, these are the basic ideas of EP. Note that I provide a list of resources (mostly developed by others; see Table 1) to introduce the reader to this field from various angles that fall under the general umbrella of EP. In sum, EP is simply a framework for understanding human behavior that has the capacity to unite all areas of psychology more so than any other paradigm that has existed in the history of psychology as a discipline. It is not driven by ideology; it is driven by the basic scientific motive of increasing understanding of the natural world.

Evolutionary Psychology Mischaracterized as an Immutable, Hyper-Dispositionist, Non-Situationist Perspective

One of the beliefs that many people tend to hold about EP is that it is a non-situationist doctrine, suggesting that organisms have just a few immutable, invariant ways of responding which are under the direct control of genes.

This portrait of EP is simply inaccurate. EP posits that species-typical psychological design features with some heritable component have been shaped by natural and sexual selection. Often, many (but not all) evolutionary psychologists will conceive of such design features as adaptations. In any case, such adaptations are rarely understood by evolutionary psychologists as being context-independent.

Evolutionary psychologists and biologists make an important distinction between non-conditional and conditional strategies that describe the phenotypes of different organisms. A classic example of a non-conditional, folly genetically determined (and immutable) strategy is found in male sunfish, which come in two varieties. The first variety includes large males who have the ability to acquire sufficient territories in intra-sexual competition. The second variety includes smaller, sneakier males, who are nearly indiscernible from females and who do not elicit aggressive responses from territory-holding males. While territory-holding males reproduce by honestly attracting females, sneaker males use a somewhat dishonest strategy: they blast their gametes after a female has released her eggs in a large male's territory, thereby using deception as a tool for reproduction. It turns out that the differences between these kinds of males is attributable to genetic differences. As such, the strategies employed are non-conditional.

The notion of conditional strategies, on the other hand, corresponds to situations in which an organism modifies its strategy *vis a vis* variability in situational factors. For instance, male tree frogs use strategies similar to the male sunfish when it comes to mating. Sometimes, a male will carve out a territory and croak loudly. At other times, a male will hide near a territory-holding male and try to mate with females that are attracted to the croaking, territory-holding male. Importantly, in this species, males have been documented to show strategic pluralism; they modify their choice of strategy depending on the nature of such situational factors as the number of male territory-holders at a given time.

The use of a variety of strategies by male wood frogs does not suggest that their repertoire of mating behaviors is somehow outside the bounds of natural law or that these strategies are not designed with for 'purpose' of reproduction. Clearly, these mating strategies are related to optimal reproduction, a fact that speaks to their selection by evolutionary processes. As such, evolutionary geneticists and evolutionary psychologists have come to apply evolutionary reasoning to our understanding of mixed behavioral strategies that are highly context-sensitive.

In fact, modern-day EP is an extraordinarily situationist perspective. Consider, for instance, evolutionary research on homicide and familial violence. All of the most highly cited work in this area focuses on situational factors that underlie family violence. For instance, Daly and Wilson's oft-cited work on violence toward children is all about contextual factors that covary with this atrocious act. Simply, the presence of a step-parent in a household has been shown to be the primary contextual factor that predicts fatal violence toward children. Another contextual factor that Daly and Wilson document as having a significant relationship with such violence has to do with the age of a given child (another contextual factor). In fact, their research, which is in this

regard, very prototypical of much work in EP overall, is all about contextual factors that underlie behaviors.

Consider, as another example, research on factors that predict promiscuous behavior on the part of women. Evolutionary psychologists have uncovered such important contextual factors as localized sex ratios, ovulation cycles, a woman's age, and the presence of children from prior mateships—each such contextual factor serving as an important statistical predictor of female promiscuity. In short, EP is, in fact, a highly situationist perspective, generally conceiving of human behavioral strategies as being extremely flexible and as falling within the realm of this general idea of strategic pluralism.

EP does not conceptualize humans as genetically guided automatons whose conscious decision-making processes are irrelevant or non-existent. Rather, this perspective sees humans as capable of extraordinary conscious decision-making. Further, with its roots in strategic pluralism, EP is situationist at its core. Importantly, EP has lessons to provide regarding the nature of situationism as an epistemological doctrine. While situationism in the social sciences is often framed as conceiving of human behavior as highly under the influence of situational influences (both small and large), this generic brand of situationism has generally been framed in a manner that is devoid of any insights into how important psychological design features have been ultimately shaped by evolutionary forces for the purpose of reproduction.

The kind of situationism that characterizes modern-day EP may be thought of as a sort of evolutionary situationism. This particular brand of situationism suggests that while human behavior is largely under the control of situational influences, the particular situational factors that should matter most in affecting behavior are ones that bear directly on factors associated with survival and reproductive success. As such, Daly and Wilson did not document just any factors that underlie familial violence—they specifically uncovered the role of step-parenting, a situational factor with clear and theoretically predictable relevance to issues tied to genetic fitness (from a strictly genetic-fitness perspective, a step-child shares no genes with a step-parent, and is, thus, costly).

Given the tremendous potential for EP to inform the search for contextual factors that underlie human psychological outcomes, this idea of evolutionary situationism has the potential to create extraordinary bridges between traditional social psychology and EP. . . .

The Future of Evolutionary Psychology

Evolutionary psychology has proven extremely powerful in (a) providing coherent explanations for many basic human behavioral patterns, (b) generating new research questions that simply would not be on the radar screen without EP as a guiding framework, and (c) generating novel findings about what it means to be human.

In terms of providing coherent explanations for basic psychological processes, consider Ekman and Friesen's landmark work demonstrating the universal nature of emotional expression. The evolutionary reasoning that

these authors draw upon, arguing, essentially, that emotional-expression abilities must have been positively selected for across the evolution of our species due to the fitness-related benefits of such abilities, provides an extremely useful and coherent framework for understanding human emotion in general. I am fully confident that it is very much in the interest of all the behavioral sciences to ultimately support efforts designed to understand human behavioral patterns in light of our evolutionary history.

In generating novel research questions, consider Haselton and Miller's research demonstrating that women are particularly attracted to indices of creativity in potential mates during peaks in their ovulatory cycles. This research is excessively rooted in evolutionary ideas. First, the general idea that female mating psychology should vary as a function of variability in fertility across the ovulatory cycle is an idea that only makes sense when we think of psychological processes as being designed for the purposes of successfully reproducing. Additionally, the fact that this research focuses on attraction to indices of creative intelligence is rooted in Miller's theory of higher-order human cognitive abilities (such as creative intelligence) as having resulted from sexual selection pressures across evolutionary time and as serving the function of affording individuals benefits in the domain of intrasexual competition. Again, without guidance from EP, which suggests that basic psychological processes likely serve a reproductive function, the questions addressed in this research simply never would have made it onto the radar screen.

Just as EP allows novel questions to be asked, it allows such questions to be answered, thereby providing the world with all kinds of discoveries regarding our nature. While research in the domain of adaptations to ovulation strongly demonstrates several novel findings regarding human mating behavior, such research only provides the tip of the iceberg when it comes to novel findings obtained by evolutionary psychologists. In fact, evolutionary psychologists are responsible for uncovering novel findings across the entire range of psychological phenomena such as the inter-play between mating and homicide, the neuropsychological substrates underlying the detection of individuals who cheat in social-exchange situations the phenomenology of stranger anxiety experienced by babies, and the nature of altruistic tendencies across species.

(For a reader interested in reading more about the scientific utility of EP across the modern landscape of the behavioral sciences, I strongly recommend Ketelaar and Ellis' paper which conceives of EP as a meta-theory that guides research in a coherent manner and a paper by Schmitt and Pilcher which provides a model regarding the thorough methodology employed by evolutionary psychologists when they are at their best in trying to uncover human nature.)

In light of the powerful nature of EP in generating new questions and findings, I believe, strongly, that psychology writ large can only reach its potential by incorporating an evolutionary perspective across all its areas. Further, I believe that there is reason for optimism regarding the future of EP and the future of an evolutionarily informed psychology in general. Consider, for example, a recent analysis of articles published in a leading journal in the behavioral sciences, *Behavioral and Brain Sciences*, which revealed that more

than 30% of articles published in the last decade include evolution in the title or as a keyword. These findings suggest that evolution is, in fact, making its way into the behavioral sciences.

However, with that said, an analysis regarding the education of the authors of these evolutionarily informed articles tells a different story. When authors of these articles were interviewed about their education, they generally reported being self-taught with regard to evolutionary principles. Such an effect is consistent with the portrait of academic institutions as less than fully embracing of the incorporation of evolution into the realm of human behavior.

Taken together, the different ideas presented in this section paint a variegated picture with regard to the inclusion of evolution into the behavioral sciences. On the one hand, a great deal of research on the evolutionary origins of human behavior and psychological processes is being conducted. This research is leading to novel findings regarding topics that cut across all areas within psychology. On the other hand, EP is a target of hostility from adherents of multiple political and ideological perspectives. Such implacable hostility emanates from characterizations of EP as overly deterministic, reductionistic, sexist, racist, and, simply, evil.

Importantly, there are several critiques of EP that are reasonable and that should be addressed. For instance, Panksepp and Panksepp, argue that evolutionary psychologists could improve their work by taking a less modularistic approach, working more closely on neurological substrates of behavior, and paying more attention to research regarding the neuroplasticity which seems to characterize much of the human brain. To be fair to these critics (and to others), I strongly believe that EP is not perfect and this approach to psychology has room for improvement. However, I see no reason to throw the baby out with the bath water. As Dawkins writes regarding recent critiques of EP: "Some individual evolutionary psychologists need to clean up their methodological act. Maybe many do. But that is true of scientists in all fields."

In short, EP has proven itself as having extraordinary abilities to (a) yield novel ways of thinking about who we are and to (b) generate new findings that shed light on the depths of our minds. While this approach may not be perfect, and while certain studies conducted under the general banner of EP may need improvement, the overall approach to understanding human behavior—focusing on understanding how basic psychological processes ultimately bear on issues tied to reproductive success—has an enormous capacity to improve our understanding of ourselves. I urge psychological researchers and students to go down the path of evolutionary enlightenment so as to allow psychology to realize its full potential—ultimately allowing our discipline to best help people deal with the many problems associated with what it means to be human.

Conclusion

My intellectual passions permeate my teaching and my research. After learning about applications of evolutionary theory to issues regarding behavior in Benjamin Sachs' Animal Behavior course in 1990 at the University of Connecticut, I came to see the evolutionary informed approach to psychology

as the most coherent and powerful framework for understanding behavior across species (including *Homo Sapiens*). This intellectual approach to understanding psychology has permeated my teaching and my research since that time.

As stated prior, I do not believe that all EP is perfect. In the future, evolutionary approaches to psychology will surely benefit from better understanding the interrelationship between cultural and genetic forces that underlie behavior, studying the nature of neuroplasticity from an evolutionary perspective, teasing apart psychological qualities that were shaped for survival versus reproductive purposes, and addressing the interplay between behaviors that emerge in an ontogenetic timescale versus behaviors that are the result of thousands of generations of selection across our phylogenetic history. Further, I am certain that other improvements to an evolutionary approach to psychology are out there!

However—my student Warren Greig tells me that I need to be less apologetic when it comes to my passion for EP. And, as usual, he is right. As such, I end by making some simple points. First, EP is not an inherently evil approach to understanding human behavior. It is not overly immutable in its portrait of humans. It is, alternatively, one of the most situationistic/contextualistic doctrines that exists regarding human behavior. EP is not the new eugenics. In fact, EP and eugenics have virtually no commonalities whatsoever.

Evolutionary psychology is an extraordinarily coherent framework for understanding virtually all of human psychology. Its basic assumptions, suggesting (a) that fundamental human psychological processes were shaped by evolutionary forces and that (b) such psychological processes and behavioral patterns can be best understood in light of such evolutionary forces, are as solid and reasonable as the theory of evolution itself. Acknowledging this point is sure to benefit all work conducted in the realm of psychology.



Edwin E. Gantt and
Brent S. Melling



Evolutionary Psychology Isn't Evil, It's Just Not Any Good

"... If there is a sure road to intellectual atrophy, it is paved with the complacent certainty that one's critics are deluded."

It is hard not to be amused when one hears advocates of evolutionary psychology (EP), such as Richard Dawkins, Daniel Dennett, and Glenn Geher, grumble that so many people take issue with their ideas. After all, couldn't one reasonably suspect that such firm believers in the universal truth of evolution would welcome the opportunity to see how their theories fare in the cutthroat competitive marketplace of ideas? Academics, red in tooth and claw, and all that? Certainly, if the theories of EP are true, they are strong enough to take on all comers and prove their hardiness by adapting to the challenges of lesser ideas. In the end, isn't that what evolutionary theory is all about anyway?

Oddly, most evolutionary psychologists seem to prefer to short-circuit critique instead of welcoming it, declaring critical examination to be off-limits at the outset. When not casting aspersions on critics by claiming they can only be motivated by unscientific or religious impulses, they treat objections to EP as though they were wholesale rejections of well-established Darwinian principles in biology. While this may be a clever debating move, and might win you a few points with the high school debating club, it is nonetheless pure sophistry and unworthy of the serious intellectual examination that science demands. Still, since Geher begins his defense of EP by chiding the motives of any who might venture a critique, it is important to be very clear at the outset here about what our response is NOT. What we have to say here is NOT some fundamentalist Christian rejection of evolutionary biology or Darwin's theories of natural selection. Neither is this article motivated by some desire to defend Creationism, Young Earth Theology, or Intelligent Design Theory. Although some of the controversies presently surrounding Darwinism in biology and its Intelligent Design rivals are thought-provoking, those issues are not our issues. The fact is that it is possible to be a strident and thoughtful critic of EP and have no commitment whatsoever to a religious worldview, fundamentalist or otherwise.

Additionally, this paper is in no way a defense of what evolutionary psychologists (EPs) like to call the "Standard Social Science Model (SSSM)" or "Secular Creationism." Indeed, despite all of the bluster to the contrary by folks like Geher, Steven Pinker, and others, it is hard to imagine that there is

anyone in contemporary psychology who would defend what these people claim that advocates of the SSSM believe, especially given that "no serious figure embraces that view since, perhaps, John Watson in the early twentieth century." This "rhetoric of exclusion," whereby "whomever is not for the program is against Darwin," clearly owes more to hidebound dogmatism than it does to open-minded, scientific thinking.

What, then, is our purpose here? It is simply this: We seek to engage in a critical scientific and philosophical reflection about fundamental concepts in the social sciences, as well as consider some of the implications of taking EP seriously. In short, what we propose to do here is a brief bit of critical thinking about some of the assumptions, implications, and claims of EP. We aim to show that EP is not nearly as coherent, obvious, or harmless as its defenders suggest.

Rhetoric, Values, and Ideology

In addition to the rhetoric of exclusion, EPs often employ the rhetoric of objectivism. Although there are various ways in which the term "objectivism" is defined, we will use it to refer to the assumption that one's methods are value-neutral and unbiased and, thus, that one's reporting of research findings is the reporting of objective facts about the world rather than particular interpretations of it. As is often the case in scientific research, the findings of EP researchers are usually presented as being objective in nature, the products of a value-neutral and unbiased mode of inquiry. For example, Geher offers up the research findings of many of his colleagues in order to support his contention about the significant contributions that EP is making to the study of human nature. While citing supporting research is necessary, it is important to note the language that Geher employs in so doing. Like other evolutionary psychologists, he frequently states that EP research has "documented" or is "demonstrating" some fact about human nature and the evolution of behavior. This rhetorical strategy helps paint a mental picture in which psychologists like Geher are engaged in simply observing the world of human behavior and documenting the facts of such behavior—facts that would be obvious to any rational being using the scientific method and not blinded by personal ambition, cultural shortsightedness, or religious bigotry. Likewise, when Geher maintains that EP is not "driven by ideology; it is driven by the basic scientific motive of increasing understanding of the natural world," he is invoking the authority of objectivism to persuade us that we can have confidence both in both his own claims and that of his EP colleagues because such claims are free of the self-serving and biasing influences of values and ideologies.

Unfortunately, Geher's confident assurances to the contrary, EP is inescapably undergird with a variety of biases, values, and ideological commitments that serve not only to direct and shape EP's study of human behavior, but also provide the conceptual framework from within which data is interpreted. There are at least three such biases that often go unexamined or unacknowledged by EP theorists and researchers: objectivism, materialism, and instrumentalism. The first of these—objectivism—has already been mentioned.

in terms of its role in the rhetoric employed by advocates of EP. Objectivism is not just a rhetorical strategy, but is also a particular value—though rarely admitted as such. Objectivism is a bias not only in holding that the results of scientific research are value-neutral and free of the taint of human bias, but also in suggesting that the results of scientific investigation *ought to be* free of such flaws. Ironically, this claim that science “ought” to be objective to be good science is itself a subjective preference (or value) regarding how researchers should go about conducting their science and is not the only valid or possible perspective.

Likewise, materialism is a commonly taken-for-granted assumption in the natural and social sciences, particularly among EPs. Materialism is the notion that matter is the only reality and that everything, including thought, feeling, mind, and will, can be exhaustively explained in terms of matter and physical phenomena. This stance is not an incontrovertible fact of the universe conclusively demonstrated by scientific investigation but an assumption about the nature of reality that itself cannot be proven or disproven, especially by a materialist science that begins by assuming that materialism is true. In other words, materialism is a sort of faith, or set of beliefs and ideas that one assumes to be true but for which there is not—nor ever can be—conclusive proof. It is, in this way, clearly an ideology and not a demonstrated fact of the universe. Thus, EPs prefer materialist accounts of human behavior, not because such accounts have been *proven* in any way to be the best, the truest, or the most rational ones available, but rather because materialism is the ideology they have come to endorse for philosophical, theological, and/or cultural reasons.

Finally, EP accounts of human behavior assume instrumentalism, or the idea that all behavior is governed by some manner of calculative-means-ends rationale, whereby any given behavior is best understood as just a means to attaining some other goal. In the case of EP, the ultimate goal or end toward which all behavior is striving is, of course, reproductive success. In fact, as Richard Dawkins has argued, from the EP perspective we are really just “survival machines” designed by our genes over eons of evolutionary history to ensure that these genes are able to continue on into future generations. “Their preservation,” says Dawkins, “is the ultimate rationale for our existence.” Thus, Geher speaks of “mating tactics” and “sexual strategies” and asserts that caring for step-children is “costly” because such children share no genes with the step-parent. Similarly, Robert Wright, another ardent advocate of EP, argues that “beneath the thoughts and feelings and temperamental differences marriage counselors spend their time sensitively assessing are the stratagems of the genes—cold hard equations composed of simple variables: social status, age of spouse, number of children, their ages, outside romantic opportunities, and so on.” Nonetheless, even though EPs are strident and vocal in their assertion that all human behavior can be explained in terms of means-ends calculation, such claims are not based on any indisputable or documented fact but on certain philosophical assumptions about human nature and what constitutes the ultimate good in life. Even though instrumentalist assumptions may be so widely held in modern Western culture as to seem obvious, it is still the case

that instrumental reasoning reflects a particular set of values arising from a particular ideology.

What the Data Says

Although their commitment to objectivism leads EPs to present their research findings as though the data is obvious and can only be explained from an evolutionary perspective, it is simply not the case that data ever speaks for itself. Data must always be interpreted in some way. Scientists must always provide some meaningful context within which particular findings can be understood and rendered sensible. Indeed, some authors have shown that not only does one's data require interpretation to be meaningful, but one's chosen method of investigation itself reflects an interpretation of the world that directs researchers to particular ways of making sense of one's data. Thus, no one is surprised when a feminist interprets an event as evidence of gender inequality, or by a Marxist who interprets the same event as the result of class-struggle. So we shouldn't be surprised when an evolutionary psychologist interprets the same event as a product of natural selection. None of these theorists use their particular explanatory framework because there is inherently more factual evidence for them—it is the framework itself that determines what counts as evidence and how it is to be interpreted. Thus, a feminist theorist will tend to see all situations as providing evidence of feminist assumptions, a Marxist will tend to see confirmation of Marxist assumptions, and an EP will tend to see evidence of evolutionary processes at work.

While most contemporary philosophers of science recognize that the interpretation of data requires an assumed framework, many EPs seem to think that their interpretive framework—or “meta-theory”—is inherently better because it is more parsimonious, more rational, or can explain all of the empirical data. What they seem to fail to realize is that all other reasonably sophisticated meta-theories can do the same. The ability to explain psychological phenomena by means of concepts borrowed from evolutionary biology is not testament to the fact that such explanations are true, only that evolution is a sophisticated and encompassing worldview—but, then again, so are many others.

Thus, while Geher cites the work of David Buss on mate-age selection as empirical proof that females select older men due the imperatives of natural selection, what is actually being offered is a particular way of interpreting the data at hand. Other interpretations are not only possible but viable. For example, rather than evidence of natural selection's instrumental operation for reproductive advantage, it could be that the age differential in mate-selection might reflect that women typically mature earlier than men and are more socially and verbally inclined. Thus, the observed age differences might simply reflect women's efforts to assure themselves of more socially skilled, verbally expressive, and interesting companions. Likewise, Geher offers up Daly and Wilson's research on domestic violence to demonstrate what has come to be known as the Cinderella Effect. Namely that children living with step-parents are about 100 times more likely to be fatally abused because natural

selection shaped humans to take better care of our biological offspring than children with whom we do not share genes. Here too, alternative explanations are available that account for the data and are rationally defensible. A child is only going to be living with a stepparent if there has been some significant emotional, economic, and/or social disturbance of the family in the first place. Therefore, the social and relational problems that have contributed to the break-up of the original family are likely to continue with parents and children into subsequent family arrangements. It should be apparent that one need not invoke some powerful underlying genetic recognition and selection process to make adequate sense of this particular situation (for additional examples of alternative interpretations of EP research findings).

These examples of data reinterpretation aren't just interesting and clever intellectual exercises. Rather, we feel that they are important illustrations of critically reflecting on scientific knowledge claims, especially in terms of how data is interpreted and reported, for the history of science is replete with examples of researchers discovering and reporting presumably obvious facts that are later found to be not only questionable but on occasion outright false and misleading (e.g., phlogiston, phrenology, the geocentric theory of the universe, the Meckel-Serres Law, and classical Newtonian physics). The proper conduct of science requires, we believe, humility and continual critical self-reflection, not the dogmatic and repetitious assertion that one has found once and for all the indisputable truth of life, the universe, and everything.

Reductionism and Determinism

Another guiding ideology of EP is monism—the idea that all of reality is of the same kind, subject to the same rules and laws. The advantage to this position is that it avoids some of the tricky issues inherent in “the mind-body problem” (e.g., how do minds and bodies interact, how can mind be observed or measured, etc.). By starting from the assumption that “minds are on the same footing as bodies where Darwinian natural selection is concerned,” EPs hope to sidestep the problem of how something seemingly immaterial, such as a thought or an emotion can have an effect on the material world. The way evolutionary psychologists achieve this monism, however, is by reducing one side of our experience (i.e., the immaterial side of minds, thoughts, and emotions) to another side of our experience (i.e., the material side of genes, brains, and bodies). As Geher states, the evolutionary perspective fundamentally “conceives of human behavior as resulting from the nervous system.” In such a scheme, what we experience as immaterial (like feelings of love) is seen to be really nothing more than an expression of complicated physical realities (e.g., elevated hormones, particular neuronal firings, genetic tendencies and environmental conditions). Instead of integrating the immaterial and material into a meaningful whole, however, one facet of human experience is simply explained away by reducing it down to another. The end result of this sort of approach is not monism, but rather a “one-sided dualism” in which important but less easily or accurately measured features of the mind (i.e., thoughts, intentions, emotions, etc.) are ignored or discounted so that

attention can be solely focused on the precisely measurable features of the brain such as synaptic activity and neurotransmitter levels. Unfortunately for EP, however, simply ignoring or discounting the essential nature of mental phenomena does little to actually explain how such things might arise out of one's genes or nervous system in the first place. After all, while a well-functioning nervous system may certainly be something that is necessary for having thoughts, making choices, and experiencing emotions, this does not mean that the nervous system is the only thing that one has to attend to when trying to make sense of where our thoughts, choices, and feelings come from or what they mean.

Unfortunately, this reductionism perpetuates the problems that evolutionary psychologists typically seek to avoid—a loss of meaning, morality, and choice. All of these things—though intangible in nature—are nonetheless real phenomena common to human experience that cannot be easily dismissed. By reducing mind to brain, however, EPs ultimately reduce the rich meanings of our lives and relationships into the merely mechanical happenings of our bodies. Instead of being human persons capable of making genuine choices, we become, as the novelist Terry Bisson once famously wrote, “Thinking meat! Conscious meat! Loving meat! Dreaming meat! The meat is the whole deal!” If we take EP seriously, our values and ethics are ultimately really nothing more than the chance result of a complicated interaction of genetic survival mechanisms and environmental happenstance. What is morally good in life, what is worthy and right is simply whatever increases our likelihood to survive, or at least pass on our genetic material to subsequent generations.

Evolutionary psychologists often protest these sorts of criticisms, arguing that they do not reduce all human activity to biology because other factors—such as culture and personal disposition—play a significant role in how our genetic predispositions are realized. However, when accounting for the origins of culture and its variations, EP ultimately falls back on biological reductionism. As Geher states, genetic shaping by natural selection (determinism) “applies to all domains of psychology” and any account that does not see how “the broad evolutionary factors that have given rise to our species and, ultimately, to our psychology, is . . . simply misguided.” According to EP, culture is itself a product of natural selection and exists primarily to provide particular mating rituals that will help to ensure genetic fitness in our offspring. So, if complex social and cultural behaviors are part of the natural world and not immune from the laws that govern it, then it is hard to believe defenders of EP when they say that human beings are not determined by their biology. Granted, it is not a direct genetic determinism where “behavior is controlled exclusively by genes, with little or no role for environmental influence.” But, such assurances provide little comfort in the face of EP's contention that our behavior is controlled *mutually* by our genes AND the cultural forces that genetic selection has produced. So, if Geher and other EPs are, in fact, “uncomfortable (on both moral and intellectual grounds) with any perspective that sees humans as fully incapable of choosing their own behaviors,” then perhaps it is time for them to be a little more uncomfortable with evolutionary psychology's conception of human nature.

The Problem of Nihilism

Possibly the most troubling problem inherent to an EP approach is that it is fundamentally nihilistic. Nihilism is the notion that life is, at its root, without ultimate meaning or purpose, and that the genuine moral distinctions between good and bad, right and wrong, cannot be rationally defended. If all human behavior is just the causal outcome of the unthinking, undirected, mechanical processes of natural selection, then human actions are no longer meaningful in any real sense. In other words, if our behavior is something that is determined for us by something beyond of our control or active participation, then what we do or think or feel does not possess any intrinsic meaning.

For example, consider the day-long motion of blades of grass as they slowly bend and change position relative to the location of the sun. As a fundamentally biological and determined event, this phenomenon is simply what it is, and has no intrinsic meaning. Granted, a golfer might attribute meaning to the "lean of the grass" while preparing to make a putt, but this attribution of meaning is merely subjective and, as such, does not reflect any real meaning in the events of the natural world taking place there on the green. Of course, if the golfer's subjective meaning is itself just the causal product of something going on in her brain, then that too would lack any genuine meaning and be basically the same as what is taking place with the grass. Only if there is the genuine possibility that a given event could be otherwise than it is does it make any sense to consider it to be genuinely meaningful (as opposed to merely subjectively meaningful).

Thus, if to be human is to be nothing more than a "gigantic lumbering robot" whose sole purpose for existing is the preservation of our genes, the meaning of our lives, our loves, our friends and families seems quite hollow. Sure, we may experience ourselves as being deeply in love with our spouse but such feelings are simply "illusions" caused by particularly complex biochemistry striving to get our body motivated enough to find a suitable mate for replicating our genes. All this romantic fuss is just so much clever claptrap meant to manipulate suitable others into sticking around long enough for successful reproduction. If EP is correct on this point, and matter is all that matters, then in the end nothing else about us *really* matters at all.

Given their commitment to objectivity, EP is typically presented as nothing more than an account of the "is" of human behavior. Advocates of EP, such as Geher, passionately reject any suggestion that their theories of human nature have anything whatsoever to say about how human behavior "ought" to be, claiming that such criticism simply reflects the naturalistic fallacy. However, if one of the most basic claims of EP is true (i.e., human nature is the causal product of material events and natural laws), and culture is itself just a byproduct of evolutionary forces acting on material events (i.e., brain function and genetic selection), then it makes little sense to say that there are any legitimate "oughts" in the world at all. If culture "originates in, is transmitted by, and is propagated through mental mechanisms that evolved through natural selection," and evolution through natural selection is fundamentally a purposeless, random process reliant on the chance interplay of natural events,

then the "oughts" we experience and which constitute our cultural moral norms are really just accidental developments in the long march of human evolutionary history. If our fundamental sensibilities of right and wrong, good and evil are such accidents, then it makes no more sense to argue that murder or rape or theft is morally wrong than it does to claim that elephants should have smaller trunks or longer tusks. Unless morality is ultimately grounded in something a bit more solid and trustworthy than contingent evolutionary history, it is impossible to maintain that any particular way of life is really better or more meaningful than any other.

In closing, after all that has been said so far, one cannot help but wonder whether EP is ultimately not only an enemy of meaning and morality, but also of science and reason. A basic claim of EP—and one with which we have taken repeated issue in this brief essay—is materialism, or the notion that at the root of all of our thoughts and ideas there are really just the happenstance events of the brain and the genes. This truly startling claim has become so commonplace in our modern world that its deeply disturbing implications for not only how we understand ourselves but also how we understand science typically go entirely unnoticed. We have tried to explore a few of those implications throughout this piece. There is, however, one last implication of this line of thinking that we would like mention before concluding.

Because of its fundamental commitment to materialism and determinism, EP claims that all of our thoughts, feelings, and behaviors are rooted in unthinking, non-rational, non-caring processes and causes aimed solely at ensuring successful reproduction. Therefore, because the driving purpose behind evolution is reproduction, not rationality, we cannot assume that the fruits of evolution, including human thought and culture, reflect the rise of anything inherently rational. Natural selection's fundamental aim, after all, is not to shape a human mind capable of producing true beliefs but to produce a mind whose beliefs motivate us toward reproductively advantageous behaviors, whether those beliefs are true or not. As Churchland, a prominent advocate of EP, has stated:

"Looked at from an evolutionary point of view, the principle function of nervous systems is to enable the organism to move appropriately. Boiled down to essentials, a nervous system enables the organism to succeed in the four F's: feeding, fleeing, fighting, and reproducing. The principle chore of nervous systems is to get the body parts where they should be in order that the organism may survive. . . . Truth, whatever that is, definitely takes the hindmost."

There is more than a little irony in such a confident pronouncement, especially when the one making it is doing so in the name of scientific progress and truth. For, if our thoughts are simply the results of our biochemistry moving us toward reproduction, then the thought "evolutionary psychology is the best way to understand people" is itself not a rationally defensible or inherently true thought. Rather, it is simply something our brains make us think and say so that we might impress other reproductively viable members of our species in order to get them to mate with us.

The irony doesn't end here, though, for whether you accept the notion that evolutionary psychological theories of human behavior are true or reject them as pseudoscientific fables depends entirely on which genes are influencing your current neurological interactions with the environment AND NOT on whether you have been or could ever be persuaded by reasoned argument and the convincing power of truth. To put it another way, if EP is true, then the only reason anyone would advocate it is because (anyone, they) must do so given their evolutionary history and the particular mental mechanisms that their genes have provided them. Likewise, critics of the theory are only critics because they don't happen to possess the appropriate "evolutionary psychology is true" thought generating brain functions or genes. So much for reason, so much for science, so much for truth!

Ultimately, then, if EP is the "basic intellectual framework for understanding all psychological phenomena," as Geher argues, then natural selection is also the undergirding explanation for all of the activities and ideas of scientific researchers. The theories and conclusions of these scientists, including the evolutionary psychologist, are nothing more than the results of complex interactions between meaningless arrangements of matter and, as such, provide no assurance that they accurately reflect the truth of things. Indeed, if what Geher asserts is true, then his own scientific article is to be explained as really just an elaborate manipulation of his readers by his genes to maximize their chances of reproductive success. If EP is taken to its logical conclusion, then, there is nothing left of truth, meaning or morality in *any* human phenomenon, let alone the phenomenon of generating a scientific theory like EP and writing an article about it. In the end, we can't help but conclude that Geher is correct when he states that EP isn't evil—because from the EP perspective there is ultimately no such thing as good or evil, right or wrong, meaning or reason or truth. So, while its own perspective guarantees that EP cannot be evil, it also makes a pretty strong case that it isn't any good.

CHALLENGE QUESTIONS



Is Evolution a Good Explanation for Psychological Concepts?

1. A major contention between these two positions is the objectivity of EP. Are evolutionary accounts of human behavior unbiased in their explanations? Should they be?
2. The authors of both articles agree that evolution is not evil, but for different reasons. What are these reasons? Do the articles differ about the "goodness" of EP? Why or why not?
3. Geher claims that EP works well for all aspects of psychology. How well does it account for the claims of humanistic or existential psychologists? If EP has trouble accounting for these claims, then what might this suggest about these schools of psychology? What does it suggest for EP?
4. What results have we gained from EP research? What would Gantt and Melling say about these results?
5. Geher suggests that EP is monism because the mind is governed by the same natural processes as the body. However, Gantt and Melling accuse this position of being a type of dualism. Which do you feel is correct on this issue, and why?
6. Geher suggests that EP is not overly deterministic because it takes account of environment and circumstance. Does this avoid the charge of determinism (i.e., all so-called human choices are determined by other factors and thus the person really has no true options)?

