Evolutionary Psychology and the Public Media: Rekindling the Romance

huffpost.com (https://www.huffpost.com/entry/evolutionary-psychology-a_b_220545)

Evolutionary psychology, once the darling of the public media, has been dumped in a recent Newsweek article (http://www.newsweek.com/id/202789/page/1) by journalist Sharon Begley. Return accusations are beginning to fly from evolutionary psychologists, who accuse Begley of willful distortions and scientific incompetence (e.g., 1 (http://www.psychologytoday.com/blog/homo-consumericus/200906/the-never-ending-misconceptions-about-evolutionary-psychology),2 (http://www.cognitionandculture.net/)).

As usual for romantic quarrels, there are legitimate grievances on both sides that get lost in a hail of recriminations. I have always had a love-hate relationship with the school of thought that most people associate with the term "evolutionary psychology." When it appeared in the late 1980's, it made some great points but also got other things profoundly wrong. Begley's article made some cheap shots but it also made some *fair* shots about evolutionary psychology that need to be acknowledged.

As for the public media, covering science must be one of the toughest journalistic assignments. First, one must understand the nature of the scientific process in general terms. Then, one must master the specific topic that is being reported. Finally, one must convey what is genuinely newsworthy to a general audience--the fair shots--while avoiding the cheap shots that get people's attention but become part of the problem in the long run. Judged by these standards, the *Newsweek* article scores rather low.

Here are some issues that need to be resolved to get the romance between

evolutionary psychology and the public media back on the right track.

Take back the terms! Terms such as "sociobiology" and "evolutionary psychology" have straightforward meanings: Sociobiology is the study of social behavior from an evolutionary perspective. Evolutionary psychology is the study of psychology from an evolutionary perspective. Unfortunately, there is a tendency for these terms to become associated with *particular schools of thought* and endorsed or avoided accordingly. Thus, the study of social behavior from an evolutionary perspective has never been more active, but the term "sociobiology" is avoided because of the controversy surrounding the publication of E.O. Wilson's *Sociobiology (http://www.amazon.com/Sociobiology-New-Synthesis-Twenty-fifth-Anniversary/dp/0674002350/)* in 1975. The study of psychology from an evolutionary perspective has never been more vigorous or rigorous, but the term "evolutionary psychology" is avoided by those who disagree with the particular school of thought that arose in the late 1980's. Advertisement

It is a natural human tendency (innate, even?) to avoid being stigmatized. We understand when someone conceals their relationship with an ancestor who committed a heinous crime, but scientific inquiry must strive for higher standards. I therefore propose the slogan "Take back the terms!" to restore terms such as "Sociobiology" and "Evolutionary Psychology" to their proper broad definitions. David Buller (http://www.niu.edu/phil/~buller/), for example, who is featured prominently in the *Newsweek* article as a critic of evolutionary psychology, is happy to call himself an evolutionary psychologist writ large; his book *Adapting Minds (http://www.amazon.com/Adapting-Minds-Evolutionary-Psychology-Persistent/dp/0262524600/)* (2006) merely takes issue with the claims that were advanced by an influential book published in 1992 titled *The Adapted Mind (http://www.amazon.com/Adapted-Mind-Evolutionary-Psychology-Generation/dp/0195101073/)*. For more on this topic, I recommend an edited book titled *Evolutionary Psychology: Alternative Approaches (http://www.amazon.com/Evolutionary-Psychology-Alternative-Steven-Scher/dp/1402072791/)* (2002), which includes a chapter by myself titled "Evolution, Morality, and Human Potential"

(http://evolution.binghamton.edu/dswilson/resources/publications_resources/DSW16.pdf).

The difference between behavioral ecology and evolutionary psychology: According to Begley, "evolutionary psychology" is being replaced by another field called "behavioral ecology." Actually, behavioral ecology came first and there is an important distinction that continues to be highly relevant. Everything that evolves requires two explanations, one based on survival and reproduction (ultimate causation) and one based on the mechanisms that cause the trait to be expressed (proximate causation). Prior to the 1990s, behavioral ecologists studying all species tended to rely excessively on ultimate causation--predicting how organisms should behave to maximize fitness in their current environment--while largely ignoring proximate mechanisms. The first people to use the term evolutionary psychology criticized this position, arguing that organisms do not directly perceive and maximize biological fitness. Instead, they are directly motivated by such things as hunger, desire for status, desire for sex, avoidance of danger, and caring for one's young, which reliably increased biological fitness in the past. Furthermore, proximate mechanisms that work well in the "Environment of Evolutionary Adaptedness" (EEA) can go spectacularly wrong in a different environment. No one expects a lizard species that evolved in the rain forest to behave appropriately in the desert. Similarly we can't necessarily expect our genetically evolved adaptations to work well in modern environments. These points are as relevant today as they were back then.

Where evolutionary psychology went wrong: To proceed with their agenda, evolutionary psychologists needed to identify the actual proximate mechanisms that evolved by genetic evolution to motivate human behavior. Leda Cosmides and John Tooby (http://www.psych.ucsb.edu/research/cep/) offered a blueprint for the field that most people associate with the term "evolutionary psychology." It became highly influential but was *never* the consensus view among the entire community of scientists studying human behavior from an evolutionary perspective. My own critiques began in 1994 with an article titled "Adaptive Genetic Variation and Human Evolutionary Psychology" and continue to the

present (see my website (http://evolution.binghamton.edu/dswilson/publications.html) for selected examples). Robert Boyd (http://www.sscnet.ucla.edu/anthro/faculty/boyd/) and Peter Richerson (http://www.des.ucdavis.edu/faculty/Richerson/Richerson.htm) offered a very different blueprint in their 1985 book *Culture and the Evolutionary Process (http://www.amazon.com/Culture-Evolutionary-Process-Robert-Boyd/dp/0226069338/)*, which received much less publicity but is now increasingly occupying center stage, as described in their more recent book *Not By Genes Alone (http://www.amazon.com/Not-Genes-Alone-Transformed-Evolution/dp/0226712125/)*(2005).

How did the blueprint offered by Cosmides and Tooby go wrong? Let me count the ways: 1) They portrayed the mind as a collection of hundreds of special-purpose modules that evolved to solve specific problems in the EEA. 2) Their conception of the EEA was limited to the range of environments occupied by humans during their evolution as a species, which they acknowledged to be diverse. However, it did not stretch back in time to include primate, mammalian and vertebrate adaptations; nor did it stretch forward to include rapid genetic evolution since our hunter-gatherer existence. 3) They emphasized a universal human nature, or rather separate male and female natures, while minimizing the importance of adaptive genetic variation that cuts across both sexes. 4) They dismissed open-ended, domain-general psychological processes as a theoretical impossibility, creating a polarized worldview with "Evolutionary Psychology" at the positive end and "The Standard Social Science Model (SSSM)" at the negative end; 5) Their blueprint had almost nothing to say about culture as an open-ended evolutionary process that can adapt human populations to their current environments. They did not deny the possibility of transmitted culture, but they had almost nothing to say about it. Their most important point was that what seems like transmitted culture can instead be an expression of genetically programmed individual behavioral flexibility (evoked culture).

I know the field of evolution in relation to human behavior as well as anyone,

including colleagues who identify with the term "evolutionary psychology" and others who avoid the term. By my assessment, a large majority agrees that the claims listed above are in need of serious revision. Some people never agreed with them in the first place. Others began as enthusiasts but have changed their minds--which is a virtue in science. It is important for these changes to be acknowledged by scientists and communicated to the general public as a form of progress, without making it sound as if the field as a whole is on the verge of collapse.

Capturing the middle ground: At the most recent annual meeting of the Human Behavior and Evolution Society, the first plenary speaker was Joseph Henrich (http://www.psych.ubc.ca/~henrich/home.html), who obtained his PhD with Robert Boyd and whose address was titled "Culture and the Evolution of Human Sociality." Henrich also spoke about proximate psychological mechanisms that evolved by genetic evolution, not as adaptations to specific adaptive problems, but as adaptations that enable individuals and groups to adapt to their current environments in a rapid and open-ended fashion. For example, a "prestige bias" causes us to grant status to individuals who have something to offer and to use them as role models. A "conformity bias" causes us to copy the most common behavior in the absence of other information. "Strong reciprocity" impels us to uphold norms and punish transgressions, even at our own cost. These are the social equivalents of what B.F. Skinner called "reinforcers," which guide open-ended individual learning. Henrich's talk represents what I regard as the most newsworthy development in the field of evolutionary psychology writ large. The headline should read "Evolutionary Psychology Captures the Middle Ground!" There is something between the Cosmides/Tooby blueprint and the Standard Social Science Model that we are beginning to articulate, which is richly innate and richly open-ended at the same time.

What Begley and *Newsweek* got wrong: So much for the strengths and weaknesses of evolutionary psychology. How about the journalistic acumen of Sharon Begley and *Newsweek*? I was surprised to learn about the "ashes of sociobiology"--did it burn down? They get some aspects of the Cosmides/Tooby

blueprint right but don't distinguish it from evolutionary psychology writ large. They seriously mangle the moral implications of evolutionary psychology. *Most* behaviors that we call immoral benefit the immoral individual. Why else would anyone be tempted to misbehave? Behaviors count as immoral when they cause harm to others and to society as a whole. Immoral behaviors do not become justified when explained in evolutionary terms, any more than when explained in terms of original sin. The study of morality is one of the most exciting growth areas of evolutionary psychology--someone should write an article about it for *Newsweek*.

Sexual behaviors that benefit one member of the pair at the expense of the other--and even at the expense of the species as a whole--are a fact of nature. Get used to it. Blanket statements to the effect that evolutionary psychology writ large is bad science or intrinsically more difficult than other kinds of science are dumb; I challenge people who make such statements to back them up with hard numbers. Labeling current developments "behavioral ecology" gets the history wrong, as I have already shown. Using the phrase "it depends" as something that distinguishes evolutionary psychology from behavioral ecology is seriously muddled. Whatever else one might criticize about the Cosmides/Tooby blueprint, it is richly sensitive to environmental context. What's new is to accord more significance to *open-ended* psychological and cultural processes, which amounts to taking back much of what was rejected as part of the SSSM. Martin Daly and Margo Wilson always characterized homicide as the often unintended consequence of human conflict, not as a special-purpose adaptation. Even though children are statistically more at risk from stepparents than from biological parents, the vast majority of step-children are not abused, which has always been clear from the data.

It's interesting to read what Begley has to say about the role of the public media in the history of evolutionary psychology. According to her, the media has focused almost exclusively on the narrow version for almost two decades, which remains hugely popular because it addresses hot topics such as sex and violence. By her own account, the media has failed to report on evolutionary psychology

writ large --which is by no means a new development--and can't resist pressing the hot psychological buttons of its audience. Regretfully, she continues the tradition by writing her own article in the style of a tabloid exposé.

Rekindling the romance: Evolution is here to stay as a theory that can help us understand the human condition, along with the rest of the living world. With understanding comes the capacity for improvement. This is not just an idle intellectual pursuit but has consequences for the solution of real-world problems, so the sooner we can advance our understanding the better. One reason that we are just starting is because the term "evolution" became stigmatized early in the 20th century, in the same way that terms such as "sociobiology" and "evolutionary psychology" tend to become stigmatized today. This problem can be avoided by distinguishing particular schools of thought from the more general theory, so that the former can be accepted or rejected on their own merits without questioning the merits of the latter. In addition, all theories that lead to action in the real world need to be scrutinized for their ethical consequences; there is nothing that distinguishes evolutionary theory from other theories in this regard.

Because we are on the steep part of the learning curve, some ideas that seem foundational will end up being rejected. Science is a process of cultural change, not just individual change. Some schools of thought prevail over others, even though individual proponents might go to their graves without changing their minds. Journalists working with popular media outlets will discover much more drama and interest by accurately reporting the issues than by offering their usual fare.

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