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Evolutionary Social Psychology: A Scientific Revolution in Progress

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My first course in social psychology in 1972 or 1973 was with Elliot Aronson, a premier social psychologist of his era. He mesmerized the class. The first edition of his book, *The Social Animal,* had just been published and it was our textbook for the course. My most vivid memory was learning about cognitive dissonance theory and T-groups (then popular Sensitivity Training Groups). Elliot was a big proponent of both. In front of a class of several hundred, he would hold up his book and ask: "Doesn't it read like a novel?" The class burst into applause. Some women shouted out "We love you Elliot!" He an extraordinarily charismatic lecturer, setting a high bar that was only exceeded in my experience when I heard Phil Zimbardo give a lecture in a class I was a TA'ing for his wife, Christina Maslach at Berkeley. During that guest lecture, students broke into applause several times *during* the lecture, and thunderously at the end. With these introductions to social psychology, nothing seemed more fascinating to me than social interactions and the prospect of uncovering our underlying social psychological machinery.

Two domains of social interaction captivated me—status hierarchies and what I later came to call 'human mating strategies.' As an undergraduate I wrote a paper linking the two, hypothesizing that the primary reason that men had evolved a powerful motive to claw their way up the status hierarchy was to gain sexual access to women. My professor, David Hovland (son of the famous social psychologist Carl Hovland), liked the paper. He asked me to present it to the class, which seemed like a great honor. Perhaps coincidentally, doing so raised my status among

the undergraduates in the class, and in a case of life imitating art, led to interest from several the women who sought me after class to discuss my ideas in greater depth.

It probably served me well that I attended graduate school not in a social psychology program, but rather in personality psychology (at UC Berkeley), although who knows about the road not traveled. What drew me to personality was a fascination with human nature. I wanted to understand the fundamental motives of humans, what made them tick, what determined the goals toward which they strived. Social motives, of course, particularly engaged me. Alas, I found all existing grand theories of personality to be lacking—Freud, Jung, Adler, Horney, Kelly, Maslow, etc. Although many possessed aspects that had some intuitive appeal, all lacked a solid theoretical foundation upon which to build *a science of human nature*.

In order to develop a scientifically sound theory of human nature, it seemed to me that one had to identify the causal processes that produced that nature, whatever the constituents of that nature might be. Indeed, identifying the causes of our psychological architecture should provide insight into the nature of that architecture. During my time in graduate school (1976 – 1981), psychology was under the heavy theoretical influence of behaviorism and the blank slate model of the mind. The nature of human nature, it was presumed, was that humans lacked a basic nature. Adult behavior patterns, it was presumed, were caused by a history of contingencies of reinforcement, Bandurian social learning, parental socialization practices, and other social and cultural forces external to humans.

Dissatisfaction with this model of the human mind led me to search for deeper causal processes, which led me to the theory of evolution by natural and sexual selection. Alas, this interest remained one I had to pursue on the side, since none of my Berkeley professors had knowledge of evolutionary biology.

This interest was controversial then, and was to become more so in subsequent years. One manifestation in those graduate student years centered on sex differences.

Berkeley and Psychological Sex Differences

I was fortunate at Berkeley to have multiple mentors--Ken Craik, Jack Block, Jeanne Block, Harrison Gough, Richard Lazarus. I also eagerly initiated conversations with many professors, including social psychologists Cristina Maslach, Ayala Pines, and Phil Tetlock, as well as post-doc visitors such as Frank Sulloway. Berkeley also hosted a dazzling array of guest speakers, including Bob Zajonc, Mark Snyder, Walter Mischel, Beth Loftus, Daniel Kahneman (a UC Berkeley PhD) and Amos Tversky, although the latter's work on cognitive biases and heuristics had not yet had the monumental impact it was to attain later. As graduate students, we read all their papers with great alacrity.

Among my five direct mentors was Dr. Jeanne Block, who argued that existing sex differences, although few in number, were due to parental and cultural socialization practices. Parents dressed girls in pink and gave them Barbie Dolls, she argued, and dressed boys in blue and gave them trucks and toy guns. Boys were more physically aggressive than girls (one of the few well-documented sex differences), she argued, because of these forms of socialization. Her theory was published in prominent journals such as *American Psychologist*. Dr. Block even starred in a science documentary called, aptly enough, "The Pinks and the Blues."

I was dubious. Some of the sex differences, such as in rough and tumble play, seemed to emerge very early in life and appeared across cultures, suggesting both early predictable development and cross-cultural universality. Moreover, similar sex differences seemed to exist in closely related species, such as chimpanzees and gorillas. Block's theory moreover carried the implicit assumption of unidirectional causation from parents to children. But the design of the

studies she cited could not rule out other causal possibilities, such as children influencing parents about their toy preferences, rejecting some toys while embracing others rather than passively accepting whatever parents gave them. She viewed humans as passive blank receptacles rather than active strategists.

My side-reading in evolutionary biology also provided a powerful alternative theory—the theory of sexual selection (about which more later). But as a graduate student whose fate was subject to the whims of a few professors who would be my letter-writers, I kept my doubts the socialization theory of sex differences largely under wraps, revealing them only to fellow graduate students and in the most diplomatic manner I could muster to her husband, Jack Block, who dismissed it with a shrug, saying "That's Jeanne's stuff," although he too was a co-author on those papers.

One other interesting historical context for the study of sex differences is relevant. The field had assumed that males and female were essentially identical psychologically. In premier APA journals in the early 1970's, researchers were not even required to provide information about the sex of the participants (then called 'subjects'). The APA mandated reporting sex of participants in the mid-1970s, and this eventually led to greater focus on the nature and origins of sex differences, as well as providing information that could be compiled in subsequent meta-analyses. As I was later to argue, males and females are not psychological clones and could not be given what we know about sex differences in reproductive biology and the differing adaptive challenges the sexes recurrently face in the domains of sexuality and mating.

I was very fortunate to have published (out or *in press*) 10 papers during my graduate school days in premier journals in the field (e.g., *JPSP, American Psychologist, Developmental Psychology, Child Development*). This is not so uncommon in modern times, but was unusual in

1981 as I was completing my PhD. My high profile as a graduate student led to my first job as Assistant Professor at Harvard University. The transition proved critical. For the first time, I could pursue whatever I wanted without having to worry about the approval of graduate school mentors.

Harvard and Human Mate Preferences

Although I was technically a personality psychologist, the phenomena that most interested me were inherently social. While in graduate school, I published papers on topics such as dominant acts in social interaction (developing with Ken Craik a formulation of personality as act frequencies) and links between children's activity levels and parent-child interactions. At Harvard starting in 1981, I continued this more mainstream line of personality research, but immediately returned to my interest in building a solid scientific foundation for a theory of human nature, which led me back to evolutionary theory.

This intellectual interest took two forms—in my teaching and in my research. Upon arrival at Harvard, I was assigned to teach a course on *Human Motivation*, previously taught by David McClelland. I used evolutionary theory as a fundamental framework for organizing the course. Then in 1982, I taught a small undergraduate seminar in evolution and human nature. These courses forced me to steep myself more deeply in the technical literature in evolutionary biology (I had no prior training in that field) and to familiarize myself with its applications to the mating strategies of other species. In turn, teaching these courses led to two other outcomes. One was an article eventually published in *American Psychologist* in 1984, called "*Evolutionary Biology and Personality Psychology: Toward a Conception of Human Nature and Individual Differences."*

The second outcome was that Leda Cosmides, then a graduate student in experimental psychology, knocked on my office door and was interested in talking about evolutionary theory as applied to psychology. She, in turn, introduced me to her husband, John Tooby. They knew much more about evolutionary theory than I did, although they had not yet published in that area. Their subsequent papers, which started to appear in 1987, provided a successful integration of cognitive psychology (conceptualized as information processing in computational terms) with evolutionary theory, and would prove foundational for the field. Our discussions then and in subsequent years greatly deepened my thinking, and we formed a friendship that is still vibrant some 40 years later. At Harvard, I also met stellar scientists such as Irv DeVore, E.O. Wilson, Steven J. Gould, Jerome Bruner, and had the honor of serving in the same department as Professor Emeritus B.F. Skinner while he was still alive, as well as interacting frequently with prominent social psychologists such as Bob Rosenthal and Ellen Langer.

Another outcome was that my research took a dramatic turn—I started to study human mating strategies. While I was designing a study of married couples in Cambridge, it occurred to me that I could test a few evolutionary hypotheses based on the work of Robert Trivers (parental investment theory), George Williams (age and reproductive value), and Don Symons (physical attractiveness as providing a bounty of cues to fertility). At this time in the early 1980s, there existed some evolutionary speculations or predictions about human behavior, but virtually no empirical tests. Stated differently, the ratio of theory to rigorous empirical tests was poor. To my astonishment, however, the sex differences in mate preferences predicted in advance of their tests were confirmed—sex differences centering around resource acquisition ability and willingness (more preferred by women) and physical attractiveness and other fertility cues such as youth (preferred more by men).

The evolution-based hypotheses predicted universal sex differences in mate preferences, and I realized that no one would regard as convincing confirmation a study of a sample of Cambridge couples. So I launched what was to become a five-year 37-culture study of mate preferences. I showed my Cambridge results to a dozen or so professors—psychologists mostly, but some sociologists—and asked them to make predictions. Would the sex differences I found in Massachusetts be universal across cultures? Would they be true just in Western or capitalist cultures? Nearly all those I asked predicted non-universality. These sex differences, most argued, were products of culture.

My biggest regret is that I did not ask my colleagues to sign their predictions. The reason Is that after I discovered universal sex differences in mate preferences, precisely as predicted in advance by the evolutionary hypotheses, some said "I could have predicted that in advance." The hindsight bias is now well known among psychologists. But at the time, no one except those steeped in evolutionary theory predicted universal sex differences in advance of this study. It took many years to conduct, since this was pre-internet days, and all communication with my 50 cross-cultural collaborators had to be conducted laboriously via snail mail.

The sample included many cultures that would now be described as non-WEIRD. These included the Zulu tribe of South Africa and Lagos-dwelling Nigerians; Venezuelans and Santa Caterina Brazilians; Palestinian Arabs and Israeli Jews; Chinese, Japanese, and Taiwanese; and Gujarati Indians. It included cultures that differed in political systems (e.g., capitalism, communism), religious orientation (Muslim, Christian, atheist), and mating system (presumptive monogamy versus legal polygyny). The final sample consisted of 10,047 individuals from 33 countries located on six continents and five islands. The study took many years to conduct and analyze, but when it was finally published in 1989 in *Behavioral and Brain Sciences*, it became

and remains my most cited publication (more than 6,000 as of 2021 according to Google Scholar).

While I was in the five-year process of collecting data for this study, Bob Sternberg invited me down to Yale to give a talk to their psychology department in 1984. I threw caution to the wind, and decided to give my talk on human mating, my first professional talk on the topic. I think it was well-received. After I returned to Cambridge I received a letter from the editor of *American Scientist*, who happened to be in the Yale audience, inviting me to write an article on human mating. This led to my first publication on the topic in 1985. An ancillary benefit was requests for reprints from different cultures around the world, since *American Scientist* had a global circulation. This allowed me to invite scholars from cultures that I did not have in my sample to join the collaboration. I'm sure the invitations, coming on Harvard stationary that had the university's name in huge embossed letters across the top, did not hurt--49 out of 50 researchers accepted my invitation, as astonishingly high rate in retrospect.

The predicted sex differences in mate preferences were fundamentally anchored in Darwin's (1871) theory of sexual selection, which deals with the evolution of adaptations due to mating advantage, not survival advantage. It identified two causal pathways by which mating success could be achieved—same-sex contests or competitions, the winners of which gained sexual access to the opposite sex; and preferential mate choice, the focus of my 37-culture study. I came to realize that sexual selection theory in general and sex differences in its causal components had profound implications for many other aspects of human mating that no one had yet explored.

This insight led to an explosion of other studies that I was to conduct in my next professional position. In 1985, four years after my PhD, I was offered a professorship with tenure

at the University of Michigan. At Harvard, I had just been promoted to Associate Professor, but without tenure, so had another four years there and loved the intellectual vibrancy of Harvard. The undergraduates were absolutely amazing, and I formed a lab with half a dozen of them (three went on to get their PhDs in psychology—Mary Gomes at Stanford, Mike Barnes at Yale, and Niels Waller at Minnesota).

Alas, with my first child on the way and the prospect of joining one of the best psychology departments in the world at Michigan, and with the security of tenure, I reluctantly decided to leave Cambridge and move to Ann Arbor.

Michigan and Human Mating Strategies

Part of the allure of Michigan in 1985 was an interdisciplinary group of scholars whose research was guided by an evolutionary perspective. These included Richard Alexander (Biology), Richard Wrangham (Biological Anthropology), Barb Smuts (Biological Anthropology and Psychology), Randy Nesse (Psychiatry, Medical School), Bobbi Low (Natural Resources), and Warren Holmes (Psychology). The Dean gave us half a million dollars in 1986 to form an interdisciplinary group that met regularly. We seven, together with more than a dozen top-notch graduate students, became *The Evolution and Human Behavior Program*. We invited speakers and enjoyed an intellectual feast of luminaries such as W.D. Hamilton (originator of 1964 inclusive fitness theory), George C. Williams (author of the 1966 classic book *Adaptation and Natural Selection*), Martin Daly and Margo Wilson (authors of the 1988 book, *Homicide*), Napoleon Chagnon (world expert on the Yanomamo of Brazil). I was honored to organize a symposium at Michigan in 1986-1987 with many of these intellectual giants (see photo). I was the young upstart and knew less about evolutionary theory than any of them, but I soaked up the

knowledge and continued to read in depth the complex technical literature in evolutionary biology.

Photo Caption: From top left clockwise: David Buss, G.C. Williams, Martin Daly, Mildred Dickemann, Richard Alexander, Napoleon Chagnon, and W.D. Hamilton. From symposium at University of Michigan, Ann Arbor, 1986-1987.

Eventually, Richard Wrangham left Michigan for Harvard after he won a McArthur "genius" Award, and Kim Hill, the world's leading expert on the Ache of Paraguay, joined our EHB group. While Richard Wrangham provided a primatological perspective on human

behavior, Kim Hill provided extraordinary insights into the lives and social psychology of small-group hunter-gatherers, which were becoming increasingly rare in the world. Our annual interdisciplinary conference eventually morphed into an international scholarly organization in 1989, the *Human Behavior and Evolution Society* (HBES), with W.D. Hamilton as its first President—a society that is going strong more than 30 years later.

Although I continued to publish some mainstream articles on personality and social interaction, the bulk of my research focused on an explosion of new ideas stemming from sexual selection theory and following my 37-culture study of sex differences in mate preferences. The mate preferences I discovered had conceptual implications for intrasexual competition, since they should set the ground rules. Each sex should compete to embody the desires of the other sex, at least among heterosexuals. Among these were research projects on the psychology of *sexual jealousy* and sex differences therein, tactics of *mate competition*, tactics of *mate attraction*, *derogation of competitors*, tactics of *mate retention*, and tactics of *mate poaching*. These are all vitally important social psychological domains, yet because social psychology lacked an evolutionary lens, they were almost totally absent from the field prior to these research programs. The rare exceptions were Elaine Hatfield and Ellen Berscheid, who broke ground with some laboratory experiments on attraction, and Zick Rubin and Ann Peplau, who found that dating couples who were dissimilar in attitudes tended to break up over time.

Sexual selection theory reveals that evolved mating strategies should be center stage in understanding all sexually reproducing species. Humans are no exception. Reproductive success, the engine of the evolutionary process, cannot be attained without mating success. An evolutionary perspective suggests that our mating strategies should be complex, multifaceted, sex differentiated in some domains, and contingent on social contexts such as sex ratio in the

mating pool and strategies pursued by intrasexual competitors. Human mating strategies should occupy a prominent place in social psychology. Moreover, evolutionary psychology provides a powerful metatheory for the field, a perspective I came to explore more deeply at the *Center for Advanced Study in the Behavioral Sciences* at Stanford.

The Center for Advanced Study and Evolutionary Psychology as a Metatheory for Psychology

In 1987, I was elected to be a Fellow at the Center for Advanced Study at Stanford. Although most elected fellows opt for a year to luxuriate in scholarly activity without the usual administrative and teaching duties, the Center also provided an option to propose a group project. I proposed one, titled *Foundations for Evolutionary Psychology*. For this group, I proposed to bring in Leda Cosmides and John Tooby, who I knew from Harvard; Martin Daly and Margo Wilson, outstanding theorists and empirical scientists; and Don Symons, who had written the best book on human sexuality in 1979, *The Evolution of Human Sexuality*. Gardner Lindzey was then Head of the Center, and informed me that my proposal was accepted, and that I could invite all of my proposed collaborators with the sole exception of Don Symons. Gardner never revealed why Don was not invited.

So we gathered in Palo Alto for the academic year 1989-1990. I proposed to the group that we five co-author a book on the foundations of evolutionary psychology. We met regularly. We circulated draft chapters. My intuitions about the brilliance of these scholars was amply born out, and I learned much from them.

By this point, Tooby and Cosmides had formulated a powerful integration of evolutionary theory with modern cognitive psychology within a computational information processing framework. Its centerpiece is that psychological mechanisms, housed in the brain,

were the primary targets of evolution by selection. The goal, therefore, was to discover the design of these mechanisms, including the social and environmental inputs that activated them, their information processing procedures and decision rules, and their behavioral output. These psychological mechanisms are the primary products of evolution by natural and sexual selection. My work on human mating strategies fit nicely within this framework, as did Leda's work on social contract theory and cheater detection in social exchange and Daly and Wilson's work on homicide.

But I realized that the framework of evolutionary psychology provided something grander, and not just for the field of social psychology. It provided a metatheory for the entire field of psychology, and even grander, a metatheory for all social sciences.

The outlines of this metatheory were spelled out by Tooby and Cosmides in their brilliant classic 1992 chapter, *The Psychological Foundations of Culture*. A few years later, in 1995, I published in *Psychological Inquiry* a target article, *Evolutionary Psychology: A New Paradigm for Psychological Science*, a more user-friendly outline of the metatheory with some of my own elaborations and extensions.

Alas, the co-authored book on *Foundations of Evolutionary Psychology* did not materialize. After our year at the Center, it proved impossible to coral five independent-minded scholars, each with our own research programs and now geographically scattered across North America, to focus on this grander task. So I turned my focus to developing an evolution-based theory of mating, called *Sexual Strategies Theory* (Buss & Schmitt, 1993, *Psychological Review*) and to writing my first book, *The Evolution of Desire: Strategies of Human Mating*, first published in 1994, now in its 3rd edition (2016).

After these time-intensive projects, I turned my focus back the evolutionary psychology as a metatheory for the entire field. This focus resulted in sole-authoring the first textbook in the field, first published in 1998: *Evolutionary Psychology: The New Science of the Mind*. The book remains the most widely used text in the field (now in its 6th edition, published in 2019). I eventually edited *The Handbook of Evolutionary Psychology* (2005), a collection of some 32 chapters on topics ranging across the entire discipline of psychology. I was honored that Steven Pinker provided the Foreword and Richard Dawkins the Afterword for the volume. That *Handbook* is now in its second edition, published in 2016, which nearly doubled in size to two volumes due to the explosion of research in the field.

The Emergence of Evolutionary Social Psychology

By far the most interesting and important modern theories in evolutionary biology center on social behavior. These include *sexual selection theory* in its modern form, which formed the foundation of my work on human mating strategies and also provides insights into status hierarchies based on intrasexual competition. They also include *inclusive fitness theory*, which provides a framework for understanding adaptations surrounding families and differing degrees of genetic relatedness. Another is *parent-offspring conflict theory*, which provides a framework for understanding adaptations in parents and children that function to influence each other. Another is *reciprocal altruism theory*, which provides one framework for understanding friendships, social exchanges, gains in trade, and social cheaters. Yet another is *sexual conflict theory*, which provides a framework for understanding the domains in which men and women predictably get into conflict with each other—the basis for my recent book, *When Men Behave Badly: The Hidden Roots of Sexual Deception, Harassment, and Assault* (Buss, 2021).

Astonishingly, these foundational evolutionary theories are almost entirely absent from mainstream social psychology, although there are some positive signs of change (e.g., Kenrick, Neuberg, & Cialdini, 2019). Why should the study of human social psychology be entirely divorced from the foundational theories that have proven so useful in understanding thousands of other social species? Indeed, many of these theories are especially relevant to humans because Elliot Aronson was right--we are, after all, *the social animal.* We live in groups. We grow up surrounded by close kin. We engage in social exchange more than any other known species. We invest in our offspring for more years than any other species. And as a species, we are obsessed with mating—with who mates with whom, who deceives whom, who cheats on whom in the form of sexual or financial infidelity, what are the many forms of sexual conflict within mating relationships, how to we retain the mates we have attracted, how to we fend off mate poachers, and who gets divorced.

Evolutionary theories and perspectives provide heuristic value, guiding researchers to discover features of our social psychology entirely missed. These also provide deeper illumination of some phenomena discovered by mainstream social psychologists. An example comes from *Error Management Theory* (Haselton & Buss, 2000), which provides a deeper explanation of some of social-cognitive biases, such as the sexual over-perception bias (Buss, 2021), the stranger fear bias, biases stemming from Prospect Theory (Kahneman & Tversky) such as the asymmetry in affective reactions to gains and losses, and even the underlying theoretical reasons that explain why people commit the fundamental attribution error (Buss, 2011). These theories also illuminate why social psychology is so important within the social and life sciences.

Evolutionary psychology provides a metatheory for social psychology. It is an overarching conceptual framework within which all social psychological phenomena can be understood. This is extraordinarily valuable. Social psychology has always placed prime importance on the situation. Context matters. Evolutionary psychology dovetails well with this focus, but adds the missing ingredients—the underlying psychological adaptations that evolved precisely to respond to those important situational influences, be they commands from an authority figure, the detection of cheaters in social exchange, or cues that a spouse might be committing infidelity. Evolutionary psychology enriches social psychology by specifying evolved functions, the social adaptive challenges that caused the evolution of those psychological adaptations to begin with and the ways in which those adaptations function to solve those problems. Social psychology has been monumentally important in discovering novel phenomena, but these remain disconnected from each other, separate psychological jewels residing in their own isolated silos. From obedience to authority to conformity to group norms, from the fundamental attribution error to the sexual misperception bias, all have to be understood within the EP metatheoretical framework. If an alternative metatheoretical framework exists for social psychology, it has not been made generally known to the scientific community of psychologists.

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