Violence and Its Antidotes:
Promises and Pitfalls of Evolutionarily Aware Policy Development

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Violence—genocide, war, hate crimes, rape, domestic abuse, bullying, tiffs, and spats—impacts most lives in the United States. Yet, as noted by Alfred Blumstein of the National Consortium on Violence Research, “it is hard to imagine a public-policy arena that has been more impervious to input from research” (Blumstein, 2000). It is to this imperviousness that this volume speaks. Illuminating some of the barriers to the formulation of effective violence-reduction policies may reveal paths through or around them. The light shone on the problem is thinking about the human species’ trek through evolutionary time, on the assumption that doing so will enhance our understanding of contemporary violence and peacemaking. Because humans are social, political, cultural creatures, policy processes—from how policy is formulated to how it is received—are included among those processes assumed to be amenable to evolutionary analysis.

Enhanced understanding does not ensure positive change, of course. Indeed, like Tinbergen’s classic piece “On War and Peace in Animals and Man” (1968), the chapters in this volume make clear the robustness of some of the impediments to change on a large scale. Few authors are sanguine about changes coming easily or soon. However, new understanding promises new initiatives, new justifications for existing initiatives, and new critiques of curiously failed policies.

In the last decade or so, modern evolutionary theory has fertilized a remarkable bloom of theoretical and empirical work in psychology and related fields—a neo-Darwinian revolution in the social/behavioral sciences. Amidst the enthusiasm, verbal firefights have flared, both within the ranks of evolutionarily minded scientists and between that cohort and its critics. The harshest exchanges have centered on hot button issues, such as sexuality, race, and aggression. The heat of these debates has obscured important conceptual distinctions, quickened old ghosts, raised defenses, closed ranks, hurt feelings, and polarized positions that may be reconcilable. Of those who jumped into the fray, some have made headway with complex issues whereas others have tossed gasoline on the bonfire, scuffled over high moral ground, or run for cover.

Scientists can be found in all groups. Many, though, have run for cover. Few scientists venture into policy waters. They hope that their research will matter some day. Yet, even in the best of circumstances—an important issue, interesting ideas and data, a receptive audience—they feel that they lack preparation, time, or incentives for thinking about policy. Most do. And, given the mottled history of the evolution/aggression debate, the topic of violence can seem more like a minefield than the best circumstance. Not surprisingly, then, finding contributors for this volume was not easy, despite strong consensus that:

- violence is an important issue
- the evolutionary perspective is relevant to it
- scientists should participate more in policymaking
- even less well informed people routinely weigh in on policy

In the end, a fine array of chapters representing diverse mixtures of scientific and policy expertise was assembled. In addition to offering recommendations to the policy community, the chapters provide models for exploring the policy implications of evolutionary scholarship and, hopefully, will encourage more scientists to do so.
Nobody, however, imagines that the work ahead for scientists and policymakers will be easy. Formidable challenges remain, some rooted in the history and politics of the evolution/aggression debate and others in unhelpful conceptual habits. Understanding and overcoming these challenges is prerequisite to fulfilling the promise of an evolutionary approach.

HISTORY AND POLITICS OF THE EVOLUTION/AGGRESSION DEBATE

Ideology

Cultural ideology and the philosophies that distinguish political factions bear on reactions to evolutionary thinking about human behavior. A hallmark of American ideology is individualism—a view of the individual as the most meaningful unit of causal and moral agency. The hero, the scoundrel, the entrepreneur, and the rugged individualist are all American icons. Collectivism is of lesser value, if not anathema. This polarity has not diminished since the “Red Scare” of communism in the mid-twentieth century. If declining civic engagement (Putnam, 2000) and antipathy to collective solutions to child care, poverty, education, and health care crises are any indication, individualism has continued to rise.

Individualism is itself amenable to evolutionary analysis. According to Guisinger and Blatt (1994), individuality and relatedness comprise an evolved dialectic that, in cultural context, can develop in a balanced or unbalanced way. An example of the latter is the nurturance of autonomy and relative neglect of interdependence in Western societies. One cognitive product of growing up in an individualistic society is the tendency to underestimate the role of circumstances in behavior, such that attributions to internal/dispositional motives prevail. Originally termed the fundamental attribution error due to its robustness in mostly white U.S. college samples, recent research shows that an extra-individual perspective—attention to situation, person/situation interactions, or group goals—is common among non-Westerners (Norenzayan & Nisbett, 2000) and in some U.S. subpopulations (Vandello & Cohen, 1999). Thus, the “fundamental” attribution error is not fundamental to being human but rather reflects disparate care-and-feeding of the psychological substrates of individuality and relatedness. In dominant American discourse, one is rose, the other weed.

Individualism, as ideology and folk theory of behavior, conflicts with the evolutionary concepts of ultimate causation and humans’ inherent sociality. It resists the tenets of evolutionary analyses that locate important influences on behavior in the distant past and in social context (Bloom, this volume). In particular, attributing free will to individual agents implies a path-independence to behavior that appears to run straight up against the canalization and accommodation to rearing conditions central to evolutionary accounts of human development (Fishbein & Dess, this volume; Hrdy, 1999). Although the free will/determinism dichotomy is one of the oldest existing philosophical problems, the tension may be more apparent that real: An evolutionary approach to human cognition, behavior, and culture promises to resolve it by deconstructing its dichotomous nature (e.g., McCrone, 1999). In the meantime, harsh contrasts between the totally free individual and the highly constrained one will maintain certain ideological struggles.

Individualism also resists social-structural accounts of behavior, including perpetrating and being a victim of violence. In the United States as in many other countries, the poor, children, women, people of color, religious and sexual minorities, and immigrants suffer disproportionately

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1 Left aside here is the untenable claim that individualist ideology follows from the “selfish gene” concept. This claim suffering many fatal flaws, chief among them the problem of crossing levels of analysis (gene, individual, group). Extensive critiques are available elsewhere.
from violence. These patterns seem to invite accounts in terms of political and economic structure, including those elaborated within an evolutionary framework (Fishbein & Dess, Masters, and Mealey, this volume). For one thing, those groups have little or no political power. Children and noncitizen immigrants cannot vote, institutional barriers to voting in poor and minority communities persist, and, at this writing, the U.S. Senate includes only thirteen women and no African Americans or Latinos/as. Yet social-structural accounts are resisted by an ideology that insists upon the individual as autonomous agent; on this view, social structures and institutions themselves are not agentic but rather reflect the behavior and will of free individuals.

A better balance between individuality and relatedness would promote receptiveness to evolutionary and other situated approaches to policy, not to mention the health of the nation (Triandis, 2000; Wilkinson, 1997). A starting place is a shift in the balance of political power between individualist and collectivist sensibilities—ideally in electoral politics but also in the conceptual grounding of policymakers and the advocacy community more broadly in the biopsychosocial model offered by contemporary evolutionary thought. To promote these shifts, how policies derived from these approaches serve individual interests and shared superordinate goals can be articulated.

Challenges from the Right

Obstacles to evolutionarily aware policy, in general and with respect to violence reduction, arise from ideology associated with the far right of the political spectrum. Individualism is embraced more firmly on the Right than on the Left (Emerson et al., 1999). A good illustration is 1996 presidential candidate Bob Dole’s retort to Hillary Clinton’s book, It Takes a Village, the thesis of which is collective social responsibility for raising children. In his convention speech, Dole proclaimed, “I am here to tell you: It does not take a village to raise a child. It takes a family... individual accountability must replace collective excuse.” Although this indicates a willingness to make some exceptions to individual responsibility for children, it also indicates that the line is drawn firmly around the nuclear family. Given that this political ideology opposes evolutionary reasoning, opposition from the Right can be anticipated.

The Religious Right—for practical purposes, conservative Protestant Republicans—has other problems with an evolutionary approach. The implications of evolution for God and religiosity have been the subject of fascinating debates, but for religious fundamentalists the matter is settled: Evolution contradicts God’s Special Creation of Man (used advisedly), and evolutionists therefore are promoting atheism. Macroevolution opponents who advocate for “creation science” and its new incarnation, “intelligent design,” continue to work to eliminate evolution from school curricula or, failing that, to add creationism to them. In 2001 alone, proposals to promote creationism in or eliminate evolution from curricula were introduced in nine state legislatures and four school boards.

At a general level, this religious agenda aims to rescue children from a meaningless, amoral life. According to one intelligent-design proponent, “When you look to the idea that you and I are basically random events and random happenings, that left me feeling void and empty as a human being... That says there’s no reason for laws, or for moral behavior” (J. L. Omdahl, quoted by McMurtrie, 2001). To be sure, averting existential desperation and amorality is a noble cause, and organized religion is a paradigm in which much of the global population accomplishes it (see Solomon et al., this volume). However, most world religions have worked out a place for

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This is true only to a limited degree. In the last decade, conservatives have led a national campaign to lower the age at which children can be tried as adults, serve hard time, and receive the death penalty.
Promises and Pitfalls

macroevolution in their cosmology, and most macroevolution adherents have done the same or otherwise found meaning, order, and beauty in the world. For creationists, however, no such accommodations are possible.

Antievolution fervor also has been linked specifically to violence. In 1999, House Majority Whip Tom DeLay (R–Texas) attributed the 1999 Columbine High School massacre to children being taught about evolution, to wit, “that they are nothing but glorified apes who are evolutionized out of some primordial soup of mud.” Some fundamentalists even regard psychology on the whole as a satanic religion (see Solomon et al., this volume). Blaming violence on evolution by politicians partial to corporal punishment, the death penalty, and the flexing of military muscle may appear paradoxical but, as it happens, not from their point of view: despite a clear empirical relationship between right-wing authoritarianism (RWA) and aggressiveness, high-RWA individuals perceive themselves as “caring” (McHoskey, 1996).

Traditionalism regarding gender roles bears consideration in this context. “Traditionalism” is an orientation that is expressed in terms of, among other things, veneration of male authority and male control of female sexuality. This orientation is exemplified in the Promise Keepers, an all-male Christian organization devoted to reinvigorating American patriarchy—that is, male coalition building and social control. Rhetoric advocating sensitivity and caring is overshadowed by remarkably bald male aggressiveness. At an event called Passage, for example, young men are promised that they will “pick up the weapons necessary to take on the challenging pursuit of manhood . . . experience what it takes to become a skillful explorer and mighty warrior [and make] the transition from survivor to dangerous disciple” (Promise Keepers, 2002). Even though this may be an extreme case, the linkage of traditionalism to right-wing politics is reflected clearly in Republican Party platforms (e.g., against affirmative action and abortion rights) and the gender gap in political affiliation (more men among staunch Republicans and Independents; Norrander, 1997; Saad, 1999). It also is reflected in the differential (under)representation of women in the Republican Congressional contingent: Only three of the 13 women in the Senate and 18 of the 59 women in the House are Republican.

Neither men nor women hold a monopoly on any political slant or psychological attribute. Indeed, the very question of what “man” and “woman” mean and how a categorical construction of gender may foreclose human potential is receiving intense scrutiny (e.g., Butler, 1990; Fausto-Sterling, 2000). At a minimum, gender is multidimensional and interacts with many other variables in predicting ideology (e.g., Watkins et al., 1998). Yet, in the context of a binary view of gender, convergent evidence from cross-cultural studies and from our nearest relatives indicates that male dominance perpetuates gendered differences and inequities and a propensity toward violence. Although human cultures vary tremendously in how violent or peaceable they are, males everywhere are on average more violent than their female counterparts (Goldstein, 2001). Male-dominant cultures currently are the norm, and they resist female empowerment through mechanisms including brute force (e.g., the Taliban’s public torture and execution of women, suttee or immolation of Indian women), custom (e.g., property rights favoring males, denial of education to girls), and socialization (e.g., internalized gender roles, identification with the aggressor). Less the symbolic processes and formal institutions unique to humans, such systems resemble the male-dominant, largely despotic social organization of chimpanzees (de Waal, 1989a).

The relationship among gender, politics, violence, and peace has been examined extensively from many theoretical perspectives. The present treatment is limited to a few points relevant to evolutionary thinking.
Male dominance—and the aggression correlated with it—is not the only mode for humans or our kin. Matrilineal female-dominant (e.g., the Mosuo of China) and gender-egalitarian (e.g., the Minangkabau of Indonesia) cultures do exist, and they are comparatively pacifistic. Globally, high female clout predicts less intense state violence (Caprioli & Boyer, 2001). This pattern echoes bonobo society, in which female coalitions rule and aggression within and between groups is minimal (de Waal, 1995). Violence among bonobos is quelled through high levels of intimate physical contact throughout life, which fosters close attachments, reduces anxiety, and calms aggressive outbursts. If intimate contact is a quintessentially primate way of promoting affiliation and diffusing anger (Field, 1999; Sheline et al., 1994; Silk, 1998)—and the enormous meaning accorded a handshake at top diplomatic levels hints that it is—proscriptions against physical affection and female sexuality in male-dominated societies permit the escalation of aggression.

Thus, research with many cultures and species indicates that the still small voice of women on U.S. policy can effectively moderate violence and speak for peace. This notion is no mere stereotype of femininity. Although a heterogeneous lot, American women do tend to be less social-dominance oriented and more politically progressive, collectivistic, committed to social justice, and supportive of reproductive rights than men (Day & Hadley, 1997; Madson & Trafimow, 2001; Pratto et al., 1994). On the basis of these attributes and shared goals, they have joined international coalitions such as Women Waging Peace and Women’s Peacepower Foundation. Activist female coalitions are more likely to unsettle traditional social categories and to cultivate gender equity, which may in turn facilitate the formulation and implementation of violence-quelling, peace-promoting policies. Consideration of evolutionary views on peacemaking also may increase, if differences with apparently competing perspectives can be negotiated (see Challenges from the Left and Science Wars, below). Women’s collective voice is, however, still very small, and given the fundamentals of conservative ideology, it probably is unreasonable to expect accommodation by the far Right to much increase in its volume.

Challenges from the Left

The political Left is exquisitely sensitive to progressive thought, intellectualism, history, and the social context in which policy decisions are made. It also has been home to collectivist policies and female empowerment. In these respects, the Left is congenial to consideration of evolutionary reasoning. However, red flags are jerked aloft on the Left at the specter of oppression conducted under the banner of evolution. Being vigilant to oppression by the powerful is a good idea; indeed, we may be compelled to it (Boehm, this volume). It is true that Charles Darwin distinguished “civilized” from “savage” human societies, an idea that racists have exploited ever since. It also is true that principles of evolution have been co-opted to justify oppression in the form of inhumane economic practices (Herbert Spencer’s Social Darwinism), eugenics (as did the Nazis), and political persecution (Lysenkoism).

A moment’s reflection, however, reveals the illogical coalition implied by Social Darwinism (unbridled capitalism), Nazism (genetic determinism), and Lysenkoism (a Marxist version of nongenetic selection). These movements do not follow inevitably or uniquely from any core principle of evolutionary theory. The relationship has worked the other way around, that is, “People generally found in Darwin what they wanted to find” (Proctor, as cited by Conley, 2001). In this regard, there is nothing special about evolution. In human history, oppression has been pursued in the name of myriad constructs—religious obligation, philosophical mandate, historical warrant, scientific deduction, and so on. In many cases, as with evolution, the oppression was underdetermined by, if not logically disconnected from, the original concept.
Unfortunately, after more than a century of “spinning,” the Left’s objections to evolution are a muddle of legitimate concern, straw argument, knee-jerk reaction, and ignorance of modern evolutionary science. In many a liberal mind, evolution is guilty by association with colonialism, Hitler, The Bell Curve (Herrnstein & Murray, 1994), and other instruments of oppression. Ad hominem attacks in the popular press continue to reinforce earlier conditioning. For instance, writer Natalie Angier, perceiving antifeminism in research by some evolutionary psychologists, calls them “evo psychos”; though her complaint actually is not with evolutionary thinking in general, the aspersion paints a broad and nasty swath. So it goes that “evolution” elicits a negative visceral reaction and the specter of vast right-wing conspiracies. Once elicited, these covert responses need little further validation to control overt behavior—including omnibus condemnation of an evolutionary approach to policy.

In 1992, a scientist pushed the buttons of left-leaning politicians, and evolution took the hit along with the scientist. Frederick Goodwin, then head of the former Alcohol, Drug Abuse and Mental Health Administration, gave a speech about a federal initiative for violence research in which he compared the inner city to a jungle and young men living there to monkeys genetically prone to violence and hypersexuality. Goodwin’s ideas suffered a host of conceptual problems, including a view of affluent society as superseding nature (with urban “jungles” a “return to what is more natural”), inference from population-based genetics to group differences, and failure to:

- Consider alternate paths to “antisocial” behavior (Kinner, this volume)
- Distinguish the psychosocial construct of aggression from the sociopolitical one of criminality (Kinner, this volume)
- Appreciate the role of racial bias in the so-called criminal justice system

Politically and ethically, the speech was a disaster.4 Had he meant to, Goodwin hardly could have done a better job of invoking negative stereotypes about African American men. He showed sensitivity to cost-effectiveness but none to social justice, despite a well-publicized legacy of racism in government-sponsored research (e.g., the Tuskegee syphilis study, psychosurgery and sterilization programs, exclusion from clinical trials). To the contrary, he capitulated to individualism, explaining that targeting inner-city youth for biomedical intervention would be palatable to a public averse to “social engineering of society.”

Condemnation of Goodwin’s plan was swift and sure. Groups from the Congressional Black Caucus to the Association of Black Psychologists, along with powerful congressmen such as Senator Edward Kennedy (D—Massachusetts) and Representative John Dingell (D—Michigan), killed the initiative and secured Goodwin’s resignation. The initiative and Goodwin’s job, however, were not the only casualties. For good measure, Kennedy and Dingell declared that knowledge about nonhuman primates “is a preposterous basis” for analyzing anything as complex as “the crime and violence that plagues our country today.” This omnibus rejection of evolutionary analysis of human behavior far exceeds the scientific, political, and ethical dimensions of the Goodwin episode. As discussed further below (see Overcoming Anthropodenial), much of the passion generated by Goodwin’s remarks stems not from partisanship or ideology but from the profound offense taken by many people—across party, color, and cultural lines—at being reminded that they are animals. Every person involved in the episode (and reading this volume) is a primate that shares more than 90% of its genome with monkeys and more than 98% with Pan species (chimpanzees and bonobos). Yet the

4 Writer Tom Wolfe (1996) observed of Goodwin’s reference to the “jungle”: “That may have been the stupidest single word uttered by an American public official in the year 1992.”
sense that humans are not animals is so keen that references to one's (or one's group's) animal nature are fighting words.

An irony in the Goodwin episode is that all parties appeared to share the view that humans have slipped the surly bonds of animalhood. Goodwin's critics did not suggest that he erred by failing to compare everyone to monkeys. Rather, in the tradition of John the Elephant Man ("I am not an animal!") Merrick, they protested that they were "not animals" (e.g., Schiller Institute, 2001), that humanhood was being reserved for groups other than African American men. Indeed, by comparing the inner city to the jungle and inner city youth to monkeys, Goodwin did imply that a comparison to monkeys was less apt for, say, a white suburbanite who shoots his wife, beats his son's hockey coach to death, or wants to personally bomb Afghanistan and Iraq back to the Stone Age. If asked directly, Goodwin surely would plead good intentions and agree that all humans belong to the same species. But it is too late. Because African Americans, indigenous peoples, and other groups often have been denied status as human beings, the time to appreciate their and their allies' point of view and the true meaning of a comparative perspective on violence was before an ill-advised policy was formulated.

Contemporary evolutionary thinking about human behavior encompasses many ideas dear to the Left—reciprocity, social responsibility, coalition politics, nonviolent conflict resolution, gender equity, crucial roles for social learning and culture, and others. Unfortunately, many left-leaning people are scared away from this treasure trove by inaccurate, clumsy or naïve depictions of it, not to mention the racial-superiority campaigns by the likes of J. Philippe Rushton. The usefulness of an evolutionary approach to the Left's agenda will only be appreciated when their righteous concern about it is addressed.

Right and Left Teamed Against Evolution: A Case Study

So often, the political Right and Left are at odds with each other about the way the world does or should work. Sometimes, however, they find themselves on the same side of an issue, pursuing a common objective for different reasons. A case in point is a resolution introduced in the Louisiana legislature in May of 2001 by Representative Sharon Weston Broome (HCR-74). It read in part:

Be it resolved that the Legislature of Louisiana does hereby deplore all instances and ideologies of racism, and does hereby reject the core concepts of Darwinist ideology that certain races and classes of humans are inherently superior to others.

Here, then, was a measure that equated evolution with Darwin, declared it an ideology rather than a scientific theory, linked it explicitly to a social evil and, on its face, was progressive. It was politically clever, daring opponents to vote against a condemnation of racism.

The House Education Committee passed the resolution, but not unanimously: All six Democrats voted "yay" and were joined by three Republicans; the other five Republicans voted "nay." The measure fared less well in the full House, passing only in an amended form that condemned racism with no reference to evolution or Darwin. One interpretation of this measure's fate is crass party politics. This fits with the fact that 100% of the opposition in committee and the later amendment came from Republicans. However, the full House membership has a strong Democratic majority (70%) and still approved only the evolution-free amended bill. The House is overwhelmingly white (80%), so perhaps the bill was wrestled to the ground by politicians—Democrat and Republican—unmoved by racial oppression, civil rights, and the leadership of the African American woman who sponsored the resolution.
These analyses may have some merit, given the complexities of race, gender, party affiliation, and ideology in Southern politics. They ignore, however, the substantive themes in the debate. The first, obvious theme is the putative link between evolution and racism, which resonates particularly with the Left. Tracing modern racism back to Darwin may be a canard, but it is a scholarly sounding one that appeals to deep, authentic suspicion as well as to political opportunism (see also Science Wars, below). Its flaws were exposed in testimony from Joseph Graves, professor of evolutionary biology and African American studies at Arizona State University (see Foreword). An expert on evolution, philosophy of science, and the race/genetics debate (Graves, 2001), he explained how the Darwin-to-racism claim is “historically inaccurate and grossly misrepresents the history of racism in the Western world,” how “in the historical balance, Charles Darwin was one of the good guys,” and how, perversely, minorities already underrepresented in the sciences would suffer most from the resolution’s likely impact on education (cited in Conley, 2001).

The second, less obvious theme is the Religious Right’s crusade against evolution. Some facts suggest that the resolution was motivated by a hidden agenda— the teaching of creationism in the schools. The resolution did refer to the need to revise curricula, and Broome indicated, more specifically, that passage of the resolution would require disclaimers in science textbooks regarding evolution—a creationist strategy that has been implemented in several states and attempted in others. She had served on the state advisory board for the Christian Coalition and earned a graduate degree from a university founded by fundamentalist Pat Robertson. In addition, testimony supporting the resolution was offered by a representative from Concerned Women for America, an organization that promotes the teaching of creationism. Finally, the Darwin-to-racism claim figures prominently in the writings of creationists such as Henry Morris, founder of the Institute for Creation Research, who, in The Troubled Waters of Evolution (1974), proclaimed that “evolutionary thinking is at the root of modern racism and racial conflicts” (as cited in Conley, 2001).

The religious motive for this resolution juxtaposes the agendas of the Left and Right in a peculiar way. Protestant Fundamentalism, especially in the South, has historical ties to the civil rights movement, coalition politics, and leaders from the African American community, such as the Reverend Martin Luther King Jr. On the other hand, Protestant Fundamentalism also is central to the U.S. white supremacist movement. Would that the political pursuits of creationists were associated only with the noble alliance with progressives for civil rights, but apparently they are not. For example, after pinning racism on Darwin in one book, Henry Morris wrote in another:

Often the Hamites, especially the Negroes, have become actual personal servants or even slaves to the others. Possessed of a genetic character concerned mainly with mundane matters, they have eventually been displaced by the intellectual and philosophical acumen of the Japhethites and the religious zeal of the Semites. (in The Beginning of the World, 1991, as cited by Trott, undated)

Ironically, then, creationist cosmology has spawned both condemnation of evolution as racist and doctrine about God’s design of genetically different human castes. Although the Bible arguably has been used more extensively than Darwin to justify racist policies, no ban on it is pending in Louisiana. Rather, it is being used as a platform from which to launch multiracial, multiparty attacks on evolution. (See Scott, undated, for a wry commentary on this double standard.)

In connection with discussion above of gender and ideology, it is interesting that none of the 29 board members, officers, or representatives governing the Institute for Creation Research is a woman.
The vigilance of African Americans and other disenfranchised groups to oppressive schemes, especially from government and science, is prudent. Their distrust has been earned. Sadly, though, that vigilance can be exploited in harmful ways. A tragic example is the popularity of conspiracy theories about AIDS. According to one version, AIDS was developed by the U.S. government in a genocidal plot to kill black and gay people. In a 1995 Miami Herald survey, two-thirds of the African Americans surveyed either believed in or were undecided about this theory. Other versions reject the idea that HIV causes AIDS or is sexually transmitted. Adherents including ACT UP-San Francisco and South African President Thabo Mbeki have stymied efforts to control and treat AIDS, such as safe-sex practices and AZT treatment for pregnant women. The case of the Louisiana evolution-and-racism resolution similarly is a brew of understandable suspicion, bad information, and murky political motives.

There is no doubt that upon reading the title of this volume, many on the far Right will assume a tome of godlessness, anarchy, and moral rot, while some on the far Left will assume an apologia for an oppressive status quo. Little can be done to prevent such prejudices and the out-of-hand rejection they ensure. However, healthy alliances of moderates on the Left and Right are possible. In the case of evolutionary perspectives on violence, their emergence will depend on identification of common goals, sound education about what evolution does and does not imply, and trust. Where the will for constructive alliance exists, this volume should be a useful tool.

The Science Wars

The intrigues of academe are fascinating to academics but utterly uninteresting to most everyone else. Bearing this interest gap in mind, how evolution has fared in the academic arena is outlined here only briefly, to highlight those threads in the fabric of this story about history and politics. Lengthy analyses of the Science Wars can be found elsewhere (e.g., Gross & Levitt, 1997; Ross, 1996).

Evolution, as fact and theory, is the bedrock of contemporary biological science around the world. Due to the overwhelming evidence for macroevolution on Earth, its occurrence is granted in biology departments everywhere, excepting the odd American creationist holdout. Evolutionary theory has developed far beyond Darwin’s germinal notion of natural selection or “survival of the fittest.” It is a vibrant enterprise, with lively debates about the processes through which species and their attributes arise—individual versus group selection, gradual accretion versus punctuated equilibrium, environmentally sensitive mutation rates, reproductive isolation and genetic drift, and so on. Evolution provides a research framework that is rare in its unifying potential.

In academe generally, interdisciplinarity has blossomed in the last decade, with collaborations springing up between departments and divisions on campuses around the world. “Area studies” bridge sociology, anthropology, literature, and political science. Behavioral neuroscience bridges psychobiology, physics, and chemistry. Cognitive science bridges psychology, biology, philosophy, and math. Evolution is a key player in some of these emerging fields. For example, at the First International Conference on Social Cognitive Neuroscience in 2001, evolutionary biologists, political scientists, social and experimental psychologists, anthropologists, philosophers, and neuroscientists explored cells-to-society models of empathy, prejudice, intersubjectivity, and other topics. Scholars everywhere are reaching across disciplinary boundaries in exciting ways, enriching themselves, their students, and our understanding of the world.
Yet a deep rift between the humanities and the “traditional” sciences—biology, chemistry, physics—has precluded integrative, consilient (Wilson, 1998) understandings of human behavior. The stage for the drama may have been set by the prehistorical roots of human yin and yang, Descartes’s body/soul dualism (1600s), and the Age of Reason (1700s). By the mid-twentieth century, what C. P. Snow (1959) called “the two cultures” were entrenched:

Literary intellectuals at one pole— at the other the scientists. . . . Between the two a gulf of mutual incomprehension—sometimes (particularly among the young) hostility and dislike, but most of all a lack of understanding. (p. 4)

During the 1960s to 1970s in the United States, the Science Wars heated up as progressive-Left factions in sociology, anthropology, and history joined the humanities against the “traditional” sciences. The terms of the battle shifted in the 1980s to 1990s, when English translations of 1960s to 1970s European philosophy gave birth to American postmodernism. Postmodern attention to class, race, sexuality, and gender suggests a natural alliance with the Left; indeed, adherents have been called the “academic left.” That label, however, is misleading: Postmodernists eschew the Left’s progressive liberal agenda on grounds that it shares with traditional science untenable Enlightenment-era assumptions about the nature of truth and knowledge. From postmodernism emerged an antiscience, antiliberal sensibility within academe that in many institutions catalyzed tension into civil war.

Use of military metaphor here could be criticized, but it is used advisedly. As suggested by Snow’s quote, the rift between the two academic cultures is not a collegial debate. Attempts at rapprochement are drowned out regularly by recrimination, disdain, and vicious attacks. At two major research universities (Stanford and Duke), the acrimony culminated in the cleaving of the anthropology department into two independent units, with biological anthropology home to the “traditional” science orientation (Naturalist Side) and cultural anthropology home to the postmodern orientation (Postmodern Side). A comparable rift has deepened divisions within many psychology departments.

How, then, to understand the contemporary conflict? Substantively, it can be distilled to tension between the Naturalist pursuit of general rules of the physical universe and the Postmodern pursuit of particular, culturally situated interpretations of life. Equipped primarily with quantitative tools, Naturalists aim to discover how the world works; Postmodernists, equipped primarily with qualitative tools, study how meaning is created in social contexts. Beyond this, characterization of the two sides would be fruitless. For one thing, it could not be neutral. For another, neither position is unitary: The Naturalist camp is home to everything from particle physics to experimental social psychology, and the Postmodern camp is home to social constructivism, critical and feminist theory, science studies, and other projects.

A more important reason for avoiding elaboration is that the details of the two substantive positions, as irreconcilable as some are, do not account for the acrimony. The communication gap Snow identified decades ago is a major culprit. Over time, barriers to constructive exchange have grown tall and thick. There is no common language (or “discourse”) to serve as a medium for discussion. Many scientists, for instance, would be baffled by “conversation on the project of

6 Common administrative terms for science are problematic. For example, “natural sciences” implies a contrast with unnatural ones, “physical” with metaphysical, “social” with asocial. None is apt, so they are avoided here.
promatizing the privileged, patriarchal discourse of objectivism by interrogating the aporia of truth and binary opposition.”

In addition, recruits to each camp now are exposed to secondhand (mis)representations of the other camp’s tenets more than to the tenets themselves. The derivative nature of understanding on both sides has been aggravated by the crisis in K-12 education and specialization in higher education. Through a sort of intellectual reproductive isolation, new generations of Naturalists are taught little about philosophy whereas budding Postmodernists are taught little about science. Many do learn about how each side is perceived by the other, that is, that Postmodernists are incomprehensible naysayers who disguise sloppy thinking with winks and nods, whereas Naturalists are operatives of oppressive powers-that-be, smug money-grubbers wholly lacking in insight. Aspirants who would like to learn more are warned against taking the other side too seriously, lest they waste time or, worse, be tainted by it.

Although most academics are either disinterested in the conflict or manage equanimity, two relatively small groups of more vocal, more polarized, and polarizing individuals prosecute this internecine warfare. In the academic context, this manifests as fights over faculty positions, tenure, student loyalty, and control of resources. The conflict has all the hallmarks of classic intergroup bias, that is, in-group favoritism and out-group derogation (Fishbein & Dess, Solomon et al., this volume). At its worst, it is the academic equivalent of the Israeli-Palestinian conflict—vitrile, subterfuge, martyrdom, and protracted battle that renders the contested turf uninhabitable unless a sensible, fair resolution is achieved.

Evolutionary thinking has suffered in the Science Wars in two ways. First, by virtue of presumed location within the Naturalist camp, evolution has been critiqued by Postmodernists as a potentially inappropriate and immoral paradigm for addressing human behavior (for a primer, see Slife & Williams, 1995) -- inappropriate, to the extent that applying the methods of “natural science” to humans wrongly assumes that they are “natural objects” (Slife & Williams, pp. 198–199), and immoral to the extent that evolutionary reasoning entails genetic determinism and biological reductionism, by which the “agency, meaning, and morality of human life are threatened” (p. 158). Determinism and reductionism also carry the historical baggage of Nazism and other eugenics programs (see Challenges from the Left, above), a red flag that Postmodernists hoist when evolution comes up, as did vanguards of the Left before them.

These critiques impede full participation of evolutionarily minded scientists in policy work. Fortunately, defusing them is relatively easy. One can:

- Agree that everything one knows is, by definition, human knowledge and unavoidably influenced by culture
- Acknowledge that one assumes rather than knows that humans belong to the natural world
- Endorse a soft reductionism, that is, assume some coherence and stability in a physical universe at many levels of organization, while rejecting genetic determinism as straw argument.

These authors of the postmodern persuasion provide an example of a wildly inaccurate view of evolution (pp. 139–140). Note also their effort at distinguishing identification of assumptions and rejection of them; the interested reader can decide whether they succeed.

De Waal (2001), who is Dutch, relates a meeting at the rim of the rift: “An older social psychology once shocked me by reacting to my declaration that I was a European ethologist with ‘So, you must be a Nazi!’”
These replies simply demonstrate a rudimentary understanding of the nature of science (see Rutherford & Ahlgren, 1991, Chapter 1) and modern evolutionary thought (see False Dichotomies, below). One can further stipulate that ethologist Konrad Lorenz was a Nazi, noting, in fairness, that this is not true of Dutch ethologist Niko Tinbergen, who survived Nazi persecution to accept the 1973 Nobel Prize with him—but it is true of philosopher Martin Heidegger, a founding father of postmodernism. Identifying common ground, agreeing to disagree, and widening the lens of historical retrospectives can lower the temperature and narrow the gap between camps. An excellent example may be found in Wheeler Vega’s (2001) incisive examination of the dispute between feminist and evolutionary scholars over Thornhill & Palmer’s (2000) book, A Natural History of Rape (see also Mealey, this volume).

The second cost to evolutionary reasoning of the Science Wars is the lost potential for collaboration with differently trained people who are smart and thoughtful. Aside from those most committed to the wars, plenty of academics are eager to engage substantive issues in a serious, productive way. Evolutionarily minded scientists can find within the postmodern universe colleagues with whom they can begin to communicate and from whom they can learn a great deal. Past the rancor and between naïve claims to scientific objectivity and postmodern nihilism, there is common ground. For instance, social constructivists assume that human knowledge is constructed in a cultural context and that humans (including scientists) can “know” things for which there is no referent in empirical reality; these assumptions about human meaning-making are entirely compatible with evolutionary theory and empirical evidence (Donald, 1991; Schumaker, 1995; Solomon et al., this volume). Together, evolutionarily minded scientists and postmodern-leaning colleagues also could usefully explore the possibility of meaning in the lives of animals without language or cultural institutions, compare views of diversity and “universality” from exclusively human versus comparative perspectives, and so on.

Passionate debate is healthy, but venom is not. The Science Wars—in the latter sense—have not been good for national policy. In a speech to academics in 1997, Representative Vern Ehlers (R—Michigan) noted that the emergence of an antiscience philosophy had driven Snow’s “two cultures” further apart and charged the audience with responsibility for bridging them (Jones, 1997). Everyone—most of all, the world beyond academe—will benefit when proliferation of models for productive, civil exchange reduces the Science Wars to a skirmish and, finally, to a chapter in academic history.

CONCEPTUAL HABITS IN NEED OF BREAKING

History and politics operate at a social and institutional level to influence evolution’s standing in policy discussions. This section addresses five conceptual habits that operate at the individual level to influence discussions and collective decision making. Although interrelated, they are distinguished here to facilitate the development of habit-breaking strategies. These habits have outlived any usefulness they may once have had and/or are demonstrably wrong. In either case, it is time for renewed efforts at giving them up.

Deconstructing False Dichotomies

Humans can think holistically as well as categorically. As it happens, people in Western cultures are prone to categorical thought (Nisbett et al., 2001). This propensity manifests in the persistence of false dichotomies in thinking about behavior. A prime example is the so-called “nature versus nature” debate, in which “nature” refers to genes and “nurture” refers to
environmental events. The dichotomy pits genetic determinism against radical environmentalism. According to the former, behavior unfolds from genes in a predictable way, like a blueprint. According to the latter, environmental contingencies and contexts control behavior. The dichotomy gives rise to questions such as, “Is violence caused by genes or upbringing?”

Although this sort of question still appears in public discourse and some textbooks, in science the “nature-nurture” debate is a red herring. Genetic endowment and environmental influences are inextricably intertwined. As David Lykken put it in The Antisocial Personalities (1995), “Without experience, a genotype is nothing more than a damp spot on the carpet” (p. 85). Recursive, reciprocal gene/environment interactions at individual (Plomin & Neiderhiser, 1992) and cultural (Deacon, 1998; Donald, 1991) levels figure prominently in contemporary theories. Ideas about development, learning, and natural selection turn on how the environment influences gene expression and, therefore, actually creates the phenotypes on which various selective pressures then act. Put simply, deterministic, either/or thinking about the role of genes and the environment in behavior is obsolete. Their relationship clearly is a probabilistic, transactional one (see Gottlieb, 2000, for a highly readable overview).

The interaction between genes and experience has been amply demonstrated with respect to aggression. In rhesus monkeys, impulsive aggressiveness varies considerably among individuals (Suomi, 1999). Inappropriate aggression often leads to social ostracism, which, for a highly social animal, is an enormous liability. In the wild, inappropriately aggressive young males are driven out of the troop, usually to an early death. Impulsive aggression has been linked to a low level of the neurotransmitter serotonin which, in turn, has been linked to one form of a particular gene (LS allele for 5-HTT). It may seem, then, that this gene is a “risk factor” for bad social outcomes. It turns out, however, that monkeys with the gene are social losers only if they are peer reared; with good maternal care, they grow up to be unusually socially competent. Gene/environment interactions also influence aggression in mice (Miczek, Maxson, Fish, & Faccidomo, 2001) and people (see Kinner, this volume, on individual differences and Masters, this volume, on omnibus effects).

Suomi’s research demonstrates that the very same gene that puts an individual “at risk” of an undesirable outcome also may put the individual “at risk” of a desirable one. The behavioral expression of genes and its consequences for the animal depend critically on rearing and other circumstances. People intent on identifying and eliminating “bad” behavior genes would do well to heed this lesson. Although examples from behavioral genetics focus on understanding variation among individuals, the basic principle—that the biological potential for aggression does not ordain it—applies just as well at the group and species level.

Another false dichotomy concerns whether humans are by nature violent or peaceful. Is Nature the “a state of war” asserted by Hobbes and “red in tooth and claw” as imagined by Tennyson or is it, as per Rousseau, a peaceable kingdom? A look around the globe at the tremendous variation in how violent or peaceable different cultures makes this seem like a sensible question: Which condition represents our true nature, and which our nature trumped by circumstances? As beguiling as this question may be, it makes more sense in terms of habits of mind—dichotomous thinking, determinism, literary archetypes, worst fears, or highest aspirations—than as a question worth answering. The study of human cultures over time and comparative research with diverse primate species clearly indicates that aggression and peacemaking are both integral parts of the human social/motivational repertoire; moreover, they interact in a complex fashion, sometimes appearing mutually inhibitory and other times appearing synergistic or dialectical. Numerous works from psychology, anthropology, primatology, and other fields support this emerging view of human nature and how individual and cultural experience influences its expression (e.g., Aureli & de Waal, 2000; de Waal, 1989a and b; Robarchek & Robarchek, 1997; Ury, 2002). Humans have a capacity for cruelty and killing unequalled by other species. We also have the ability
to proactively prevent aggression by building prosocial affiliations, deescalate aggression by literally or figuratively turning the other cheek, and reconcile after fights to restore or strengthen relationships—even to make friends with former mortal enemies. Although conflict may be inevitable, violence is not. It is within humans' nature to avert it and foster peaceableness.

Policy decisions grounded in either pole of the nature/nurture or violent/peaceful dichotomies will err in terms of the populations they target or the over- or underestimation of potential impact of interventions. For example, a belief that males are “innately” aggressive is consistent with school policies and economic institutions that encourage ritualized violence and tacitly condone “penalty” violence in the context of contact sports (Conroy et al., 2001; Silva, 1983). More generally, a belief in a violent human nature—allowing for, perhaps, a modest amount of early childhood malleability—can lead to underestimation of the ability of individuals and entire groups to abandon seemingly entrenched violent norms for a more peaceful existence (Robarchek & Robarchek, 1997). Despite being at odds with empirical evidence and counterproductive, these dichotomies have been kept alive by the powerful emotional, political, and ideological forces addressed above (History and Politics), and by the proclivity of the Western mind for dualisms. They might lose some of its appeal if these coercive influences are exposed and the research providing persuasive alternative models is more widely disseminated.

Overcoming Anthropodenial

In The Ape and the Sushi Master, Frans de Waal (2001) observes, “I often get the impression of being surrounded by two distinct categories of people: those who do and those who don’t mind being compared with animals” (p. 10). Although people do seem to vary in this way, the former attitude is more deeply rooted in Western culture than is the latter. In the united States, pointing out that someone is an animal generally is not considered a compliment. Indeed, a snarled “They are animals!” is often aimed at whole groups of people behaving in ways culturally associated with “base instincts” and impaired human faculties such as intellect and moral reasoning. It is ironic that the behavior earning the epithet often is massively destructive or sadistic behavior for which there is no parallel in species other than ours.

De Waal coined the term “anthropodenial” to refer to the rejection of humans’ animalness. Although it may vary across individuals and cultural groups, there is evidence that it is deeply rooted in human evolution. Specifically, humans’ cognitive capabilities compel awareness of our corporeal nature and mortality. Thoughts about “creatureliness,” then, elicit a primal terror against which we vigorously defend through intergroup bias, the quashing of in-group dissent, and belief in an afterlife (Goldenberg et al., 2001). Thus, the tendency to resist thinking about human behavior in the context of continuity with other species is culturally endorsed and proximately reinforced by anxiety reduction.

Anthropodenial stands in the way of evolutionary reasoning because humans’ continuity with other species is an inescapable implication of evolution. Fortunately, it is a habit of mind that can be managed. First, evolutionary reasoning also implies human uniqueness, and people who wish or need to focus on ways in which humans are different from other animals can be distracted by that differentness. Second, the power of animalness reminders to elicit anxiety probably can be defused by high self-esteem and strong, secure attachments early in life (Florian & Mikulincer, 1998; Mikulincer & Florian, 2000). Therefore, its power can be attenuated with policies promoting psychological wellness and high quality child care. Overcoming anthropodenial in these ways would increase receptiveness to evolutionary reasoning, as well as emotionally satisfying appreciation for the creaturely world of which we are a part.
Challenging Aggression Myths

Cultural mythology about the nature of aggression can be antithetical to effective problem solving. An example is the construction of extreme or collective violence as inexplicable. In the aftermath of the Columbine school massacre, for instance, a commentary in the *Los Angeles Times* was entitled, “Seeking to Make Sense Where There Is None” (Hewitt, 1999). Another example is the construction of violence as madness—something of which “normal,” “rational” people are incapable. To be sure, there are instances of violence that are, at first, difficult to comprehend and for which a role for bona fide mental illness is plausible—such as the man with a brain tumor who climbed a campus tower in 1966 and shot 46 people, killing 15, and the Houston mother reportedly suffering from severe postpartum depression who drowned her five children in 2001. Yet even these are not simple cases. The first—of Charles Whitman—included a history of domestic violence and combat training, the second—of Andrea Yates—social isolation, the overwhelming demands of a large family, and a religious fundamentalist belief system in which her despair was readily understood as the devil’s doing. Similarly, attributing violence on a large scale, such as genocide, to chaos or the mind of a madman is belied by the degree of organization and number of individuals necessary to prosecute the campaign.

From media sensations to the commonplace, then, violence is amenable to systematic analysis in terms of distal (evolutionary, developmental) and proximate (e.g., neurochemical, social context) factors that fuel or moderate (e.g., impulse control; Masters, this volume) aggressive behavior. One can indeed “make sense” of the Columbine tragedy. As represented in the media in recent years, a recurrent theme in school shootings is that of revenge by boys harassed by peers and lacking high-quality adult supervision (see quotes in Solomon et al., this volume). Consistent with this depiction, aggression is elevated among children who are “bully-victims” (both bully and are bullied) and who were physically abused by caregivers (Salmivalli & Nieminen, 2002; Shields & Cicchetti, 2001); moreover, aggressiveness is more “power based” among boys than among girls (Roland & Idsoe, 2001). Related observations have been made in other species. For example, young male hamsters exposed to aggressive adults during puberty are more likely to later attack smaller hamsters than are nonsubjugated controls (Delville et al., 1998), and young orphaned male elephants lacking supervision by adult bulls can become violent gangs, even engaging in the highly unusual practice of killing rhinoceroses (Slotow et al., 2000). Add cultural support for male aggressiveness (e.g., violent mass media, sports, video games) and human weaponry that renders physical prowess moot (high-powered rifles, semiautomatic handguns), and the mysteriousness of episodes like Columbine yields to understanding.

Construals of violence as incomprehensible or mad are themselves understandable. Several factors likely contribute to them. First, they may (accurately) reflect our inability to predict precisely the who/what/when/where of many violent outbursts. Despite all the factors that have been identified as important to aggression, “point predictions” remain probabilistic, and especially elusive with respect to rare, devastating cases. Being unable to confidently predict the next outburst creates a sense of randomness that can be interpreted as fundamental inexplicability. Second, these construals may serve the psychically protective function of scapegoating individuals or out-groups, the resulting distancing of which decreases the sense of personal vulnerability to becoming a perpetrator or victim (e.g., Link et al., 1999).

Finally there is the matter of reducing our sense of responsibility for solving problems, either personally or collectively through policy. Cultural constructions of cosmic order or disorder and of normalcy versus deviance are socialized deeply and experienced noetically—viscerally, as unequivocally true. Not all violence is perceived as morally reprehensible; killing (as in war or the death penalty) or brutality (as in boxing) can be positively socially sanctioned. But violence that is
perceived as reprehensible appears to call first for blame—finding the evildoers and giving them their just desserts—and only later, if at all, for dispassionate understanding. That is, people are prone to conflating causal analysis of a problem with moral judgment, to analyzing a problem in terms of assigning responsibility, that is, determining who should act (or should have acted) rather than identifying variables contributing to the events’ occurrence (Brickman et al., 1982). The tendency in Western cultures in particular is to eschew assignment of shared responsibility or attributions to society rather than to individuals, be they perpetrators or victims (see Ideology, above). So it is that proclaiming that one can understand why Ted Bundy, the serial killer, murdered dozens of women often is heard as exoneration of him, when the latter is not implied at all.

This conflation of understanding and blame is apparent in the courtroom (Bloom, this volume). A startlingly clear example occurred in Maryland in 1994. Kenneth Peacock had come home unexpectedly and found his wife, Sandra, in bed with another man; several hours later, he shot her in the head with a hunting rifle (see Buss, this volume). Although Peacock could have received 25 years in prison, Judge Robert E. Cahill sentenced him to just 18 months—and that, reluctantly, with a recommendation for work release—saying, “I seriously wonder how many men married five, four years would have the strength to walk away without inflicting some corporal punishment. I am forced to impose a sentence... only because I think I must do it to make the system honest” (Los Angeles Times, 1994). Clearly, the judge’s view of mate homicide as understandable under the circumstances was conflated with the moral and legal judgment he rendered, to an extent exceeding the conflation generally codified in law.

The tendency to conflate causal analysis with moral judgment of individuals can stimulate policy processes directed more at assignment of blame, retribution, sympathy, and deservingness than at analysis and problem solving (e.g., Appelbaum, 2001). The American public’s enthusiasm for harsh criminal penalties, the boom in the prison industry, and the political virtue of being “tough on crime”—all despite overwhelming evidence from many species that punishment is an impractical, ineffective way of managing behavior—can be understood in these terms.

In terms of public policy, these myths about violence afford shortsighted, inadequate perspectives. Violence occurs for a reason. An affirmative, ambitious agenda of understanding the complex underpinnings of violence and combining that knowledge with prudential judgment (Arnhart, 1998) will, in the long run, more effectively reduce its likelihood overall and in high-risk situations and populations. In terms of utilizing an evolutionary perspective, this agenda must include replacing simplistic “naturalistic fallacies” (i.e., what is “natural” is good and right) with more sophisticated views of humans’ behavioral, cognitive, cultural, and moral nature.

A voiding Oversimplification

Simplicity is appealing. People often respond well to a simple explanation. Policymakers, advertisers, and others exploit this fact when they sweep away gray areas and complexities, declaring them mumbo jumbo and asserting instead an unadorned, “plainspoken” truth. Scientists also admire simplicity, in the form of parsimony: Given two explanations equally valid accounts of a phenomenon, they prefer the simpler one. But as Albert Einstein warned, “Things should be made as simple as possible— but no simpler.” The third challenge to developing evolutionary sound policy resides in the unique complexity of human social life.

Violence and its antidotes occur at intrapersonal, interpersonal, intergroup, and international levels of organization. Aggression research tends to focus on one or another level. Choice of focus may reflect closely held theoretical or metatheoretical positions (Bloom, this volume), but also may reflect personal interests or aptitudes and pragmatic issues, such as time constraints on how many interesting ideas one can pursue. Whatever the reasons, separate endeavors on different levels leave
open the question of how mechanisms critical at one level relate to mechanisms at other levels. Take the example of silicofluorides (SiFs) and impulsive aggression (Masters, this volume). Assuming the validity of the key arguments—that impulse control has been critical to moderation of violence in human evolution, that SiFs interact with heavy metals to compromise its brain mechanisms, and that this makes violence more likely where SiFs are high—important questions also must be addressed at the social structural level. For instance, what sociopolitical forces lead to the unequal distribution of SiFs, and to what extent do those forces also shape violent crime statistics as opposed to violence itself? Research on environmental racism (e.g., Allen, 2001) and on the inequitable treatment of minorities and the poor at many points in the so-called criminal justice system (e.g., Poe-Yamagata & Jones, 2000) provides some pieces to this puzzle. Moving from one level of analysis to another, however, does not require leaving an evolutionary framework. The macrolevel politics of any primate are as amenable to evolutionary analysis as is brain function (e.g., Boehm, this volume; de Waal, 1989a; Masters, 1989). But human politics—of, for instance, race and class—are complicated, and those undertaking such an analysis will benefit from collaboration with differently minded people.

Another example in the same vein is discrimination between in- and out-groups, a process central to intergroup conflict in many species (Fishbein & Dess, Solomon et al., this volume): Does the same apply to interpersonal conflict, such as domestic partner abuse (Buss, this volume), with gender mediating “in-group” and “out-group” identities? Perhaps so (Reitz, 1999); this should be the case if a dialectical relationship between self and others undergirds all social relationships (Guisinger & Blatt, 1994). But perhaps not (Jennings & Murphy, 2000). Or perhaps violence in intergroup and interpersonal contexts are the same in some ways but differ in others (Romero, 1985).

A final example comes from research on prosocial physical touch. Touch is an essential factor from the earliest moments of any mammal’s life, playing a critical role in physical, behavioral, emotional, and social development (Field, 2001). Touch is a key component of affiliation, including conflict resolution, among social mammals (see Challenges from the Right, above). According to Robin Dunbar in Grooming, Gossip, and the Evolution of Language (1998), some social functions of touch were assumed by language as the size of stable human groups grew, with concomitant evolution of brain structures. How fully does symbolic communication “substitute” for physical touch in terms of affiliation? Are the same brain and hormonal systems activated by a kind word as by a hug and, if so, at what age do they converge? Does a nod of assent seal a deal as firmly as a handshake? Can mass symbolic communication foster peacemaking as effectively as direct intimate contact? Conceptualizing how reconciliation and peacemaking are the same and how they differ on scales from dyad to globe will be crucial to designing policies that will succeed on those scales.

Avoiding oversimplification and, instead, cutting across the different levels at which complex social phenomena such as violence and peacemaking are organized is a thorny but important challenge: To the extent that mechanisms of intergroup and interpersonal violence are shared, interventions aimed at early, common antecedents will be effective and efficient. To the extent that the mechanisms are more idiosyncratic to contexts, interventions will have to be tailored to those contexts. As a first step toward accurately assessing continuities and discontinuities across levels of analysis, researchers and policymakers should develop a shared conceptual framework for thinking about those levels—a framework as simple as it can be, but no simpler.

Bridling Wishful Thinking

The final challenge consists of wishful thinking about constraints on human violence. Many a candidate for what distinguishes humans from all other species has been advanced: toolmaking,
tool use, an outsized neocortex, a self-concept, facility with numbers, language, political savvy, culture. As psychologists, anthropologists, and biologists have learned more about other species, these candidates have, one by one, lost some or all of their luster. One candidate yet to stumble is wishful thinking—the ability to conjure up a past, present, or future far rosier than reality may warrant. As far as we know, only humans have the cognitive ability to construct from whole cloth psychological and cultural realities with emotional, behavioral, social, and moral force (Schumaker, 1995). Wishful thinking has many rewards. Individuals who overestimate the degree of control they have over events, underestimate their foibles, and generally expect good things to happen are at lower risk of anxiety, depression, and associated health outcomes (Taylor, 1991); the collective benefits of cultural worldviews were described by Solomon et al. (this volume).

Surely, though, the benefits of “positive illusions” are not limitless. Relevant in the present context are instances of wishful thinking with particularly faulty premises which, if used in the formulation of policy, can be expected to impede effective problem solving. One example derives from the idea discussed above (False Dichotomies) that humans are innately peaceable. A corollary is that violence is “unnatural” and thus psychologically aversive for the perpetrator—that is, motivated by unpleasant emotions such as anger or fear and, at best, a necessary evil or impulse for all but the true psychopath (Kinner, this volume). There can be no doubt that committing violence against others can psychologically wound the perpetrator. In A n Intimate H istory of K illing: F ace to F ace K illing in 20th Century W arfare, for example, Bourke (1999) presents heart-wrenching accounts of shame, fear, and guilt associated with warfare and describes the intensive measures often needed to train men to kill. Juxtaposed against this sorrowful tableau, though, she documents how killing is experienced by many combatants as thrilling, a “joyful slaughter” (p. 18). A n illustrative case in a chapter titled “The P leasures of W ar” reads:

I secured a direct hit on an enemy encampment, saw bodies or parts of bodies go up in the air, and heard the desperate yelling of the wounded or the runaways. I had to confess to myself that it was one of the happiest moments of my life. (Henry de Man, quoted on p. 19)

Bourke summarizes, “Fear, anxiety, pain; these are only too familiar in combat. But excitement, joy, and satisfaction were equally fundamental emotions, inspired by imagining that they had scored a good, clean ‘kill’” (p. 31).

Although Bourke focuses on face-to-face combat, her psychological analysis of violence in that context likely generalizes to violence in other contexts. In the early 1990s, it was hard to miss the excitement in the cockpit-taped voices of American pilots successfully targeting Iraqi ground forces during Desert Storm. The accoutrements of killing in war—glee or steely coldness, unprovoked attack, atrocities, trophies, stalking, planning and intentionality, and so on—are recognizable in reports of violence in humans and other species of many kinds (e.g., predatory and/or affective aggression; Vitiello & Stoff, 1997; also Fishbein & D ess and Buss, this volume). Preventing violence and promoting peaceableness are worthy policy goals for many reasons, including minimizing the psychological harm to violence perpetrators. However, interventions to reduce violence should not be designed on the premise that anticipating, engaging in, or remembering violence is, fundamentally, either emotionally aversive or positive. The temporal dynamics and context dependency of subjective experience of aggression are far more complicated than that.

Another bit of wishful thinking is an idyllic view of how peace can be achieved. In this halcyon vision, happiness and contentment beget peace: The young live stress-free lives, surrounded by doting, peaceful adult models and, thus, only peaceableness and its concomitants can fill their growing behavioral and psychological quiver. Children do learn a great deal from observing others
and the consequences of their behavior, as famously demonstrated by Albert Bandura in the “Bobo doll” studies of the social learning of aggression. Clearly, availability of models of nonviolent conflict resolution and other prosocial behaviors have a key role to play in the development of peaceableness, as do physical affection and other aspects of high-quality child rearing (see Fishbein & Dess, Kinner, Solomon et al., this volume; Hrdy, 1999).

It is tempting, then, to lay plans for promoting peaceableness by eliminating “obvious” threats to it, from models of and rewards for aggression to unmet needs, frustrations, anxiety, and negative emotions of other sorts. The problem is that an agenda for peace that excludes all traces of aggression, distress, or privation is not only of questionable feasibility but also, quite probably, will be ineffective. Evidence concerning the coevolution of fear, love, and anger strongly suggests that the optimal level of anxiety and aggression in human societies—that is, the level at which peaceableness is maximized—may not be zero. Among nonhuman primates, intimate contact (hugging, grooming, etc.) in the face of fear or stress and in the aftermath of hostility is a crucial context in which affiliative bonds are formed and strengthened from an early age (de Waal, 1989ff, especially Chapter 1; Harlow & Mears, 1983; Silk, 1998). Just as young cats hone their predatory skills on easy prey provided by adults, young monkeys and apes learn about coping with stress and reconciliation when they encounter pint-sized morsels of fear and aggression in a supportive social context.

The same is very likely true for humans. Consider the means by which unusually peaceful societies keep the peace (Bonta, 1997). Some of these practices are, from an idyllic point of view, shocking. An example is the creation of double-bind anxiety in children. An Inuit parent may, for instance, teasingly tell an older child to kill his baby brother, or allow children to cuddle and protect a small animal then encourage them to kill it. Bonta argues that contradictory messages—of love and meanness, of trust and mistrust—teach children not to take for granted others’ peaceful intent, rather to be vigilant to and proactive about threats to peace. He also notes that adults in peaceful societies care tenderly for infants but teach them as youngsters that they are nothing special. For instance, Semai children in Malaysia “quickly learn that they are helpless to control events around them and are totally dependent on the good will and support of the group” (p. 302). These strategies, according to Bonta, favor the development of peaceful social relations over aggressive ones.

Shall we assume, then, that policies that foster childhood anxiety, helplessness and low self-esteem will reduce violence? Hardly. A great deal of psychological research suggests that this would generate undesirable outcomes including aggressiveness, poor peer relations, depression, even death (Deci & Ryan, 1995; McLaren & Brown, 1989; Seligman, 1975). So rapid institutionalization of Inuit or Semai rearing practices in the United States is ill-advised, models of peaceableness though their societies may be.

The contrast between this literature and the socialization practices gleaned in Bonta’s review seems to comprise a paradox akin to the roller-coaster of news about whether oat bran is healthy. Fortunately, the paradox can be resolved. The cultural context of a particular socialization practice is critical to its effects on child welfare and adult functioning, including aggressiveness. The sort of teasing and “rejection” that Inuit children experience occurs in the context of a community in which:

- They can indeed count on others to meet their needs.
- They learn that they are valuable as group members.
- Peacefulness is culturally valued above aggression.
- Few adult models of violence exist.
- Instances of aggression that do occur are not rewarded.
In such a context, these strategies promote equanimity, albeit not great happiness at all times. Given a cultural worldview that, in contrast, prescribes autonomy, self-sufficiency, and a readiness to fight in response to infractions—U.S. society, for instance—the same strategies may yield instead the psychological and social risks well documented in the predominantly American research literature.

Available evidence, then, does not support an idyllic view of achieving peace by eliminating all insecurities and preventing aggression in all of its forms. Although this may be bad news for dedicated wishful thinkers, it need not kill hope. Cornel West, University Professor at Harvard, has said, “Hope for me has nothing to do with optimism. I am not optimistic. There is not enough evidence out there to convince me that things are going to get better.” Hope, he posits, motivates striving despite uncertainty about eventual success, indeed in the face of reason to doubt it. Reducing violence and fostering peace will require simultaneous reforms as grand as a shift in worldviews, as concrete as new daycare policies, and as difficult as embracing all of what it means to be human, not just what we wish to believe about ourselves. It will require hope.

CONCLUSION

Scientists, policymakers, and public policy advocates have good reason to be hopeful about improving the human condition by reducing violence and fostering peace is wise. Cross-cultural differences in levels of violence provide prima facie evidence that as a species, we are capable of far more benevolent, just, and healthful living than exists in many places. Grounding policies in the clear-eyed view of the kind of animal that we are—even when the answers belie simple dichotomies and belie precious myths or illusions—offers the greatest chance of achieving these worthy goals.
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