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BOOK REVIEW


by Johan M.G. van der Dennen

Why are men, like other primate males, usually the aggressors and risk takers? Bobbi Low ranges from ancient Rome to modern America, from the Amazon to the Arctic, and from single-celled organisms to international politics to show that these and many other questions about human behavior largely come down to evolution and sex. More precisely, as she shows in this comprehensive survey of behavioral and evolutionary ecology, they come down to the basic principle that all organisms evolved to maximize their reproductive success and seek resources to do so.

Low begins by reviewing the fundamental arguments and assumptions of behavioral ecology: selfish genes, conflicts of interests, and the tendency for sexes to reproduce through different behaviors and strategies (p. xv). She explains why in primate species – from chimpanzees and apes to humans – males seek to spread their genes by devoting extraordinary efforts to finding mates, while females find it profitable to expend more effort on parenting: “Other things being equal, male mammals achieve maximum reproductive success through expending their reproductive effort as mating rather than parental effort, and by expending generalizable parental effort rather than true offspring-specific parental investment. Female mammals, equipped to nurse their young, do best by producing healthy, viable offspring, optimally apportioning effort to specific offspring” (p. 280).

She presents three themes in her work: “First, resources are useful in human survival and reproduction; like other living things, we have evolved to wrest resources from the environment for our benefit. Second, the two sexes tend to differ in how they can use resources most effectively to accomplish survival and reproduction. Third, how each sex accomplishes these ends relies not only (and not obviously) on differences in genes, but on differences in environment – there are no identified genes specific for polygyny, for example, but in many environments the trends for male mammals to profit from trying to be polygynous are strong” (p. xiv).


Low skilfully presents the basics and fundamentals of evolutionary and behavioral ecology, ultimate and proximate causation, the origin of anisogamy and sex differences, differential
reproductive strategies, life history parameters, cooperation and coalitions, sexual selection and its importance for the explanation of intergroup conflicts and warfare.

Themes and topics covered in the book are selfish gene theory, sexual selection theory, Hamilton’s kin selection theory, parental investment theory, ‘red queen’ theory, reciprocal altruism (reciprocity) theory, the evolution of anisogamy, mating and parental effort (and why males typically can profit by specializing in mating effort rather than parental effort), polygyny and the ecology of human mating systems (and, surprisingly, its correlation with pathogen stress), mate choice strategies and augmentation of sexual signals, life history parameters, parent-offspring conflict, differential reproductive trade-off curves, senescence, sexual divisions of labor, sex and power in traditional societies, fertility transitions, the group selection muddle (Sober & Wilson [1998], in lumping almost all interactions as ‘group selection,’ conflate kin selection, clade selection, interdemic selection, and ‘cooperator selection,’ including reciprocity and coalitions), Machiavellian intelligence and logical fallacies, male coalitions as reproductive strategy, female coalitions as parental effort, the rarity of women as major political figures, politics and war – rooted in sexual and kin selection – as outcomes of highly developed coalitions (She suggests that both politics and war, if defined in a biologically functional way, are outcomes of highly developed coalitions and have their roots in prehuman history [p. 199], and that throughout evolutionary history, men have been able to gain reproductively by risky warfare, while women seldom have been able to gain – arguments corroborated by my own research on war in preindustrial societies), intergroup conflict in (some) other species, and the demographic transition.

She introduces the concept of ‘phenotypic gambit’: “By using the phenotypic gambit, we assume that when we look at behavior, we are seeing the result of gene-environment interactions over time, and that the most common behaviors in an environment are working well compared to available alternatives” (p. 13).

Low also introduces ‘life history theory’, a relatively recent branch on the tree of evolutionarily-informed theorizing (to which human ethology and sociobiology also belong). “Life history theory is, in fact, largely the study of trade-offs: size against number of offspring, for example” (p. 21).

“Life histories – the lifelong patterns of maturation, courtship, reproduction, and death in any species – are the outcome of competing costs and benefits of different activities at any point in the life cycle. Many life history patterns arise from allometric (size-related) relationships... Life history theory links behavior, natural selection, and historical and phylogenetic accident to explore variation in maturation, birth, death, and behavior patterns. It lies at the heart of understanding diversity, precisely because it deals with natural selection, adaptation, and constraint (Charnov 1994, Roff 1992, Stearns 1992). It is a subset of natural selection theory, and shares the same logic: it argues that the characteristics we see represent trade-offs in allocation of effort (energy and risk) between survival and current reproduction; between current versus future reproduction; and, within current reproduction, among offspring of different sex, size, and number. As in any zero-sum game, an organism’s effort spent in one endeavor cannot be spent in another” (p. 277).

Behavioral ecology is based, in brief, on the following assumptions (pp. 28-29): (1) Organisms are generally well suited to the environments in which they live; (2) Only heritable variation is appropriately considered in testing predictions about changes in gene frequencies over time; (3) Organisms that are more efficient in getting resources in any environment will
survive and reproduce better than others; (4) No organism, including humans, has evolved to perceive or assess directly the spread of genes; rather, organisms behave as though these proximate correlates were their goal; (5) In their ‘deep’ objectives – in what they evolved to do – humans are not qualitatively different from other living organisms.

Low claims this to be ‘novel’ approach, but that seems to be valid only for those who have never heard of Charles Darwin, William James, Ronald Fisher, John Haldane, George Williams, William Hamilton, Michael Ghiselin, Irenäus Eibl-Eibesfeldt, Edward Wilson, Robert Trivers, Richard Dawkins, Richard Alexander, John Maynard Smith, and all the other pioneers who made the evolutionary approach to (human) behavior no longer anathema.

Bobbi Low’s *Why Sex Matters* is an important book, showing a wealth of knowledge and expertise in a broad spectrum of disciplines: evolutionary biology and sociobiology, human ethology and behavioral ecology, life history theory, primatology, sociology and anthropology; it is biobehavioral science at its best; a synthesis 25 years after Wilson’s monumental synthesis.

Having sung its praise, however, it is equally imperative to scrutinize what is wrong with it: too much recycled material; too much academese; too much omitted. Especially the more problematic, unpleasant, and violent aspects of the ‘battle of the sexes’, for example rape, sexual coercion and sexual predation, sexual jealousy and mate guarding, Low – deliberately? – seems to avoid, though she mentions clitoridectomy as a male control strategy *in passim* (p. 84, 86), as well as massive rape as a concomitant of warfare (p. 241), though ‘rape’ did not even make it into the index. Also the extensive literature on behavioral and other sex differences (especially aggressive and sexual behavior), recently competently reviewed by Geary (1998) and Mealey (2000), is hardly touched upon, or rather casually treated. ‘The battle of the sexes’ is in Low’s work (p. 185) only a tame game.

Those who are familiar with Low’s publications will not find much that is new in this book: it is mainly a recycling of older publications and papers, sometimes with some more recent – obligatory – references added in the notes. Especially Low’s important chapter ‘An evolutionary perspective on lethal conflict’ (1993) has not – or hardly – been improved and still uses the same arguments and criticisms I hardly found convincing when I examined her ideas in my *Origin of War* (1995). She once more attacks Tooby & Cosmides’ (1988) ‘Darwinian algorithms’ argument governing coalition formation and warfare (219-20).

In her best moments, Low’s style is wonderfully lapidary: “Why doesn’t the favoring of genetically selfish behavior always result in bloody outright battles? The short answer is: (1) sometimes it does, (2) when it does not, it is because of the costs of attempting bloody battles” (p. 21). In spite of its dramatic content, such an epigrammatic and humoristic statement did not fail to make me grin.

Low hopes to “reach scholars in the traditional human disciplines with concepts that may be new and tantalizing to them” (p. xvi). But I doubt whether presenting the figures showing disruptive selection leading to anisogamy and bimodal gamete size distribution (p. 40) and the reproductive payoff curves for males and females (p. 42) right at the beginning of the book will lead to many *Aha-Erlebnis*-experiences in an average traditional social scientist without former education in evolutionary biology.
This leads me to my final point of critique: throughout the book it is far from clear what audience Low is addressing, what readers she is trying to reach. I don’t have to be educated and convinced by her arguments, but even for me it was hard to avoid vacuous stares by times. For those whom she is trying to convince, this book is simply too much (too difficult, too elusive: it requires many hours of devoted reading, absorbing and digesting – hardly a favorite pastime for amateurs). This is only partly a matter of the sometimes terse, academic style – as if she were addressing finalist students. Compared to Low’s book, the introductory text by e.g. Linda Mealey (2000) is a monument of clarity and lucidity. Almost paradoxically: though Low’s style suggests profundity, the contents sometimes seem superficial and shallow (the inevitable price one has to pay for the panoramic width of perspective?). Low’s book is – unfortunately – not the introductory textbook and accessible survey for laypersons she had hoped it to be. This final remark does not belittle the many merits and qualities of Low’s excellent book.


References


