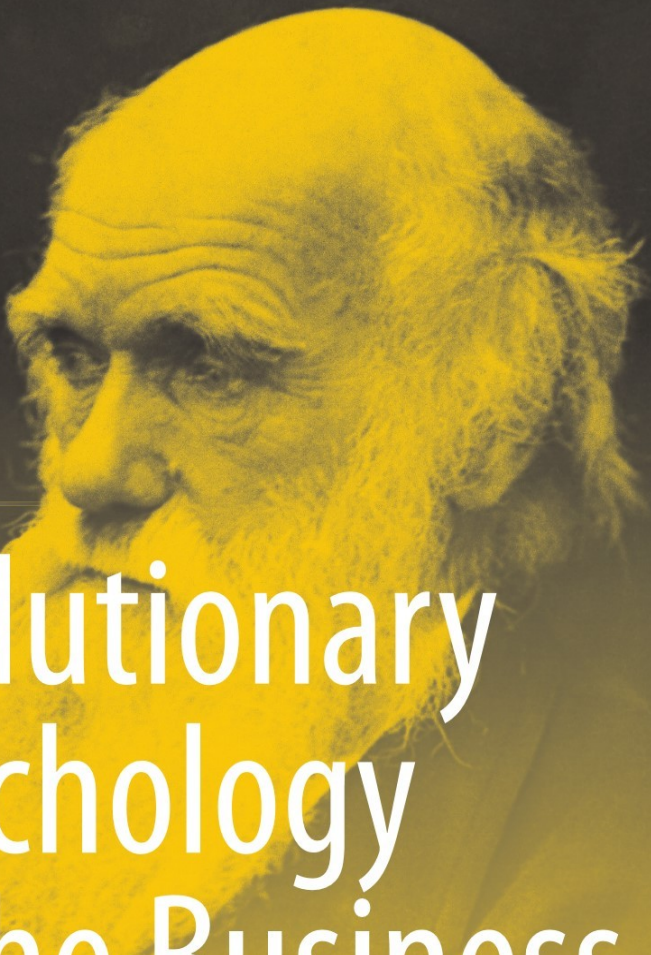
Gad Saad
Editor



Evolutionary Psychology in the Business Sciences

Springer

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To Amar and Samra, my perfect and eternal companions.

Foreword

The Third Chimpanzee in the Ordinary Business of Life

Occasionally a synthesis transforms a discipline so profoundly that later generations will not remember it as synthetic. They will know just the elements that endure in textbook passages. Two examples come to mind: *On the Origins of Species* (Darwin 1859) and *The General Theory of Employment, Money and Interest* (Keynes 1936). Charles Darwin (1859:63) credits Thomas Malthus' *An Essay on the Principle of Population* (1798) for having inspired natural selection. In contrast to Darwin's transdisciplinary synthesis, that of *The General Theory* is only disciplinary (Leijonhufvud 1968). John Maynard Keynes writes "The ideas which are here expressed so laboriously are extremely simple and should be obvious. The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds" (1936: viii). For non-rational behavior that lay beyond the domain of economics, Keynes invoked "animal spirits" and left it at that (1936:161–162). He dismissed evolution in an earlier essay as "the doctrine which seemed to draw all things out of Chance, Chaos, and Old Time. . .The Principle of Survival of the Fittest could be regarded as a vast generalization of Ricardian economics" (1926:14).

"Animal spirits" is Keynes' recognition that non-rational behavior must be addressed. But merely recognizing something is not very satisfying, intellectually speaking. Scientists relish puzzle-solving and some will suggest that natural selection can explain the origins of behavior and even discern patterns hitherto missed. Darwin was the first to do so, but not yet in those terms. "He who understands [the] baboon would do more for metaphysics than Locke" (1838:84). The allusion to our primate cousins is hardly rhetorical either then or now. Polymath Jared Diamond (1992) re-classifies *Homo sapiens sapiens* as "the third chimpanzee" in an award-winning book by the same title and primatologist Frans de Waal enjoys similar success exposing *Our Inner Ape* (2005). Diamond and de Waal notwithstanding, most puzzle-solvers of behavior write solely for technical journals. They hail from diverse disciplines and are now doing what Thomas Kuhn (1962) famously termed

"normal science". Under the banner of "evolutionary psychology", the cumulative scholarship is immense.

Gad Saad is at the forefront. He has breathtakingly synthesized the literature in an engaging prose while suggesting new research streams. The transdisciplinary agenda of *The Evolutionary Bases of Consumption* (2007) and *The Consuming Instinct* (2011) has been expanded in *Evolutionary Psychology in the Business Sciences* (Saad ed. 2011). It is the third installment of what will surely become a landmark trilogy. The focus is ostensibly business but I would respectfully disagree; business is too narrow a reading of the broad subject matter covered. A popular nineteenth-century definition of economics was the "the study of mankind in the ordinary business of life" (Marshall 1890:1). In the twenty-first century, Saad and his colleagues are explaining the evolution of us—the third chimpanzee—in the ordinary business of life. Transformation is underway.

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References

Darwin C (1838) Notebook M. The complete works of Charles Darwin online. Available at: http://darwin-online.org.uk
Darwin C (1859) On the origin of species by means of natural selection. Murray, London
de Waal F (2005) Our inner ape: a leading primatologist explains why we are who we are. Penguin, New York
Diamond J (1992) The third chimpanzee: the evolution and future of the human animal. HarperCollins, New York
Keynes J (1926) The end of laissez-faire. Hogarth Press, London
Keynes J (1936) The general theory of employment, interest and money. Macmillan, London
Kuhn T (1962) The structure of scientific revolutions. University of Chicago Press, Chicago
Leijonhufvud A (1968) On Keynesian economics and the economics of Keynes. Oxford University Press, New York
Malthus T (1798) An essay on the principle of population. Library of Economics and Liberty. Available at: http://www.econlib.org/library/Malthus/malPlong.html
Marshall A (1890) Principles of economics. Macmillan, London
Saad G (2007) The evolutionary bases of consumption. Psychology Press, Mahwah
Saad G (2011) The consuming instinct: what juicy burgers, Ferraris, pornography, and gift giving reveal about human nature. Prometheus Books, New York
Saad G (ed) (2011) Evolutionary psychology in the business sciences. Springer, Heidelberg

Preface

Two important "Darwinian" anniversaries were celebrated in 2009: (1) the 150-year anniversary of the publication of Charles Darwin's *On the Origin of Species*; and (2) the 200-year anniversary of Charles Darwin's birth. If he were alive today, the great scientist would be astonished to see the extent to which his work has influenced countless academic disciplines. In my introductory article of a special issue that I guest edited on the future of evolutionary psychology in the journal *Futures*, I provided a long list of disciplines that have been infused with evolutionary theorizing (see Saad 2011, Table 1 for representative references for each of the listed areas). These cover all university faculties including the fine arts and the humanities (aesthetics/art, architecture, dance, epistemology, ethics, history, interior design, law, literary studies, morality, musicology, religious studies, and urban design); the social sciences (anthropology, archaeology, consumer behavior, criminology, economics, education, family studies, international relations, linguistics, political science, psychology, public administration, public policy, and sociology); and the natural and applied sciences (agriculture, animal husbandry, biology, biomimetics, computer science, dietetics/nutrition, ecology, engineering, immunology, medicine, neurosciences, nursing, pharmacology, physics, physiology, and psychiatry). This should dispel the notion that evolutionary theorizing is largely restricted to the field of biology. The reality is that any phenomenon that involves biological organisms is within the purview of evolutionary theory.

Over the past 12 years, a growing number of special issues in academic journals have been devoted to the applications of evolutionary psychology (or related evolutionary formalisms) in business-related disciplines. These include in decreasing chronological order:

Leadership Quarterly: forthcoming special issue on the biology of leadership; guest edited by Carl Senior, Nick Lee, and Michael Butler

Organizational Behavior and Human Decision Processes: 2009 special issue on the biological basis of business; guest edited by Colin Camerer, Drazen Prelec, and Scott Shane

IEEE Transactions on Professional Communication: 2008 special issue on Darwinian perspectives on electronic communication; guest edited by Ned Kock

Group Dynamics: Theory, Research, and Practice: 2008 special issue on evolutionary approaches to group dynamics; guest edited by Mark Van Vugt and Mark Schaller

Managerial and Decision Economics: 2006 special issue on evolutionary psychology in management; guest edited by Satoshi Kanazawa

Journal of Organizational Behavior: 2006 special issue on evolutionary psychology in organizational behavior; guest edited by Rod White and Nigel Nicholson

Ruffin Series in Business Ethics: 2004 special issue on business, science, and ethics; applying evolutionary theory in understanding business ethics; guest edited by R. Edward Freeman and Patricia H. Werhane

Journal of Business Venturing: 2004 special issue on evolutionary approaches in entrepreneurship albeit these were not necessarily based on principles from evolutionary psychology; guest edited by Scott Shane

Psychology & Marketing: 2003 special issue on evolution and consumption; guest edited by Donald Hantula

Managerial and Decision Economics: 1998 special issue on management, organization, and human nature; guest edited by Lívia Markóczy and Jeff Goldberg

Notwithstanding these rare special issues, and despite a pronounced increase in the applications of evolutionary psychology (EP) and related biological formalisms in much of the social sciences, the great majority of business scholars are, unaware of, and at times are hostile to, the relevance of EP to their fields. It should be self-evident that all business phenomena, whether those relevant to consumers, employees, or employers, do not exist outside of our common biological heritage. Ultimately, to fully understand *Homo economics*, *Homo corporaticus*, or *Homo consumericus*, requires that one recognize the biological forces that have shaped the evolution of *Homo sapiens*.

The Adapted Mind, the classic edited book by Barkow, Cosmides, and Tooby (1992) contains some of the early seminal EP papers. Its influence is in part due to the fact that it demonstrated the relevance of EP across numerous disciplines and topics of interest including culture, social exchange, food sharing, mate preference, pregnancy sickness, maternal behaviors, language, color perception, spatial abilities, landscape preferences, psychodynamic processes, and gossip. More recently, Somit and Peterson (2001) edited a less known book albeit equal in its ability to highlight the transdisciplinarity and interdisciplinarity afforded by the evolutionary behavioral sciences. It is comprised of an exhaustive set of chapters covering evolutionary approaches across a wide range of disciplines including anthropology, economics, history, international relations, law, philosophy, political philosophy, political science, psychology, and psychiatry. Notwithstanding these important edited tomes, there currently does not exist a single book that serves as the central repository of works operating at the intersection of EP and the business disciplines. This edited book serves this important function by pulling together a collection of chapters wherein scholars demonstrate the applications of EP across several

business settings. Given its interdisciplinary nature, it should be of interest to several distinct camps of scholars including evolutionary behavioral scientists housed outside of the business school, as well as business scholars wishing to explore ways by which to "Darwinize" their research streams.

References

Barkow JH, Cosmides L, Tooby J (eds) (1992) The adapted mind: evolutionary psychology and the generation of culture. Oxford University Press, New York

Saad G (2011) The future of evolutionary psychology is bright. Futures forthcoming

Somit A, Peterson SA (eds) (2001) Evolutionary approaches in the behavioral sciences: toward a better understanding of human nature. Elsevier, New York

Acknowledgements

I thank Dr. Birgit Leick, the acquisitions editor with whom I had originally communicated, for having contacted me to gauge my interest in publishing this edited book with Springer. Seldom does an author receive such an unsolicited query, so this was a definitive sign of Springer's strong support and enthusiasm for this project. Birgit ended up leaving Springer, and was aptly replaced by Christian Rauscher who has been equally supportive throughout the process. I thank them both for their laudable professionalism.

I am indebted to all of the scholars who expressed an interest in submitting or who did submit their manuscripts, but whose works were not included in this edited book. In many instances, this was due to a poor fit between the works in question and the objectives of this book. I seldom rejected a chapter because of poor quality. Hence, I am optimistic that many of the non-included works will find their appropriate outlets. To serve as an editor on such a project is at times a challenging and daunting task. However, I was fortunate to interact with authors who not only submitted engaging manuscripts of high quality, but also were a pleasure to interact with.

Knowing that I could rely on the love and support of my family at the end of a long workday made the arduous journey that much more enjoyable. A happy home allows an author and/or editor to pursue his professional endeavors with clarity and determined focus. Thank you for providing me with such unconditional affection and solace.

Endorsements

"There are different versions of evolutionary psychology, but all of them ask us to take the fact of human evolution seriously. Culture is hugely important in economic development but that does not mean that biological influences can be ignored. This collection of essays presents a number of interesting views on the extent of their possible influence in business contexts."

Geoffrey Hodgson, Research Professor in Business Studies (University of Hertfordshire, UK), and co-author of *Darwin's Conjecture: The Search for General Principles of Social and Economic Evolution (2010).*

This book covers many pieces of the puzzle related to how the evolution of the human species underpins our approaches to the business sciences. Humans have engaged in business, as an important everyday activity within all societies and cultures, for millennia. However, Saad argues that we still have little understanding of the evolutionary psychology basis for the business sciences. He discusses the biological roots of *Homo sapiens* and modern-day *Homo consumericus*. With this and other books by Gad Saad we are seeing important questions about the evolutionary psychology underpinnings of the business sciences being addressed in a comprehensive and scientific manner. Starting with an exploration from a broad range of evolutionary, cognitive, biological, and behavioral scientific fields, this book provides an evolutionary theoretical framework for building the business sciences. As with any good research book, it raises more questions than it answers. It is essential reading for all those interested in the broad business sciences, management, economics, and the behavioral sciences.

Amanda Spink, Professor and Chair of Information Science (Loughborough University, UK), and author of *Information Behavior: An Evolutionary Instinct* (2010).

Evolutionary theory has provided critical insights into our understanding of human behavior. And guess what? Businesses are made of humans for humans. Gad Saad is a pioneer in bringing evolutionary ideas into a business context, and in this

impressive volume, he has gathered a collection of essays from the world's top researchers in this field – synthesizing cutting-edge knowledge about evolutionary biology, psychology, and business behavior. From marketing to management to finance, understanding the ancestral roots of modern business behavior provides powerful new insights for both researchers and practitioners. It is impossible to understand decision making without understanding human nature, and this book lends insight into seemingly baffling questions like "why do young men tend to choose riskier portfolios than young women?" and "why do most organizations have rules against nepotism even though people are more likely to trust, and less likely to cheat, family members?" This is a must-have volume for anyone interested in how to harness human nature for effective advertising, leadership, decision making, and organizational behavior.

Douglas T. Kenrick, Professor of Psychology (Arizona State University), and author of *Sex, Murder, and the Meaning of Life: A Psychologist Investigates How Evolution, Cognition, and Complexity Are Revolutionizing Our View of Human Nature* (2011).

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Author Bios

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Abraham P. (Bram) Buunk obtained his Ph.D. at the University of Utrecht, The Netherlands, in 1980. He was an Associate Professor in Organizational Psychology at Radboud University, The Netherlands, a Fulbright Scholar at the University of California, Los Angeles, and a Professor of Social Psychology at the University of Groningen, The Netherlands. Since 2005 he is Academy Professor on behalf of the Royal Netherlands Academy of Arts and Sciences (KNAW). He is affiliated with the University of Groningen and with various universities in Spain and South America. He has published widely on close relationships, organizational behavior and evolutionary psychology, supervised over 40 doctoral dissertations, and served on many scientific boards and committees.

C. Monica Capra is an Associate Professor of Economics at Emory University in Atlanta. Dr. Capra specializes in experimental and behavioral economics. She has published many articles in her field, some in the most prestigious economic journals. When she joined Emory in 2003, Capra began collaboration with neuroscientists.

Since then, she has published several articles on the new and promising field of Neuroeconomics. Dr. Capra is an adjunct professor in the Center for Neuropolicy and the Institute of Human Rights at Emory. Previously, she taught at WLU and at CalTech. She consulted with the Central Bank of Bolivia and the Bolivian Ministry of Hydrocarbons. More recently, she visited Groupe d'Analyse et de Theorie Economicque (GATE) in Lyon, France and the Human Neuroimaging Lab at the Baylor College of Medicine in Houston. She has addressed many business, professional, and academic audiences in the US and abroad. Dr. Capra received her Ph.D. from the University of Virginia in 1999.

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Darleen DeRosa is a managing partner at OnPoint Consulting. Darleen brings ten years of consulting experience, with expertise in talent management, executive assessment, virtual teams, and organizational assessment. Darleen previously was an Executive Director in the Assessment practice at Russell Reynolds Associates. Darleen conducted assessments of senior executives and worked closely with CEOs and Boards. Darleen previously served as Assessment Practice Leader for Right Management, where she grew the assessment practice. Darleen provided assessment solutions to help organizations facilitate selection, succession, and leadership development initiatives. Darleen received her B.A. from the College of the Holy Cross and her M.A. and Ph.D. in social/organizational psychology from Temple University. Darleen is a member of The Society for Industrial and Organizational Psychology (SIOP) and other professional organizations. She has published book chapters and articles in journals, and recently co-authored *Virtual Team Success: A Practical Guide to Working and Leading From a Distance*.

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Bria Dunham completed her Ph.D. in Anthropology at Rutgers University in 2010, where she studied signaling theory as applied to contemporary human courtship.

She is currently pursuing a Master of Public Health degree at New York University, where she brings an evolutionary perspective into global public health research and practice. Dr. Dunham's current research interests include evolutionary medicine, parent-offspring conflict, and decision-making in maternity care.

Vladas Griskevicius is Assistant Professor of Marketing at the Carlson School of Management at the University of Minnesota. His research examines the ancestral roots of modern consumer behavior. Using theoretical principles from evolutionary biology, he investigates how modern behavior is driven by ancestral motives, which often steer conscious decisions in unconscious ways. His research has been published in top journals in marketing and psychology.

Donald A. Hantula is an organizational psychologist, Associate Professor of Psychology, and director of the Decision Making Laboratory at Temple University. He is the past Executive Editor of the *Journal of Social Psychology*, current Associate Editor of the *Journal of Organizational Behavior Management,* and has edited special issues of other journals on topics such as: experiments in e-commerce, evolutionary perspectives on consumption, Darwinian Perspectives on Electronic Communication, and Consumer Behavior Analysis. He served on the National Science Foundation's Decision Risk and Management Sciences review panel and remains an ad hoc reviewer for government and private research funding agencies. Don has published in many high impact journals including the *Journal of the American Medical Association, Journal of Applied Psychology*, *Journal of Economic Psychology*, *Organizational Behavior and Human Decision Processes* and *Behavior Research Methods*. His research in evolutionary behavioral economics combines behavior analytic and Darwinian theory to focus on questions in financial and consumer decision making, escalation of commitment, performance improvement, and human/technology interactions. He has published over 80 articles and book chapters; has authored or edited 10 books, manuals, and technical reports, made over 150 presentations at national and international scientific meetings, and is a busy researcher, consultant and speaker.

Dominic D.P. Johnson received a D.Phil. from Oxford University in evolutionary biology, and a Ph.D. from Geneva University in political science. Drawing on both disciplines, he is interested in how new research on evolution, biology and human nature is challenging theories of international relations, conflict, and cooperation. He has published two books: "Overconfidence and War: The Havoc and Glory of Positive Illusions" (Harvard University Press, 2004) argues that common psychological biases to maintain overly positive images of our capabilities, our control over events, and the future, play a key role in the causes of war; *Failing to Win: Perceptions of Victory and Defeat in International Politics* (Harvard University Press, 2006), with Dominic Tierney, examines how and why popular misperceptions commonly create undeserved victories or defeats in international wars and crises. His current work focuses on the role of evolutionary dynamics, evolutionary psychology, and religion in human conflict and cooperation.

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Karlijn Massar obtained her Ph.D. at the University of Groningen, The Netherlands, in 2009. Her dissertation research focused on the unconscious evaluation of rivals in jealousy evoking situations, using methods from social cognition, in particular subliminal priming. Her research was published in several international journals. She was a postdoctoral researcher with Professor Buunk, studying especially intrasexual competition, and teaching a course on applying social psychological theories. She is currently an Assistant Professor of Social Psychology at Maastricht University, the Netherlands.

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Karolien Poels is an Assistant Professor of Strategic Communication at the University of Antwerp (Belgium), specialising in advertising, consumer psychology and digital gaming research. She has an M.A. in Communication Studies and a Ph.D. in Social Sciences (both from Ghent University). She previously worked as a post doc researcher at the Human Technology Interaction Group of Eindhoven University of Technology (The Netherlands), where she was involved in a European project on the experience of digital gaming. Her current research mainly focuses on the experience and consumption of digital media (e.g. digital games, virtual worlds) and strategic communication in digital worlds (e.g., In-game advertising). She published in international peer reviewed journals such as *Journal of Advertising Research*, *Journal of Advertising*, and *Journal of Business Research*.

Thomas V. Pollet obtained his Ph.D. at Newcastle University (UK) in 2008. He has since worked as an Assistant Professor of Evolutionary Social Psychology at the University of Groningen, The Netherlands, where he teaches several courses on evolution and human behavior and carries out research using an evolutionary framework. He has published on a wide variety of topics such as sexual selection for male wealth, sibling relationships, grand parenting, childlessness, parental investment and the evolution of social networks. He is currently working on sexual selection for grip strength as well as other human traits under sexual selection.

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Paul H. Rubin is Samuel Candler Dobbs Professor of Economics at Emory University in Atlanta and editor in chief of Managerial and Decision Economics. He is a Fellow of the Public Choice Society and former Vice President of the Southern Economics Association, and is associated with several think tanks. Dr. Rubin has been Senior Staff Economist at President Reagan's Council of Economic Advisers, Chief Economist at the U.S. Consumer Product Safety Commission, Director of Advertising Economics at the FTC and vice-president of Glassman-Oliver Economic Consultants, Inc. He has taught economics at the University of Georgia, City University of New York, VPI, and GWU Law School. Dr. Rubin has written or edited eleven books (including *Darwinian Politics*, Rutgers Press, 2002) and published over one hundred and fifty articles and chapters in reputed journals. Dr. Rubin contributes to the *Wall Street Journal* and other leading newspapers. He has consulted and advised widely on litigation related matters. He has addressed numerous business, professional, government and academic audiences. Dr. Rubin received his Ph.D. from Purdue University in 1970.

Gad Saad is Professor of Marketing at Concordia University (Montreal, Canada) and the holder of the Concordia University Research Chair in Evolutionary Behavioral Sciences and Darwinian Consumption. He has held Visiting Associate Professorships at Cornell University, Dartmouth College, and the University of California – Irvine. He is the author of *The Evolutionary Bases of Consumption* (Lawrence Erlbaum, 2007), and *The Consuming Instinct: What Juicy Burgers, Ferraris, Pornography, and Gift Giving Reveal About Human Nature* (Prometheus Books, 2011). He has published 55+ scientific papers many of which lie at the intersection of evolutionary psychology and a broad range of disciplines including consumer behavior, marketing, advertising, medicine, and economics. Dr. Saad is a highly popular blogger for *Psychology Today*. Since November 2008, his posts have amassed 1,144,000+ total views. He received a B.Sc. in mathematics and computer science (1988) and an M.B.A. (1990) both from McGill University, and his M.S. (1993) and Ph.D. (1994) from Cornell University.

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The Missing Link: The Biological Roots of the Business Sciences

Gad Saad

Abstract Despite a growing infusion of the evolutionary behavioral sciences in general, and evolutionary psychology in particular, across a wide range of disciplines, the business sciences have been slow in recognizing the relevance and explanatory power afforded by this consilient meta-framework. Humans possess minds and bodies that have been forged by a long evolutionary history. Hence, to fully comprehend all of the human cognitions, emotions, preferences, choices, and behaviors that shape marketplace realities, be it those of consumers, employees, or employers, business scholars must incorporate biology and evolutionary theory within their theoretical toolkits. Scientists typically operate at the *proximate* realm, namely they seek to explain the mechanistic details of phenomena whereas ultimate explanations tackle the Darwinian forces that would have led to their evolution. Both levels of analyses are needed when investigating biological organisms including *Homo consumericus* and *Homo corporaticus*.

Keywords Proximate and ultimate explanations · Consilience · Biology · Business · Interdisciplinary · Evolutionary psychology

1 Introduction

A scientist who studies any animal, short of humans, would never dream of doing so while ignoring the biological and evolutionary forces that have shaped its phylogenetic history. Yet several generations of social scientists, be it sociologists, cultural anthropologists, economists, or social psychologists, to name a few, have considered it perfectly natural to disregard the biological roots of *Homo sapiens*. Nowhere

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is the disconnection between the study of human behavior and its biological bases as evident as in the business sciences. This seems quite peculiar given the endless evident ways by which our biology shapes our actions be it as consumers, employees, and/or employers. Our innate preferences for highly caloric foods, pornographic films, and products that improve our stock in the mating market (e.g., plastic surgery and cosmetics for women; luxury cars for men) are manifestations of our biological heritage. The dynamics of the subordinate-supervisor (or employee-employer) relationship is a vestige of the dominance pecking order inherent to many social and hierarchical species. That an interviewer might succumb to the allure of a physically attractive prospective employee is an instinctual penchant for beauty that is difficult to overcome. That a financial trader's fluctuating hormones (e.g., testosterone) or situational hunger (blood sugar levels) might affect his tolerance for risk is obviously due to physiological realities. In 1973, Theodosius Dobzhansky, the famed evolutionary geneticist wrote an influential article titled: "Nothing in biology makes sense except in the light of evolution". His insight is equally true when applied to business, namely I propose that nothing in business makes sense except in the light of evolution (more specifically, evolutionary psychology).

2 Key Principles of Evolutionary Psychology

A foundational tenet of evolutionary psychology (EP) is that in the same way that our various organs have each evolved to solved specific problems of evolutionary import, our minds are comprised of domain-specific algorithms, each of which has evolved as a solution to a particular evolutionary challenge (e.g., choosing a mate, investing in kin, avoiding environmental threats, establishing coalitions with non-kin). Accordingly, EP rejects the premise that the human mind is a blank slate that is otherwise infinitely malleable. Furthermore, EP proclaims that it is insufficient to attribute the genesis of a phenomenon to learning, culture, and/or socialization (see Tooby and Cosmides 1992 for a critique of the Standard Social Science Model, which overly relies on such explanatory accounts). To the extent that many forms of learning occur in exactly the same way irrespective of time or place, it becomes incumbent to provide an ultimate explanation for such environmental agents. In other words, in most instances, nurture exists in its particular forms because of nature.

EP is the latest of a long list of disciplines that seeks to understand the Darwinian roots of human cognition, behaviors, emotions, and preferences. Its predecessors include ethology, sociobiology, behavioral ecology, Darwinian anthropology, and gene-culture coevolution modeling (see Laland and Brown 2002 for an overview of these approaches). Whereas each of these evolutionary disciplines makes unique epistemological claims, they are all concerned with ultimate causation, namely investigating the evolutionary forces that have led to our biological-based human nature. Most scientists including business scholars operate within the proximate

realm, namely they investigate the mechanistic details of a given phenomenon without caring about its Darwinian genesis (if any). A concrete example, an investigation of conspicuous consumption, might illuminate the epistemological distinction between proximate and ultimate explanations. Proximate explorations might include developing a scale to measure one's proclivity to engage in acts of conspicuous consumption; establishing a relationship between conspicuous consumption and materialism; and ascertaining a link between conspicuous consumption and macroeconomic conditions. An ultimate investigation of conspicuous consumption would ask the Darwinian *why* question, namely why have we evolved the universal need to engage in various forms of sexual signaling, of which conspicuous consumption is an instantiation (cf. Griskevicius et al. 2007; Lycett and Dunbar 2000; Saad and Vongas 2009; Sundie et al. 2010). Note that an ultimate explanation does not invalidate proximate ones. Rather, both levels of analyses work in tandem in achieving a complete understanding of a given biological-based phenomenon. It is self-evident then that the behaviors of all human agents involved in business transactions, be it consumers, employees, or employers, cannot be fully understood if we restrict our analyses to the proximate realm.

3 Evolutionary Theory and Biology in the Business Sciences

Whereas the application of EP in the business sciences is a nascent endeavor, works at the nexus of evolutionary theory and business have a more established history. An example of an evolutionary approach that precedes the EP paradigm is game theoretic modeling, which utilizes countless principles from evolutionary theory across a wide range of business disciplines (e.g., evolutionarily stable strategies). Other non-EP-based works that utilize evolutionary notions such as variation, selection, inheritance, replication, adaptation, and retention, include those in entrepreneurship (Aldrich and Martinez 2001), and in organizational ecology (Hanna and Freeman 1989). These approaches are at times grouped under the heading of *Generalized Darwinism*, as a means of explaining how social, economic, and cultural entities can evolve in ways fully congruent with evolutionary theory (Hodgson and Knudsen 2010). Memetic theory is yet another evolutionary framework that seeks to explain how memes (the cultural analogues of genes) can diffuse in a population. For example, catchy advertising slogans that spread via a viral process can be modeled using memetic theory (see Frank 1999; Marsden 1998, 2002; and Pech 2003, for applications of memetic theory in various business settings). Each of the latter approaches is founded on evolutionary principles albeit none seeks to explain the Darwinian forces that have shaped individuals' minds and subsequent behaviors in the marketplace. The latter objective is within the purview of EP.

Neuroeconomics is perhaps one of the most popular contemporary research streams at the nexus of biology and business albeit it is seldom evolutionarily informed (see Glimcher et al. 2009 for a recent overview of neuroeconomics, and Ariely and Berns 2010 for a synopsis of the related field of neuromarketing).