Human Evolution Paper Topics

The Evolution of Rhythm Cognition: Timing in Music and Speech
The Evolution of Music
How Cooking Made Us Human
What Evolution Reveals about Male Health and Mortality
Principles of Human Evolution
Human Evolution
How Men Age
Colloquia in Human Biology and Palaeoanthropology
What Teeth Reveal about Human Evolution
Biological Anthropology
Evolutionary Psychology and the Persistent Quest for Human Nature
Science, Evolution, and Creationism
How Evolution Shapes Our Lives
What's Love Got to Do with it: The Evolution of Monogamy
Essays on Biology and Society
The Past and the Future of Human Immunity Under Viral Evolutionary Pressure
Adaptive Origins
Mapping Biological Ideas
Mahale Chimpanzees
Understanding Misconceptions about Our Origins
The Cambridge Encyclopedia to Human Evolution
Darwin's Reach
Evolutionary Mechanisms of Infectious Diseases
Rethinking Human Evolution
A Synthetic Approach to Human Evolution
On the Origin of Species Illustrated
The Philosophy of Human Evolution
Basics in Human Evolution
The Story Of Developers Of The Catalog Of Human Population
A Most Interesting Problem
The Evolution of Human Sexuality
Understanding Climate's Influence on Human Evolution
The Emergence of Religion in Human Evolution
Human Origins and Environmental Backgrounds
Humanity from African Naissance to Coming Millennia
The Evolving World
Evolution and Human Development
Concept Maps as Knowledge Integration Tools for Evolution Education
Self-Domestication and Human Evolution

KARLEE BURCH

The Evolution of Rhythm Cognition:

Timing in Music and Speech Springer Science & Business Media
Religious capacity is a highly elaborate, neurocognitive human trait that has a solid evolutionary foundation. This book uses a multidisciplinary approach to describe millions of years of biological innovations that eventually give rise to the modern trait and its varied expression in humanity’s many religions. The authors present a scientific model and a central thesis that the brain organs, networks, and capacities that allowed humans to survive physically also gave our species the ability to create theologies, find sustenance in religious practice, and use religion to support the social group. Yet, the trait of religious capacity remains non-obligatory, like reading and mathematics. The individual can choose not to use it. The approach relies on research findings in nine disciplines, including the work of countless neuroscientists, paleoneurologists, archaeologists, cognitive scientists, and psychologists. This is a cutting-edge examination of the evolutionary origins of humanity’s interaction with the supernatural. It will be of keen interest to academics working in Religious Studies, Neuroscience, Cognitive Science, Anthropology, Evolutionary Biology, and Psychology.
The Evolution of Music HPA Press
The hominin fossil record documents a history of critical evolutionary events that have ultimately shaped and defined what it means to be human, including the origins of bipedalism; the emergence of our genus Homo; the first use of stone tools; increases in brain size; and the emergence of Homo sapiens, tools, and culture. The Earth's geological record suggests that some evolutionary events were coincident with substantial changes in African and Eurasian climate, raising the possibility that critical junctures in human evolution and behavioral development may have been affected by the environmental characteristics of the areas where hominins evolved. Understanding Climate's Change on Human Evolution explores the opportunities of using scientific research to improve our understanding of how climate may have helped shape our species. Improved climate records for specific regions will be required before it is possible to evaluate how critical resources for hominins, especially water and vegetation, would have been distributed on the landscape during key intervals of hominin history. Existing records contain substantial temporal gaps. The book's initiatives are presented in two major research themes: first, determining the impacts of climate change and climate variability on human evolution and dispersal; and second, integrating climate modeling, environmental records, and biotic responses. Understanding Climate's Change on Human Evolution suggests a new scientific program for international climate and human evolution studies that involve an exploration initiative to locate new fossil sites and to broaden the geographic and temporal sampling of the fossil and archeological record; a comprehensive and integrative scientific drilling program in lakes, lake bed outcrops, and ocean basins surrounding the regions where hominins evolved and a major investment in climate modeling experiments for key time intervals and regions that are critical to understanding human evolution.
How Cooking Made Us Human CRC Press
This book provides a unique discussion of human evolution from a philosophical viewpoint, looking at the facts and

interpretations since Charles Darwin's The Descent of Man. Michael Ruse explores such topics as the nature of scientific theories, the relationships between culture and biology, the problem of progress and the extent to which evolutionary issues pose problems for religious beliefs. He identifies these issues, highlighting the problems for morality in a world governed by natural selection. By taking a philosophical viewpoint, the full ethical and moral dimensions of human evolution are examined. This book engages the reader in a thorough discussion of the issues, appealing to students in philosophy, biology and anthropology.

What Evolution Reveals about Male Health and Mortality Oxford University Press

Was human nature designed by natural selection in the Pleistocene epoch? The dominant view in evolutionary psychology holds that it was—that our psychological adaptations were designed tens of thousands of years ago to solve problems faced by our hunter-gatherer ancestors. In this provocative and lively book, David Buller examines in detail the major claims of evolutionary psychology—the paradigm popularized by Steven Pinker in The Blank Slate and by David Buss in The Evolution of Desire—and rejects them all. This does not mean that we cannot apply evolutionary theory to human psychology, says Buller, but that the conventional wisdom in evolutionary psychology is misguided. Evolutionary psychology employs a kind of reverse engineering to explain the evolved design of the mind, figuring out the adaptive problems our ancestors faced and then inferring the psychological adaptations that evolved to solve them. In the carefully argued central chapters of Adapting Minds, Buller scrutinizes several of evolutionary psychology's most highly publicized "discoveries," including "discriminative parental solicitude" (the idea that stepparents abuse their stepchildren at a higher rate than genetic parents abuse their biological children). Drawing on a wide range of empirical research, including his own large-scale study of child abuse, he shows that none is actually supported by the evidence. Buller argues that our minds are not adapted to the Pleistocene, but, like the immune system, are continually adapting, over both evolutionary time and individual lifetimes. We must move beyond the reigning orthodoxy of evolutionary psychology to reach an accurate understanding of how human psychology is influenced by evolution. When we do, Buller claims, we will abandon not only the quest for human nature but the very idea of human nature itself.

Principles of Human Evolution Princeton University Press

Today many school students are shielded from one of the most important concepts in modern science: evolution. In engaging and conversational style, Teaching About Evolution and the Nature of Science provides a well-structured framework for understanding and teaching evolution. Written for teachers, parents, and community officials as well as scientists and educators, this book describes how evolution reveals both the great diversity and similarity among the Earth's organisms; it explores how scientists approach the question of evolution; and it illustrates the nature of science as a way of knowing about the natural world. In addition, the book provides answers to frequently asked questions to help readers understand many of the issues and misconceptions

about evolution. The book includes sample activities for teaching about evolution and the nature of science. For example, the book includes activities that investigate fossil footprints and population growth that teachers of science can use to introduce principles of evolution. Background information, materials, and step-by-step presentations are provided for each activity. In addition, this volume: Presents the evidence for evolution, including how evolution can be observed today. Explains the nature of science through a variety of examples. Describes how science differs from other human endeavors and why evolution is one of the best avenues for helping students understand this distinction. Answers frequently asked questions about evolution. Teaching About Evolution and the Nature of Science builds on the 1996 National Science Education Standards released by the National Research Council--and offers detailed guidance on how to evaluate and choose instructional materials that support the standards. Comprehensive and practical, this book brings one of today's educational challenges into focus in a balanced and reasoned discussion. It will be of special interest to teachers of science, school administrators, and interested members of the community.

Human Evolution Frontiers Media SA Today, evolutionary biology is much more than an explanatory concept. It is indispensable to the world we live in. This book provides the first truly accessible and balanced account of how evolution has become a tool with applications that are thoroughly integrated, and deeply useful, in our everyday lives and our societies, often in ways that we do not realize. The Evolving World convinces us as never before that evolutionary biology has become absolutely necessary for human existence.

How Men Age National Academies Press 50 Great Myths of Human Evolution uses common misconceptions to explore basic theory and research in human evolution and strengthen critical thinking skills for lay readers and students. Examines intriguing—yet widely misunderstood—topics, from general ideas about evolution and human origins to the evolution of modern humans and recent trends in the field Describes what fossils, archaeology, and genetics can tell us about human origins Demonstrates the ways in which science adapts and changes over time to incorporate new evidence and better explanations Includes myths such as “Humans lived at the same time as dinosaurs;” “Lucy was so small because she was a child;” “Our ancestors have always made fire;” and “There is a strong relationship between brain size and intelligence” Comprised of stand-alone essays that are perfect for casual reading, as well as footnotes and references that allow readers to delve more deeply into topics

Colloquia in Human Biology and Palaeoanthropology Academic Press There is a long-standing evolutionary battle between viruses and their hosts that continues to be waged. The evidence of this conflict can be found on both sides, with the human immune system being responsive to new viral challenges and viruses having developed often sophisticated countermeasures. The “arms race” between viruses and hosts can be thought as an example of the “Red Queen” race, an evolutionary hypothesis inspired from the dialogue of Alice with the Red Queen in Lewis Carroll’s “Through the Looking-Glass”. At

the same time, viruses have a minimal genomic content as they have evolved to hitchhike biological machinery of their hosts (or other co-infecting viruses). The minimalistic viral genome could be thought as the result of a “Black Queen” evolution, a theory inspired from the card game Heart, where the winner is the one with the fewest points at the end. The effects of this arms race are evident in the evolution of the human immune system. This system is capable of responding to diverse viral challenges, utilizing both the ancient innate immune system and the more recently evolved adaptive immune system of jawed vertebrates. It is now well-known that the two systems are linked, with innate immunity hypothesized to have provided raw material for the emergence of the adaptive immune response. The adaptive immune response comprises several protein families (including B and T cell receptors, MHC and KIR proteins, for example) that are encoded by complex and variable genomic regions. This complexity enables for responsive genetic changes to occur in immune cells, such as the ability of genomic hypervariable regions in B cells to recombine in order to produce more specific antibodies. Indeed, the human immune system is thought to be continually evolving via various mechanisms such as changes in the genes encoding immune receptors and the regulatory sequences that control their expression. For example, there is some evidence that exogenous viral infections can alter the expression of endogenous retroviruses, some of which contribute to the immune response. Viral countermeasures can include encoding decoy receptors for the signalling molecules of the immune response, altering the gene expression of adaptive immune cells during chronic infection or using host enzymes to facilitate viral immune escape. As the articles herein show, the immune system continues to be challenged by viral infections and these challenges continue to shape how the immune system combats pathogens, thus viruses and human immunity are continuously part of “Red and Black Queen” evolutionary dynamics. We had the pleasure of working with Jonas Blomberg as a reviewer during the course of the Research Topic and his untimely passing was a great loss. Prof. Blomberg made significant contributions, including to the nomenclature of endogenous retroviruses (ERVs), the evolution and characterization of specific human ERV (HERV) and the contribution of ERVs to diseases such as cancer. It is with great respect for his contributions to the ERV field that we dedicate this eBook to his memory.

What Teeth Reveal about Human Evolution Academic Press

Originally published in 1987, Human Evolution looks at theories of the evolution of human behaviour (contemporary at the time of publication). The book reviews competing theories of psychological and social evolution and provides a detailed historical introduction to the subject. A key theoretical concern which emerges in the book includes the psychological significance of the human evolution issue itself. The period of human evolution covered ranges from the demise of the Miocene hominoids, to the emergence of ‘civilization’. Topics covered include: functions of ‘origin myths’, history of the study of human evolution, methods and data-bases, theories of the nature of ‘hominisation’, origins of bipedalism, language and tool-use, theories of social evolution, theories

of cave art and the spread of Homo sapiens to America and Australia.
Biological Anthropology Springer Nature
On the Origin of Species (or, more completely, On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life), published on 24 November 1859, is a work of scientific literature by Charles Darwin which is considered to be the foundation of evolutionary biology. Darwin's book introduced the scientific theory that populations evolve over the course of generations through a process of natural selection. It presented a body of evidence that the diversity of life arose by common descent through a branching pattern of evolution. Darwin included evidence that he had gathered on the Beagle expedition in the 1830s and his subsequent findings from research, correspondence, and experimentation.
Evolutionary Psychology and the Persistent Quest for Human Nature John Wiley & Sons
Many students leave school with a fragmented understanding of biology that does not allow them to connect their ideas to their everyday lives (Wandersee, 1989; Mintzes, Wandersee, & Novak, 1998; Mintzes, Wandersee, & Novak, 2000a). Understanding evolution ideas is seen as central to building an integrated knowledge of biology (Blackwell, Powell, & Dukes, 2003; Thagard & Findlay, 2010). However, the theory of evolution has been found difficult to understand as it incorporates a wide range of ideas from different areas (Bahar et al., 1999; Tsui & Treagust, 2003) and multiple interacting levels (Wilensky & Resnick, 1999; Duncan & Reiser, 2007; Hmelo-Silver et al., 2007). Research suggests that learners can hold a rich repertoire of co-existing alternative ideas of evolution (for example, Bishop & Anderson, 1990; Demastes, Good, & Peebles, 1996; Evans, 2008), especially of human evolution (for example, Nelson, 1986; Sinatra et al., 2003; Poling & Evans, 2004). Evolution ideas are difficult to understand because they often contradict existing alternative ideas (Mayr, 1982; Wolpert, 1994; Evans, 2008). Research suggests that understanding human evolution is a key to evolution education (for example, Blackwell et al., 2003; Besterman & Baggott la Velle, 2007). This dissertation research investigates how different concept mapping forms embedded in a collaborative technology-enhanced learning environment can support students' integration of evolution ideas using case studies of human evolution. Knowledge Integration (KI) (Linn et al., 2000; Linn et al., 2004) is used as the operational framework to explore concept maps as knowledge integration tools to elicit, add, critically distinguish, group, connect, and sort out alternative evolution ideas. Concept maps are a form of node-link diagram for organizing and representing connections between ideas as a semantic network (Novak & Gowin, 1984). This dissertation research describes the iterative development of a novel biology-specific form of concept map, called Knowledge Integration Map (KIM), which aims to help learners connect ideas across levels (for example, genotype and phenotype levels) towards an integrated understanding of evolution. Using a design-based research approach (Brown, 1992; Cobb et al., 2003), three iterative studies were implemented in ethically and economically diverse public high schools classrooms using the web-based inquiry science environment (WISE) (Linn

et al., 2003; Linn et al., 2004). Study 1 investigates concept maps as generative assessment tools. Study 1A compares the concept map generation and critique process of biology novices and experts. Findings suggest that concept maps are sensitive to different levels of knowledge integration but require scaffolding and revision. Study 1B investigates the implementation of concept maps as summative assessment tools in a WISE evolution module. Results indicate that concept maps can reveal connections between students' alternative ideas of evolution. Study 2 introduces KIMs as embedded collaborative learning tools. After generating KIMs, student dyads revise KIMs through two different critique activities (comparison against an expert or peer generated KIM). Findings indicate that different critique activities can promote the use of different criteria for critique. Results suggest that the combination of generating and critiquing KIMs can support integrating evolution ideas but can be time-consuming. As time in biology classrooms is limited, study 3 distinguishes the learning effects from either generating or critiquing KIMs as more time efficient embedded learning tools. Findings suggest that critiquing KIMs can be more time efficient than generating KIMs. Using KIMs that include common alternative ideas for critique activities can create genuine opportunities for students to critically reflect on new and existing ideas. Critiquing KIMs can encourage knowledge integration by fostering self-monitoring of students' learning progress, identifying knowledge gaps, and distinguishing alternative evolution ideas. This dissertation research demonstrates that science instruction of complex topics, such as human evolution, can succeed through a combination of scaffolded inquiry activities using dynamic visualizations, explanation activities, and collaborative KIM activities. This research contributes to educational research and practice by describing ways to make KIMs effective and time efficient learning tools for evolution education. Supporting students' building of a more coherent understanding of core ideas of biology can foster their life-long interest and learning of science.

Science, Evolution, and Creationism Princeton University Press

In this stunningly original book, Richard Wrangham argues that it was cooking that caused the extraordinary transformation of our ancestors from apelike beings to Homo erectus. At the heart of Catching Fire lies an explosive new idea: the habit of eating cooked rather than raw food permitted the digestive tract to shrink and the human brain to grow, helped structure human society, and created the male-female division of labour. As our ancestors adapted to using fire, humans emerged as "the cooking apes". Covering everything from food-labelling and overweight pets to raw-food faddists, Catching Fire offers a startlingly original argument about how we came to be the social, intelligent, and sexual species we are today. "This notion is surprising, fresh and, in the hands of Richard Wrangham, utterly persuasive ... Big, new ideas do not come along often in evolution these days, but this is one." - Matt Ridley, author of Genome

How Evolution Shapes Our Lives MIT Press

Anthropology, Sexual Studies, Psychology, Sociology, Gender and Cultural Studies

What’s Love Got to Do with it: The Evolution of Monogamy Routledge

Humanity From African Naissance to Coming Millennia arises out of the world's first Dual Congress that was held at Sun City (South Africa) in 1998 that refers to a conjoint, integrated meeting of two international scientific associations, the International Association for the Study of Human Palaeontology - IV Congress - and the International Association of Human Biologists. The volume includes 39 refereed papers covering a wide range of topics, from Human Biology, Human Evolution (Emerging Homo, Evolving Homo, Early Modern Humans), Dating, Taxonomy and Systematics, Diet, Brain Evolution, offering the most recent analyses and interpretations in different areas of evolutionary anthropology.
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Essays on Biology and Society Princeton University Press
Long-term ecological research studies are rare and invaluable resources, particularly when they are as thoroughly documented as the Mahale Mountain Chimpanzee Project in Tanzania. Directed by Toshisada Nishida from 1965 until 2011, the project continues to yield new and fascinating findings about our closest neighbour species. In a fitting tribute to Nishida's contribution to science, this book brings together fifty years of research into one encyclopaedic volume. Alongside previously unpublished data, the editors include new translations of Japanese writings throughout the book to bring previously inaccessible work to non-Japanese speakers. The history and ecology of the site, chimpanzee behaviour and biology, and ecological management are all addressed through firsthand accounts by Mahale researchers. The authors highlight long-term changes in behaviour, where possible, and draw comparisons with other chimpanzee sites across Africa to provide an integrative view of chimpanzee research today.
The Past and the Future of Human Immunity Under Viral Evolutionary Pressure Cambridge University Press
An authoritative exploration of why understanding evolution is crucial to human life today It is easy to think of evolution as something that happened long ago, or that occurs only in "nature," or that is so slow that its ongoing impact is virtually nonexistent when viewed from the perspective of a single human lifetime. But we now know that when natural selection is strong, evolutionary change can be very rapid. In this book, some of the world's leading scientists explore the implications of this reality for human life and society. With some twenty-three essays, this volume provides authoritative yet accessible explorations of why understanding evolution is crucial to human life—from dealing with climate change and ensuring our food supply, health, and economic survival to developing a richer

and more accurate comprehension of society, culture, and even what it means to be human itself. Combining new essays with essays revised and updated from the acclaimed Princeton Guide to Evolution, this collection addresses the role of evolution in aging, cognition, cooperation, religion, the media, engineering, computer science, and many other areas. The result is a compelling and important book about how evolution matters to humans today. The contributors are Dan I. Andersson, Francisco J. Ayala, Amy Cavanaugh, Cameron R. Currie, Dieter Ebert, Andrew D. Ellington, Elizabeth Hannon, John Hawks, Paul Keim, Richard E. Lenski, Tim Lewens, Jonathan B. Losos, Virpi Lummaa, Jacob A. Moorad, Craig Moritz, Martha M. Muñoz, Mark Pagel, Talima Pearson, Robert T. Pennock, Daniel E. L. Promislow, Erik M. Quandt, David C. Queller, Robert C. Richardson, Eugenie C. Scott, H. Bradley Shaffer, Joan E. Strassmann, Alan R. Templeton, Paul E. Turner, and Carl Zimmer.

Adaptive Origins Harvard University Press

While the health of aging men has been a focus of biomedical research for years, evolutionary biology has not been part of the conversation—until now. How Men Age is the first book to explore how natural selection has shaped male aging, how evolutionary theory can inform our understanding of male health and well-being, and how older men may have contributed to the evolution of some of the very traits that make us human. In this informative and entertaining book, renowned biological anthropologist Richard Bribiescas looks at all aspects of male aging through an evolutionary lens. He describes how the challenges males faced in their evolutionary past influenced how they age today, and shows how this unique evolutionary history helps explain common aspects of male aging such as prostate disease, loss of muscle mass, changes in testosterone levels, increases in fat, erectile dysfunction, baldness, and shorter life spans than women. Bribiescas reveals how many of the physical and behavioral changes that we negatively associate with male aging may have actually facilitated the emergence of positive traits that have helped make humans so successful as a species, including parenting, long life spans, and high fertility. Popular science at its most compelling, How Men Age provides new perspectives on the aging process in men and how we became human, and also explores future challenges for human evolution—and the important role older men might play in them.

Mapping Biological Ideas Cambridge University Press

How did life evolve on Earth? The answer to this question can help us understand our past and prepare for our future. Although evolution provides credible and reliable answers, polls show that many people turn away from science, seeking other explanations with which they are more comfortable. In the book Science, Evolution, and Creationism, a group of experts assembled by the National Academy of Sciences and the Institute of Medicine explain the fundamental methods of science, document the overwhelming evidence in support of biological evolution, and evaluate the alternative perspectives offered by advocates of various kinds of creationism, including "intelligent design." The book explores the many fascinating inquiries being pursued that put the science of evolution to work in preventing and treating human disease,

developing new agricultural products, and fostering industrial innovations. The book also presents the scientific and legal reasons for not teaching creationist ideas in public school science classes. Mindful of school board battles and recent court decisions, Science, Evolution, and Creationism shows that science and religion should be viewed as different ways of understanding the world rather than as frameworks that are in conflict with each other and that the evidence for evolution can be fully compatible with religious faith. For educators, students, teachers, community leaders, legislators, policy makers, and parents who seek to understand the basis of evolutionary science, this publication will be an essential resource.

Mahale Chimpanzees Cambridge University Press

"In 1859, Charles Darwin proposed a mechanism for biological evolution in his most famous work, On the Origin of Species. However, Origin makes little mention of humans. Despite this, Darwin thought deeply about humans and in 1871 published The Descent of Man, his influential and controversial book in which he applied evolutionary theory to humans and detailed his theory of sexual selection. February 2021 will mark the 150th anniversay of it's publication. In A Most Interesting Problem, twelve leading anthropologists, biologists, and journalists revisit The Descent. Following the same organization as the first edition of Descent - less the large section on sexual selection -- each author reviews what Darwin wrote in Descent, comparing his words to what we now know now. There are chapters on evidence for human evolution, our place in the family tree, the origins of civilization, human races, intelligence, and sex differences. An introduction by Darwin biographer and historian Janet Browne provides context for Descent and a conclusion by Science magazine journalist Ann Gibbons looks to the future of the study of human evolution. All the chapters are written with a broad audience in mind. Ultimately, readers learn that Darwin was remarkably prophetic in some of his predictions, such as that the earliest human fossils would be discovered in Africa. But he was wrong in other areas, particularly in regards to variations between the sexes and races. Thus, A Most Interesting Problem is not so much a celebration of Darwin as it is a tribute to how science works, how scientific ideas are tested, and the role of evidence in helping structure narratives of human origins. The reader is left with a view of how far we have come in our quest for understanding human origins, biological variation, behavior, and evolution"--

Understanding Misconceptions about Our Origins Frontiers Media SA

Advances in fossil studies relating to the origin of Homo sapiens have strengthened the hypothesis that our direct ancestors originated on the African continent. Most researchers also agree that the time when prehumans diverged from the last common ancestor was in the early part of the Late Miocene epoch. Focus must now shift from determining the times and places of hominid origins to clarifying hominid evolutionary problems, such as the selective factors and acquisition processes of hominid bipedalism. In March of 2003, researchers from Africa, Europe, Japan and the United States convened in Kyoto for a symposium on Human Origins and Environmental Backgrounds, an interdisciplinary effort to consider these evolutionary puzzles,

to report current research and to exchange thoughts towards better understanding the relationship among environmental changes, adaptive mechanisms and human origins. This book is the result of that symposium, and includes a diverse and unique set of papers on topics such as hominid evolution, dispersal and morphology, and the origins of bipedalism.