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*Issues in Palaeobiology: A Global View: Interviews and Essays* edited by Marcelo R. Sánchez-Villagra and Norman MacLeod

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work will serve as an introduction for the paleontological community to the fossil resources of Mexico and an impetus for further research.

D. ANDREW THOMAS, *Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, Norman, Oklahoma*

#### HADROSAURS. *Life of the Past.*

*Edited by David A. Eberth and David C. Evans; Editorial Assistant: Patricia E. Rabrick. Bloomington (Indiana): Indiana University Press. \$95.00. xvi + 619 p.; ill.; subject, locality (by country), stratigraphy (by country), and taxonomic indexes. ISBN: 978-0-253-01385-9 (hc); 978-0-253-01390-3 (eb). 2014.*

*Hadrosaurs*—an impressive tome with 36 chapters from 83 contributors—was borne out of an International Hadrosaur Symposium, held at the Royal Tyrrell Museum in Canada. The purpose of the symposium was partly to recognize the abundance of new discoveries, techniques, and information that has come to light in recent years and partly to honor the contributions of David Weishampel, a researcher whose myriad studies have pioneered work in the fields of dinosaurian behavior and functional morphology. Much of his work has focused on hadrosaurs, the group of dinosaurs colloquially referred to as the duck-billed dinosaurs. However, it is not simply the hadrosaur snout that is odd. Indeed, much of the variety of hadrosaur anatomy lays in the cranial ornamentation that runs the gamut from the unadorned to the bizarre to the otherworldly.

The 600-plus-page volume is broken down into five major themes, preceded by an overview chapter from David Weishampel and followed by an afterword from Jack Horner. Weishampel gives a cogent overview of the history, current status, and future of where the field of hadrosaur paleobiology was, is, and will likely be as the science marches forward. Part 2 consists of seven chapters that discuss new information, material, and perspectives pertaining to the origins of hadrosaurids. David Norman outlines a new phylogenetic analysis of a broad sampling of nonhadrosaurid ornithomorphs and develops a revised classification scheme, wherein he coins clade names such as Clypeodonta and Hadrosauromorpha. With the ever-changing phylogenetic landscape of Ornithomorphs, some of these clade names and revised phylogenetic definitions seem unwarranted and could lead to taxonomic instability. Tsogtbaatar et al. present a new hadrosauroid, *Plesiohadros djadokhtaensis*, from the Djadokhta Formation of Mongolia. This new taxon falls out as the sister to a clade comprised of *Lophorhothon atopus* and Hadrosauridae. Its phylogenetic position, age, and occurrence support the hypothesis that hadrosaurids

may have originated in Asia. The third part has six chapters allotted to revised anatomical descriptions and new data on morphological variation within Hadrosauridae. Part 4 devotes seven chapters to parsing out the temporal and geographic distribution of Hadrosauridae, highlighted by a paper from Tanke and Evans that discusses the importance of properly documenting locality data, a concern echoed by researchers of all stripes. The fifth part presents seven chapters that delve into the fascinating and complex world of function and growth, including a detailed look into the hadrosaur faunal makeup of the Dinosaur Provincial Park Formation. The last part, on preservation, tracks, and traces, outlines the taphonomic signatures left behind by hadrosaurs over the course of eight chapters. Bell, Prieto-Márquez and Wagner, and Manning et al. present excellent analyses and summations of soft-tissue preservation that add to our growing wealth of knowledge regarding skin impressions and coloration in the fossil record.

As with previous volumes in the *Life of the Past* series, *Hadrosaurs* will be a welcome addition to the library of professional, academic, and avocational paleontologists.

MARC R. SPENCER, *College of Medicine, Central Michigan University, Mt. Pleasant, Michigan*

#### ISSUES IN PALAEOBIOLOGY: A GLOBAL VIEW: INTERVIEWS AND ESSAYS.

*Edited by Marcelo R. Sánchez-Villagra and Norman MacLeod. Zürich (Switzerland): Scidinge Hall Verlag. \$18.00 (paper). 289 p.; ill.; no index. ISBN: 978-3-905923-17-9. 2014.*

Paleobiology has undergone a dramatic revolution in the past 40 years, starting arguably with Schopf's seminal *Models in Paleobiology* (1972). San Francisco (CA): Freeman, Cooper). Paleobiology as a term now describes a field that attempts, largely successfully, to find the unifying empirical patterns, and elucidate their underlying theoretical frameworks that apply with equal force to everything from diatoms to dinosaurs. *Issues in Paleobiology: A Global View* is a fascinating series of personal essays/interviews with active paleontologists from all over the world (12 countries are represented). Each paleobiologist was asked the same five questions about their vision of the future for paleobiology, how their own work might move us toward that future and, finally, about how they ended up as paleobiologists. This last, most personal question definitely engendered the most riveting and interesting responses, and makes this book worth reading even for people who may not otherwise be interested in the opinions of, in one contributor's terms, "some old [men]" (p. 29)—and the contributors are predominately men.

The first question concerns where each researcher sees the field moving in the future: “What are the most important problems in palaeobiology?” (p. 15). Some contributors, such as C. Kevin Boyce, reject the premise of this question as impossible for people entrenched in research to answer. Others, like David Lazarus, point out what they see as the problems in the science of paleobiology by talking about how the move toward biology has isolated (nonmicro) paleontologists from revolutions in the Earth sciences.

The next three questions strive to have the researcher relate their current work to their vision of the future of paleobiology. Although certainly useful to someone who wants a quick look at some of the research in paleobiology, these sections are not the main draw of the book in my opinion.

The final question is the most personal—“Why were you initially drawn to research in palaeobiology?” (p. 25)—and by far the most intriguing section. This question alone, asked of so many people from so many countries and diverse backgrounds, makes this publication worth owning for any scientist, historian of science, or science enthusiast. The routes these researchers describe range from loving dinosaur books as kids, to missing a medical exam because of civil war, to the Chinese cultural revolution. Reading this section of each chapter will surprise you, with people arriving in paleobiology from geology, biology, and even youthful dalliances in astrology!

The first four questions asked in each chapter of this volume provide an excellent, if brief and “low-level” summary of the current state of subfields in paleobiology. If the book were comprised of only these questions, it would be perfect for undergraduates and early graduate students trying to decide on a research path, or nonpaleobiologists curious about what we actually do. However, the combination of the personal anecdotes in the fifth question, as well as the diversity of views represented by people from across the world, makes this a very worthwhile volume for anyone to pick up.

JONATHAN S. MITCHELL, *Ecology & Evolutionary Biology, University of Michigan, Ann Arbor, Michigan*



## ECOLOGY

### HOPE ON EARTH: A CONVERSATION.

By Paul R. Ehrlich and Michael Charles Tobias, with additional comments by John Harte. Chicago (Illinois): University of Chicago Press. \$20.00. viii + 188 p. + 8 pl.; ill.; no index. ISBN: 978-0-226-11368-5 (hc); 978-0-226-11371-5 (eb). 2014.

Imagine walking up a mountain trail in springtime, hanging just behind your companions, listening to a lively conversation that lasts for hours and winds between topics as diverse as evolution and vegetarianism, population impacts on our sense of community, gun control, circumcision, abortion, ecological change, inequality, and the very nature of ethics. Your companions are eminent ecologist Paul Ehrlich, known best for his work on the population explosion, coevolution, and conservation biology, and renowned environmental and nonviolence activist and filmmaker Michael Tobias. As you listen, these two penetrating and creative minds walk up the mountain discussing modern ethics through the lens of science.

Ehrlich and Tobias present *Hope on Earth* as an ethical discussion of the defining issues of our day. Rather than focus on dichotomies of right versus wrong, the conversation winds in and out, pausing especially on the inherent contradictions and ambiguities that each issue presents, and the connections between them. The wide-ranging discussion repeatedly converges on several themes, most importantly the value of life—especially the life of the individual versus the many and the human versus the nonhuman—and the catastrophic effects of our growing population on our future and that of the planet. Although both agree that burgeoning human population and consumption are at the root of the ecological, extinction, and climate crises we face today, they differ greatly in their personal ethics and approaches to these problems. The authors confront the impossibility of a simple answer to the choices that we face and use their own experiences to illustrate their distinct approaches to reconciling them—for us collectively as a species and in each of their individual lives. Their convergences and differences of opinion, and their ability to “agree to disagree,” make for a fascinating and rare discussion that continually raises further questions. Even without their proposed solutions, the art of their conversation, a distillation of years of work and thought in a world of talking heads and sound bites, is the reader’s own reward.