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EDITORIAL

Editorial

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This issue of *E:E&O* rounds out Volume 3, marking the completion of three full years of publication. To our great delight and satisfaction, the journal continues to grow and mature. We are particularly proud of the emerging format of Special Issues: the first three issues of 2010's Volume 3—Coevolution, the Genie Scott Festschrift and, most recently Human Evolution—are all dynamite. We now complete Volume 3 with a much-needed issue on "Teaching Phylogenetics"—exposing the basics of this modern approach to reconstructing the evolutionary relationships among species, and on up through higher taxa. Readers of earlier issues will no doubt recall that phylogenetics has been a repeated, though occasional, theme in our journal since its inception three years ago. Our thanks go to Dan Brooks—a founding member of *E:E&O*'s Editorial Board—for doing such a terrific job conceiving and assembling this Special Issue on the Teaching of Phylogenetics.

Nor is there any doubt that the subject matter of phylogenetics—how to reconstruct evolutionary lineages, and the patterns of evolutionary history that are thereby revealed—is still vitally important to the education process. That there is a stunning gap—a gaping hole, really—in the public understanding of evolution was revealed to us just this morning in the pages of *The New York Times.* Once again, the views of politicians on scientific issues—including evolution—are in the news: and this is as it should be, as politicians, when elected, get to shape policy on all manner of scientifically related research, ranging from stem cells, global warming—and, yes, even evolution.

Nor is the problem of gross misunderstanding of evolution confined to the political right, with its conservative religious underpinnings. Today's *Times* piece was an Op-Ed by Maureen Dowd entitled "Slouching Toward Washington" (September 26, 2010). Her piece revealed, in good old equal-time fashion, as bad a misunderstanding of evolution from the left as from the right. Dowd reports that, in a TV tape of an old show of the comedian Bill Maher, the Republican (subspecies Tea Party) candidate for Senate in Delaware, Christine O'Donnell, called evolution a "myth." Maher apparently asked her if she had ever looked at a monkey—and O'Donnell (according to Dowd) replied "Why aren't monkeys still evolving into humans?" (By sheer coincidence, the NCSE column in this issue addresses this very question).

What caught our attention this morning, though, was not so much what O'Donnell supposedly said—but what Maher is quoted as having said to Dowd as she was preparing her column. Dowd quotes Maher as having said that it is "powerful stupid to think primate evolution could happen fast enough to observe it."

As if it was a question of speed—and that monkeys are indeed still "evolving into humans," but ever so slowly. With Maher, we see no grasp of the simple fact that evolution is as much a branching process as a linear, selection-mediated matter of directional change. Nor is there any acknowledgement that, in fact, diversification—the splitting of lineages—is actually key not only to survival of truly ancient groups (not only bacteria and horseshoe crabs, but monkeys as well, which have been around in recognizable form for tens of millions of years), but also to the actual generation of evolutionary novelty as

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new species split off from old. In point of fact, contrary to Maher's implicit view, monkeys are *not* still evolving into humans. Maher's view of evolution is hardly more sophisticated than O'Donnell's—based as it seems to be on the supposition that slow, steady gradual change is inevitable. Whether or not our own species, *Homo sapiens*, becomes extinct before monkeys, it is no sure bet that anything resembling ourselves would evolve over again—whether from bacteria, monkeys, or anything else.

We sincerely hope that this issue of *E:E&O* on teaching phylogenetics will help redress the blatant public misunderstanding on both sides of the political aisle of what evolution actually is: how it works and what the patterns in the history of life actually look like.

Lastly, we are happy to announce the first contribution to our new column "Viewpoints." We encourage all our readers to write in their opinions—if you agree, disagree, or just feel strongly about some issue that has appeared in one or more previously published articles, please feel free to write and tell us so. It can be anything from a short letter to a not-so-short essay. We look forward to lively debates!