

## SCIENCE'S COMPASS

13. N. D. Newell, *ibid.* 3, 103 (1949).
14. G. G. Simpson, *Horses: The Story of the Horse Family* (Oxford Univ. Press, New York, 1951).
15. ———, *Tempo and Mode in Evolution* (Columbia Univ. Press, New York, 1944); B. Rensch, *Eurere Probleme der Abstammungslehre: Die Trasspezifische Evolution* (Ferdinand Enke, Stuttgart, 1947); G. L. Jepsen, E. Mayr, G. G. Simpson, *Genetics, Paleontology, and Evolution* (Princeton Univ. Press, Princeton, NJ, 1949); H. F. Blum, *Time's Arrow and Evolution* (Princeton Univ. Press, Princeton, NJ, 1951); D. M. S. Watson, *Paleontology and Modern Biology* (Yale Univ. Press, New Haven, CT, 1951); G. G. Simpson, *Major Features of Evolution* (Columbia Univ. Press, New York, 1953).
17. In his paper, Rensch curiously bastardized Cope's title as "Progressive and regressive evolution among vertebrates" (the correct title is "On the evolution of the Vertebrata, progressive and retrogressive") and did not provide an exact citation for the work. Not coincidentally, Rensch's version is identical to that given in the English version of Depéret's *The Transformations of the Animal World* (Kegan Paul, Trench, Trübner, London, 1909).
18. D. M. Raup and S. M. Stanley, *Principles of Paleontology* (Freeman, San Francisco, 1971).
19. T. Eimer, *Die Entstehung der Arten auf Grund von Vererbung Erworbener Eigenschaften* (Gustav Fischer, Jena, 1888); C. Depéret, *Les Transformations du Monde Animal* (Bibliothèque de Philosophie Scientifique, Paris, 1907); O. H. Schindewolf, *Grundfragen der Paläontologie* (Nägele, Stuttgart, 1950).

### Response

Polly's comments on the term "Cope's Rule" are a positive contribution. It is refreshing to see open discussion of the fact that scientists often view their distant intellectual ancestors through a lens dirtied by decades of mud-throwing. However, several points deserve further clarification.

First, my report was concerned with empirical issues, not terminology, and it avoided even the simpler problem of explaining exactly what modern authors mean by the term "Cope's Rule" [Jablonski (1) has dealt with this matter in detail]. Regardless of historical questions, my use of the term was necessitated by the fact that no alternative was available.

Second, Polly ignores the fact that regardless of what Cope himself thought about body mass, both he and his intellectual allies did indeed hold progressionist, and often explicitly orthogeneticist, views. Cope's disciple Henry Fairfield Osborn is an example, as is his contemporary and fellow *American Naturalist* editor Alpheus Hyatt. All of these workers tended to deny adaptation and to hypothesize linear, progressive trends that run in parallel across numerous closely related lineages (2). Although Polly correctly points out that the nonadaptive, teleological underpinnings of orthogenesis are logically incompatible with neo-Lamarckism, this contradiction seems not to have bothered members of Cope's school.

Finally, use of the term "Cope's Rule" can be seen as a deserved tribute to Cope's influence, even if the exact historical details fail to justify it. Body mass per se

may not have been a focus of anyone's research in the late 19th century, but paleontological interest in evolutionary trends during the current century certainly has its roots in the debate between Darwinians and progressionist neo-Lamarckians. Cope, a media star in his own day, was the most productive of the American neo-Lamarckians and casts a longer shadow on paleontology than other figures like Eimer and Hyatt. Painful as it is, I must admit that replacing "Cope's Rule" with a term like "Alroy's Axiom" would only cause confusion and rob one of my discipline's founders of some well-deserved publicity.

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### References

1. D. J. Jablonski, in *Evolutionary Paleobiology*, D. Jablonski, D. H. Erwin, J. H. Lipps, Eds. (Univ. of Chicago Press, Chicago, 1996), pp. 256-289.
2. P. J. Bowler, *The Eclipse of Darwinism* (John Hopkins Univ. Press, Baltimore, 1983).

### CORRECTIONS AND CLARIFICATIONS

Pallava Bagla's article about new rules for animal experimentation in India (News of the Week, 18 Sept., p. 1777) incorrectly described the status of the National Institute of Communicable Diseases in New Delhi. It reports to the Ministry of Health and Family Welfare, not to the Indian Council of Medical Research.

Marcia Barinaga's article "Graduate admissions down for minorities" (News of the Week, 18 Sept., p. 1778) quoted an erroneous number from the AAAS report on minority graduate admissions. Hispanic enrollment in science and engineering graduate programs was down 16% in 1997, not 18%.

In the Policy Forum "The paradox of lead poisoning prevention" by Bruce P. Lanphear (*Science's Compass*, 11 Sept., p. 1617), three incorrect metric conversions were introduced during editing. In the first full paragraph on page 1618, 50  $\mu\text{g}/\text{ft}^2$  should have been converted to 536  $\mu\text{g}/\text{m}^2$ ; 40  $\mu\text{g}/\text{ft}^2$  should have been converted to 428  $\mu\text{g}/\text{m}^2$ ; and 10  $\mu\text{g}/\text{ft}^2$  should have been converted to 107  $\mu\text{g}/\text{m}^2$ . Also, the Environmental Protection Agency's rule on lead-based paint in federally owned residential property, referred to in the same paragraph, was proposed on 3 June 1998, not 1 June.

In the Perspective "Tales told in lead" by J. O. Nriagu (*Science's Compass*, 11 Sept., p. 1622), in line 25 of the second paragraph, the estimated annual production of lead should have read "160, 900, 11,000, 32,000, and 6000 metric tons ...." There was a space missing after the first number.

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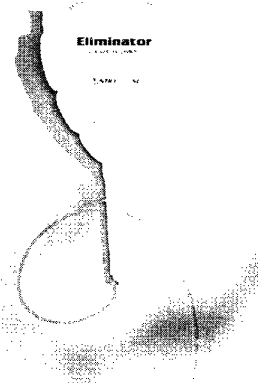
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