with the exception of transferring funds, a task that will be assumed by the U.S. Department of State in order to reduce overhead costs. Control of the research agenda and the allocation of funds will remain with the RERF Board of Directors.

In our negotiations and decisions, we have kept our process open and transparent. In December 1994, we informed NAS of our intent to seek a university grantee. We have done our best to keep all parties abreast of our intentions. Through our communication with the scientists, RERF officials, and the Japanese government, we have endeavored to ensure a smooth, constructive transition. We recognize that transition is painful. Many parties feel a responsibility to ensure the continued excellence, viability, and independence of RERF, including its staff and directors, the Japanese government, former and current NAS employees, the international scientific community, DOE, and, most important, the citizens of Hiroshima and Nagasaki. We are committed to ensure that the personal lives of the researchers are not disrupted and that the work continues in an independent, productive manner.

We are confident that transfer of the administrative support grant to an independent American university will maintain the appropriate intellectual and managerial distance between the work of RERF and DOE, and will continue to foster research of the highest quality and to encourage the development of a new generation of radiation scientists.

Paul J. Seligman
Deputy Assistant Secretary for Health Studies, Department of Energy, Germantown, MD 20874–1290, USA

■

African Dinosaur Discoveries

The report by Paul C. Sereno *et al.* (14 Oct., p. 267) on African dinosaurs was valuable and informative, but contained a minor taxonomic error. The family-level name "Torvosauroidea" is improper for the taxon that includes the two theropod families "Torvosauridae" and "Spinosauridae." Both names are validly formed and available, but "Spinosauridae" was proposed by Ernst Stromer in 1915, whereas "Torvosauridae" was coined by James A. Jensen in 1985. According to the 1985 International Code of Zoological Nomenclature (Article 36a), "a name established for a taxon at any rank in the family group is deemed to be simultaneously established with the same author and date for taxa based upon the same name-bearing type (type genus) at other ranks in the family group, with appropriate mandatory change of suffix." Thus, even though the name "Spinosauroidea" (using the superfamilial suffix -oidea) has not yet (to my knowledge) explicitly been used in the literature, it has priority by 70 years over the name "Torvosauroidea" whenever a name is required for a superfamily containing both families "Spinosauridae" and "Torvosauridae." The name "Torvosauroidea" as used by Sereno *et al.* is thus a junior subjective synonym of "Spinosauroidea," the name that should have been used for that taxon.

George Olshevsky
Editor, Archosaurian Articulations, *Post Office Box 543, Central Park Station, Buffalo, NY 14215–0543, USA*

Sereno *et al.* describe interesting dinosaur material from the Lower Cretaceous of Niger, but do not adequately acknowledge the importance of what was previously known about the Cretaceous dinosaurs of Africa. Although the paper by Taquet (*1*) on the

Early Cretaceous vertebrates of Niger and the shorter paper by Jacobs *et al.* (2) on dinosaurs from Malawi are cited as "rare exceptions," the work of other paleontologists is described as preliminary or based on scanty material. This gives the uninformed reader the misleading impression that little was known about Cretaceous African dinosaurs. However, Stromer's "small fossil collection from Egypt" (which was largely destroyed by an American air raid on Munich in 1944) was the basis for a total of 16 monographs on various groups of fossil vertebrates published between 1914 and 1935, complemented by a 102-page synthesis by Stromer (3). Remains of eight types of dinosaurs, including three new taxa, were described, several of them from partial skeletons. This "small collection" compares favorably with the finds reported by Sereno *et al.* Lapparent's paper (4) is described as "preliminary paleontological surveys in the Sahara." These surveys were discussed in a 56-page memoir, in which 11 genera of dinosaurs were mentioned and five new species were named. Admittedly, much of Lapparent's material, having been collected in the Sahara under the difficult conditions of the 1950s, is fragmentary, but it includes six partial skeletons (of theropods and sauropods). The sauropod described by Lapparent as the new species *Rebbachisaurus tamesnensis* is of special importance in relation to the new material reported by Sereno *et al.* This taxon is mentioned in Sereno *et al.* note 20, but not in an appropriate way. The new taxon referred by Lapparent to the Camarasauridae was not based exclusively on fragmentary remains (although Lapparent also referred isolated bones to it); three partial skeletons were mentioned, and the photographs and sketches published by Lapparent show that some of his material was comparable in terms of completeness with the partial skeleton shown by Sereno *et al.* in their figure 5. It seems likely that the "new species" of broad-toothed sauropod reported by Sereno *et al.* is in fact identical to Lapparent's *Rebbachisaurus tamesnensis*, which was found in the same beds in the same general area of Niger. Sereno *et al.* state that "the assignment to the Moroccan genus *Rebbachisaurus* is incorrect because there are no overlapping bones"; *Rebbachisaurus garasbae* was based on a scapula and a dorsal vertebra from Morocco (5), and the material described by Lapparent (4) included both dorsal vertebrae and a scapula (although the latter was not collected). Lapparent (4, p. 38) based his attribution of the new sauropod to *Rebbachisaurus* on resemblances in the shape of both the scapulae and the dorsal vertebrae. Whether this attribution is correct is admittedly uncertain, but the possibility cannot be dismissed. In any case, under the rules of priority, the specific name *R. tamesnensis*, for which there is a diagnosis (4, p. 38) although no type specimen was formally designated, cannot be simply forgotten.

The paleobiogeographical conclusions drawn by Sereno *et al.* are moderately convincing, but it is premature to state that the new finds do not "support the existence of a distinct Gondwanan fauna during the Cretaceous"—this may apply to the Early Cretaceous, but the Late Cretaceous is a different matter. The point that there was a connection of some sort between Gondwana and the northern continents until the Early Cretaceous is not new. To mention but a few earlier papers that reached the same conclusion, on the basis of the occurrence of the ornithopod *Valdosaurus* in the Lower Cretaceous of both Britain and Niger, Galton and Taquet (6) concluded that there must have been a land connection between Africa and Europe sometime in the Early Cretaceous. In 1991, Le Loeuff (7) reviewed Cretaceous vertebrate faunas on a world-

wide basis and concluded that there was a connection that gave rise to an Early Cretaceous "Afro-Euro-American paleobioprovince." The new discoveries announced by Sereno *et al.* therefore provide additional confirmation of an already widely held and solidly based conclusion.

Eric Buffetaut
Gilles Cuny
Centre National de la Recherche Scientifique, and Laboratoire de Paléontologie des Vertébrés, Université Paris 6, Case 106, 4 place Jussieu, 75252 Paris Cedex 05, France

References

1. P. Taquet, *Cah. Paléontol.* **1**, 1 (1976).
2. L. L. Jacobs, D. A. Winkler, W. R. Downs, E. M. Gomani, *Palaeontology* **36**, 523 (1993).
3. E. Stromer, *Abh. Bayer. Akad. Wiss., Math.-naturwiss. Abt., N.F.* **33**, 1 (1936).
4. A. F. de Lapparent, *Mém. Soc. Géol. France (n.s.)* **88A**, 1 (1960).
5. R. Lavocat, *C.R. 19e Congr. Geol. Internat. (Alger)* **15**, 65 (1954).
6. P. M. Galton and P. Taquet, *Géobios (Lyon)* **15**, 147 (1982).
7. J. Le Loeuff, *Cretaceous Res.* **12**, 93 (1991).

Response: Olshevsky correctly observes that in our paper on the new African theropod *Afrovenator* the most appropriate name for one of the larger groups containing *Afrovenator* is Spinosauroidea, rather than Torvosauroidea, even though the former term has not been used in the literature.

Buffetaut and Cuny say that our report on new dinosaurs from Cretaceous deposits in the Sahara is misleading because (i) Cretaceous dinosaurs from Africa are better known than we suggested; (ii) the new sauropod species we described cannot be distinguished from sauropod bones found previously in Niger; and (iii) our biogeographic conclusions concerning Gondwana and the evolution of its fauna are already well established.

First, our knowledge of fossil vertebrates from the Cretaceous of Africa is extremely poor by comparison with South America or any Laurasian continent, where countless articulated skeletons of large and small vertebrates (including dinosaurs) have been described. The theropod and sauropod skeletons described in our report join the few described by Stromer (*1*), Taquet (*2*), and Jacobs *et al.* (*3*) as the only relatively complete, associated dinosaur skeletons to be unearthed in the Cretaceous of Africa, as we stated. That African Cretaceous deposits are so little explored in no way diminishes the tremendous paleontological and geological contributions of Lapparent (*4*), whose pioneering work in the Sahara in the 1950s laid the groundwork for all who follow. Nonetheless, our fossil discoveries underscore how little is known from this time period on Africa—something that Buffetaut himself has observed on several occasions (*5*).

Second, the sauropod skeleton that we unearthed very probably belongs to the same species as some of the disarticulated material described by Lapparent (*4*). Unfortunately, Lapparent did not designate a type specimen or provide a diagnosis with characters that today would distinguish his material from many other sauropod species. Furthermore, there is no justification for reference of his material to the Moroccan genus *Rebbachisaurus*, as is the case with our more complete material. In accordance with accepted rules of nomenclature, a new genus and species must eventually be coined.

Last, our conclusions concerning possible land connections between Gondwana and Laurasia during the Lower Cretaceous were based on the absence of "phylogenetic unity among dinosaur groups that persisted on Gondwanan continents during the Cretaceous." We know of no monophyletic dinosaurian clades that characterize Gondwanan continents exclusively, as seems to have oc-

curred later in the Cretaceous on certain land masses. Our observation is in concert with, but not the same as, previous evidence for a land connection between Gondwana and Laurasia during the Lower Cretaceous, such as the supposed shared presence of a particular ornithischian genus (6) or of particular families in Cretaceous faunas from Africa, Europe, and North America (7).

P. C. Sereno
J. A. Wilson
H. C. E. Larsson
Department of Organismal Biology and Anatomy, University of Chicago, 1027 East 57 Street, Chicago, IL 60637, USA
D. B. Dutheil
48, rue de la Rouchefoucauld, 75009 Paris, France
H.-D. Sues
Department of Vertebrae Palaeontology, Royal Ontario Museum, Toronto, Ontario M5S 2C6, Canada

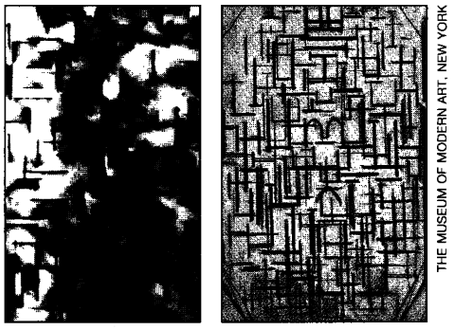
References

1. E. Stromer, *Abh. Kgl. Bayer. Akad. Wiss., Math.-phys. Kl.* **28**, 1 (1915); *Abh. Bayer. Akad. Wiss., Math.-naturwiss. Abt., N.F.* **22**, 1 (1934).
2. P. Taquet, *Cah. Paléontol.* **1**, 1 (1976).
3. L. L. Jacobs, D. A. Winkler, W. R. Downs, E. M. Gomani, *Palaeontology* **36**, 523 (1993).
4. A. F. de Lapparent, *Mém. Soc. Géol. France (n.s.)* **88A**, 1 (1960).
5. E. Buffetaut and J. Le Loeuff, *Cretaceous Res.* **12**, 159 (1991); E. Buffetaut and J.-C. Rage, in *The Africa-South America Connection*, W. George and R. Lavocat, Eds. (Clarendon Press, Oxford, 1993), pp. 87–99.
6. P. M. Galton and P. Taquet, *Géobios (Lyon)* **15**, 147 (1982).
7. J. Le Loeuff, *Cretaceous Res.* **12**, 93 (1991).

■

Crankcase Art?

Figures published in *Science* have frequently been an inspiration for my paintings, but when I scanned the already eye-catching report by F. W. Gayle and M. Goodway about the aluminum alloy of the Wright brothers' aircraft (11 Nov., p. 1015), I was astonished to see a pattern in figure 2B (p. 1016) that depicted 20-nanometer Guinier-Preston zones which was reminiscent of Piet Mondrian's paintings *Church Façade* and *Color Planes in Oval*. Life imitating art?



THE MUSEUM OF MODERN ART, NEW YORK

Which is art? Left, Guinier-Preston zones; right, Mondrian's *Church Façade*.

Debra Jan Bibel
Department of Dermatology, School of Medicine, University of California, San Francisco, CA 94143–0517, USA

Corrections and Clarifications

In the letter from Howard B. Urnovitz and Roy W. Stevens (3 Mar., p. 1249), the third sentence should have read, "First, they can not only invite, but actively solicit, new ideas and alternative lines of inquiry."

In figure 1D (p. 680) of the report "Genetic decreases in atrial natriuretic peptide and salt-sensitive hypertension" by Simon W. M. John *et al.* (3 Feb., p. 679), the size bars to the right and left of the Southern blot were not correctly aligned in relation to the dark bands.