ent rather than the past, selection in natural populations instead of fossils, and variation among individuals rather than among species and higher taxa, one would think that all the major issues in evolutionary biology concern fossils. In fact, most evolutionary biologists today are not paleontologists. In fact, most of us use the adaptationist program. Most evolutionary biologists work at generating and testing new theories and hypotheses.

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1. S. J. Gould and E. Vrba, *Palaeobiology* **8**, 4 (1982).
2. J. L. Brown, *The Evolution of Behavior* (Norton, New York, 1975), pp. 282–328.

Explaining Meteorites

In her briefing (News and Comment, 25 June, p. 1390) reporting the first meeting of the Society for Scientific Exploration, Constance Holden quotes me as stating that a meteorite fall in 1790 convinced the scientific community that meteorites existed. Quite the contrary, I described how reports of this event were ridiculed by scientists of the time. It was, of course, the L'Aigle fall of 1803 that established meteorites as real.

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A featured presentation at the first meeting of the Society for Scientific Exploration was a talk entitled "The meteorite question" delivered by Ron Westrum of Eastern Michigan University. The author described the scientific community as being closed-minded about controversial issues. We may be reacting today with regard to UFO's, sea serpents, and so forth, with the same arrogance that prevented late-18th-century scientists from accepting reports that meteorites actually fell from the sky. His talk was excerpted from a paper (*1*) published several years ago.

Westrum has read the original literature of the meteorite controversy and has his facts in order. Instead of an insightful analysis, however, he produces an indictment: if today's scientists continue in the pattern of individuals who played formative roles in the development of major areas of modern physical, chemical, and geological sciences, they will seriously retard progress. Westrum does not acknowledge that the individuals who worried about the reality of meteorite falls at the end of the 18th century faced a difficult intellectual challenge. The development of a conceptual framework for the recognition of meteorites within a period of two decades was a significant scientific achievement. Those who participated should not be disparaged because the problems they faced 200 years ago can be made to appear trivial today.

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Marine Biology on Palau

Last February, while research scientists in North America were enjoying less-than-clement climatic conditions, a group of us were engaged in biological research (specificially, studies of symbiotic prochlorophytes) in and around the coral reefs and shoals of Palau, in the West Caroline Islands. On Palau, seawater and air temperatures remain around 30°C throughout the year, marine organisms can be found in a variety and abundance that can be matched by few other areas, and laboratory and dormitory facilities are available at the Micronesian Mariculture Demonstration Center. We were surprised that the laboratory, which needs support of all kinds, is not used by more marine biologists. With the formation of the Palau Marine Research Institute (PMRI), and its recent incorporation by the Republic of Belau, we hope there will be a resurgence of activity there, at least comparable to that of the period between the wars, when Palau was under Japanese administration. Readers interested in working there (with or without student associates, for several days, weeks, or months) who wish information on individual or institutional memberships in PMRI, may write Keith E. Chave, President, PMRI, c/o Department of Oceanography, University of Hawaii, Honolulu 96822.

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Paleoglaciology

In his review (14 Aug. 1981, p. 752) of *The Last Great Ice Sheets* (*1*), Charles R. Bentley claims that in the book "Strange physical and geophysical ideas are stated as facts. Examples of such ideas are that heat required for melting at the surface of a glacier is partly conducted upward from its frozen bed (that is, against the thermal gradient) and that radioactive heating in the continents could cause isostatic response to the continental ice sheet to occur by flow within the crust rather than within the mantle."

The first example refers to the discussion on pages 224 and 225, which concerns cold ice sheets, not temperate glaciers. The bed is newly frozen, so it is at or just below the melting point year-round. The surface ablation zone, on the other hand, has a mean annual temperature well below the melting point and this is the year-round temperature 10 to 15 meters below the surface. Heat is conducted continuously from the bed to this near-surface depth, so more heat is conducted upward to the surface in the winter and less heat is conducted downward from the surface in the summer than would otherwise be the case. More heat is therefore available at the surface for summer melting.

The second example refers to the discussion on pages 253 and 254, which cautions against the common glaciological practice of using a granitic rock density in computing isostatic sinking beneath ice sheets. Flow within the crust must occur if granitic densities are used, and we used basaltic densities to insure that flow will be within the mantle, not the crust. The only way in which crustal flow could occur would be if radioactive heating made crustal granites softer than mantle basalts.

The review goes on to say that isostatic adjustments confined to the crust "appear to have been used in an argument against the occurrence of bedrock depression beyond the margins of the ice sheet and thus in favor of a maximum, rather than a minimum, mode of ice sheet extent." Lateral flow in the mantle combined with crustal bending is assumed in making this argument (pages 312 and 313).

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1. G. H. Denton and T. J. Hughes, Eds., *The Last Great Ice Sheets* (Wiley-Interscience, New York, 1981).