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# Review: Wilfried Schroeder, ed., Vom Wunderzeichen zum Naturobjekt (Bremen, 2001)

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centuries, and decades. They discuss soil genesis before moving on to human uses of the land. Southeastern Indians developed agricultural societies that often farmed the alluvial soils. European migrants and African slaves utilized Ultisols extensively for cotton and corn. Introduction of fertilizer allowed for more continuous planting, without having to revert to shifting cultivation. The agricultural phase left a legacy of soil alteration in erosion and reduction of organic matter. On the plus side of the ledger, the pines planted on the Calhoun forest inhabited a soil environment with greater amount of nitrogen, phosphorous, potassium, and a higher pH than the Europeans had encountered upon settlement.

Further soil-property alterations by four decades of pine growth open up avenues for management recommendations. The thorough analysis of changes in soil chemistry will be left to the reader. To cite one example, however, the authors observe that phosphorus, nitrogen, and lime removed in forest harvesting may need to be replaced. Globally, Ultisols are being converted from forests to pasture and cropland, while other Ultisols are being reforested. The Calhoun studies demonstrate the responses by the soil to reforestation and harvesting and offer guidance on future management requirements.

In discussing Ultisols, the authors educate readers about the processes of creating an acidic, low nutrient soil. Lest the reader be left with the impression that these processes operated equally in all Southern soils, the authors could have explained that there are adjacent Alfisols that have maintained their base richness in lower horizons due to the nature of the clays. Likewise the history of cotton culture and its relationship to technological change is somewhat different on the Alfisols and Vertisols of the South.

The authors make a well-reasoned plea for long-term experiments in the interest of both productivity as well as environmental quality. The case is convincing but will, as the authors acknowledge, require institutional support. Academia does not value selfless collection of data to be used long in the future.

The authors write well. The methodology of placing the data-rich, recent period in the context of historical and geologic time works. The book thereby attracts a broader readership and educates non-soil scientists about soils and their relevance to both agriculture and the maintenance of environmental quality. The general reader who may not understand the implications of chemical analysis can, however, understand the historical explanation. That scientists, policymakers, and land users understand inherent limitations and potentials of soils and the effects of management on both is the stated objective of the authors. They have effectively made their case.

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**VOM WUNDERZEICHEN ZUM NATUROBJEKT: FALLSTUDIE (CHANGES IN THE INTERPRETATION OF THE AURORA OF MARCH 17, 1716).** Wilfried Schröder, editor. 2001. Science edition, Potsdam and Bremen. 96 p. Softcover, \$20.00.

*Vom Wunderzeichen zum Naturobjekt* is a small collection of primary sources, some in German and some in Latin, with a brief introduction. The document collection centers on the events of 17 March 1716, when a spectacular aurora dazzled folks throughout northern Germany. The longest and most important of the texts reproduced here is by Christian Wolff, that great academic troublemaker of early eighteenth-century Prussia. Like many of Wolff's writings, this one is shockingly tedious, filled with apparently superfluous geometrical demonstrations,

longwinded accounts of simple things, and wholly unconvincing explanations of more complicated things. The other two texts in the collection are short and—unless you are a real aurora buff—pretty uninteresting.

As the title of the book suggests, Schröder wants to argue that the dramatic display of Northern Lights on that day in 1716 changed forever the way the “common people” thought about celestial phenomena (p. 15). What had been a “sign of wonder” now became a “natural object.” There is, of course, at least one obvious problem with the argument: how, that is, can Schröder use the events of a single day to demonstrate significant long-term change? More troublesome still, though, is his claim that the “new thing here is that a scientist held a lecture for the people to explain a natural phenomenon. Here is an interaction between the ordinary man, who is confronting fearfully a phenomenon which he cannot understand, and a scientist willing to give an explanation” (p. 16). Need I say more? Let me just issue a general warning: Schröder has been misled by the term “*lectio publica*,” which he takes to be a “lecture for the people.” In fact, it just means that Wolff’s lecture was free of charge that day. No doubt, many students came to listen—Wolff was apparently a popular and engaging speaker—but the idea that it was some kind of revolutionary speech, bringing science to the common people, is just silly.

For me, Christian Wolff is interesting, not as some herald of modern science, but rather for his systematic, relentless, tedious style of explication. Schröder wants to know how Wolff brought science to the people. I want to know why anyone listened. But that is a question for another book. Is there any reason to buy this one? Unlikely. Wolff’s “*Gedanken über das ungewöhnliche Phänomenon*,” though relatively obscure, is available in the United States. The other two pieces in the collection are probably not worth the effort. And Schröder’s interpretation you can do without.

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**ORIGINS: THE EVOLUTION OF CONTINENTS, OCEANS AND LIFE.** Ron Redfern. 2001. University of Oklahoma Press, Norman. 360 p. Hardcover, \$49.95

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This beautiful large-format book is not about the history of earth sciences, but it may well turn out to be an historic work. The book begins, not with an introduction as is usual, but with a section entitled “About the Photography.” This is proper because this book is primarily “about the photography.” Science writer Ron Redfern traveled on a series of expeditions all over the world for three years, making over seven hundred photographs that are the heart of this volume. The extent of this major undertaking is further documented with the Acknowledgments and Dedication (which covers three pages) as well as the impressive glossary, bibliography, and index.

According to the press release, the book has a unique structure, offering the chance to follow two distinct but parallel narratives in one volume. The first is a series of individual photo-essay spreads. The second is formed by an authoritative running text illustrated with clearly numbered icons. The book can therefore be either browsed through or read in chronological order.

*Origins* is comparable to what Redfern did so well in *The Making of a Continent* (1983). After the Introduction, twelve chapters plus an epilogue of breathtaking photography and lucid narrative follow. In these chapters, Redfern doesn’t just talk about geology. He has also incorporated the history of the development