translation of original leaders and founders into eternal ancestors promoted their direct descendants into communicant adepts and mediators for the rest of the community. The essence of the Maya social contract seemingly bound the ancestral dead to the living in mutual reliance. Maya kings were called Ch'ul Ahaw. *Ahaw* means lord; *ch'ul* means holy, with connotations of soul. Maya leaders were lords of soul force.

The significance of Cuello is that it documents a remarkable continuity between the patterns of ritual behavior defining centrality in a village and those exalting hierarchy in the royal capitals. Formal burials, cached deposits, and human sacrifice mark the growth of Platform 34 as these features empower the Preclassic and Classic centers emerging around Cuello. One can detect a twinge of envy in the narrative of this book when Cuello is compared with larger early centers graced by monumental art. In its modest, clear echo of the same themes this village provides an especially precious insight into the Maya civilization's advent.

This is a daunting book to read. The prose is clean and consistent, but the coverage varies from highly technical first-order presentations of some data, through summary analyses of other material, to several different attempts at generalization. For those in the field, it's a useful compendium. For those interested in going beyond general books on the Maya, it's worth attempting. Wilk, Seymour, Kosakowsky, Gerhardt, Donaghey, Pring, Miksicek, Wing, Scudder, Wilhite, Saul and Saul, McSwain, Johnson, and Robin contributed to the draft and final product. Hammond contributed to sections and edited the whole. It's a fine multidisciplinary work and a genuine advance for Maya studies.

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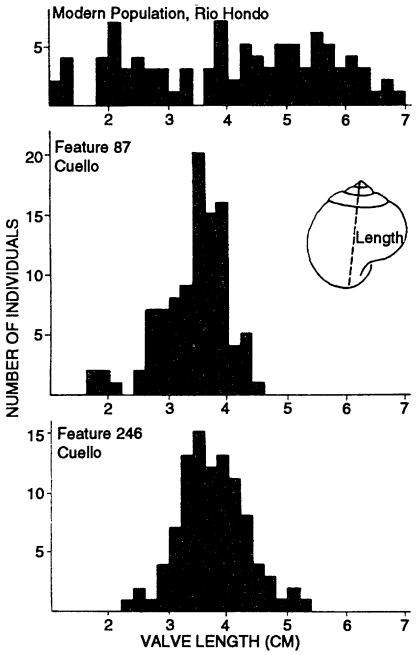

"A comparison of the length of *Pomacea* shells recovered from two Cuello *chultunob* [subterranean storage chambers] with that of a modern population collected from the banks of the Rio Hondo in northern Belize (n = 100 for each sample)." The size distribution at Cuello "suggests careful selection for optimal size and taste." When the forms typical of Cuello were compared with those from Rio Hondo by "gastroarchaeological tests," the former were found "when boiled and seasoned with garlic [to be] delicious, comparable with *escargots*, whereas the latter "were tough and unpalatable—rather like rubber bands in pond mud." [From *Cuello*]

Reactions to Parasites

Allergy and Immunity to Helminths. Common Mechanisms or Divergent Pathways? REDWAN MOQBEL, Ed. Taylor and Francis, Philadelphia, 1992. xii, 271 pp., illus. $99.

Sharing airspace with an *Ascaris* causes an almost instantaneous tightening in my throat; feelings of impending suffocation, panic, and despair come on in quick succession. These responses are a testament to the extraordinary speed, power, and sensitivity of allergic reactions to parasite allergens, which is the theme, more or less, of this timely book. I say more or less because, despite its title, allergy to other agents gets disappointingly short shrift in this collection derived from a Royal Society of Medicine symposium on relationships between immunity to helminth infection and the development of atopy.

The lineup of authors includes most of the leading scientists on the British immunoparasitology/parasite-allergy scene, supplemented with a few representatives of, principally, European and Australian schools of thought. The most successful chapters cover the elements of allergic reactivity. For example, immunoglobulin E (IgE)–dependent mechanisms are reviewed and a good case is made for the importance of Fc_ϵ receptor II by Capron *et al.* Regulation of IgE synthesis is illuminated expertly by Zanders and colleagues from Glaxo, and mast cell functions and heterogeneity are made to make sense by Miller; the same job for eosinophils is accomplished by Wardlaw and Moqbel. Rather less successful is a heterogeneous collection of chapters on themes such as population dynamics of helminth infections and gut inflammation in human helminthiases, none of which, though interesting in themselves, casts much light on the question posed in the book's subtitle. The contribution by Lynch on relationships between allergies and helminthiasis in humans in the tropics is especially valuable, drawing on a lot of recent observations in a controversial area.

The rapidly developing topics of immunoregulation, genetics, and the roles of T cell subsets in shaping allergic reactivity and allergic inflammatory events are well covered by Wakelin and Grencis, Nutman, and others. However, references here, as elsewhere in the volume, seldom extend into 1990, so the relentless accumulation of even more interleukins and their constellations of overlapping functions may by now have clouded further what was murkily perceived even then.

Throughout the book, the imperative to return to in vivo systems to corroborate notions derived from elaborate in vitro experiments gets too little acknowledgment for my liking. Powerful new tools with extraordinary utility in the dissection of events in tissues in vivo are available that have great potential for this purpose. The omission is representative of a failure to incorporate very much in the way of envisioned directions or opportunities that will enable questions to be approached in new ways. Consideration of such matters would have enhanced the book, especially for its likely audience, newcomers and students entering the field.

Absent the surfacing of novel concepts or approaches, discussions of how allergic reactions to helminth antigens might participate beneficially in immunoprotective events have an uncomfortably conventional ring to them. It seems as if the same old issues are being addressed with newer reagents rather than looked at with better insights and ideas. I am surprised that the emerging picture of IgE and its role in antigen processing did not get more serious attention, especially in the struggle to find a silver lining to the clouds produced by the appearance of IgE on the inflammatory stage. No points are awarded to the IgE receptor for its role as the fastest trigger on the immunological scene, even if it does lead to shotgun-like blasts at our health and equanimity rather than the precision marksmanship we would prefer to have associated with our defense mechanisms. Here is where the lack of involvement of allergy/IgE investigators from outside the field of helminthiasis is particularly noticeable in this collection. Such contributors would certainly have brought different perspectives, valuable for the mix of ideas that a reader might have expected to find between these covers.

The production quality of the book is disappointing. Figures lack uniformity in style and are often reduced to illegibility

or are irritatingly difficult to read because of line fade-out. Photomicrographs throughout the book are so washed out as to defy interpretation, and a number of diagrams are crudely reproduced. Taxonomic terms are abundantly misused, and there are many spelling and grammatical errors, betraying a less than exemplary commitment to detail in the assembly of the volume. But despite its collective shortcomings this is a worthy effort and a valuable reference, though one that does not quite live up to expectations.

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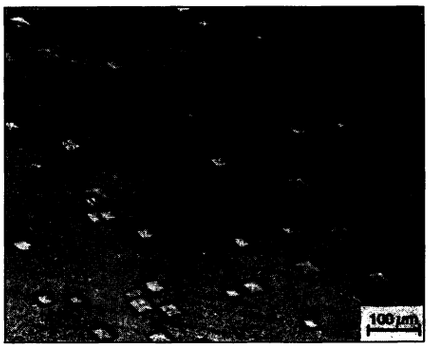
A Revealing Tool

Fission-Track Dating. GÜNTHER WAGNER and PETER VAN DEN HAUTE. Enke, Stuttgart, and Kluwer, Norwell, MA, 1992. xiv, 285 pp., illus. $99. Solid Earth Sciences Library, vol. 6. Based on a workshop, Besançon, France, Sept. 1988.

During the past 30 years the fission-track dating technique, which is based on the rate of spontaneous fission of ^{238}U in uranium-bearing minerals, has been applied to a number of geologically interesting problems. In a few special cases, this technique can be used to determine the absolute ages of rock units. However, the most exciting application of the method is in deciphering thermal history information. In particular, the analysis of fission-track data from the mineral apatite, which records the thermal history of rocks in the 60° to 140°C range, has routinely been used to evaluate the hydrocarbon potential of sedimentary basins and to determine the uplift and erosional history of mountain ranges. Tremendous advances in the quantitative interpretation of fission-track data have occurred in the last decade. *Fission-Track Dating* is the first comprehensive discussion of the principles, methodology, and applications of fission-track dating since Fleischer, Price, and Walker's classic work *Nuclear Tracks in Solids: Principles and Applications* was published in 1975.

The book is aimed primarily at students and nonspecialists interested in learning about the fission-track technique. Although it focuses on geological applications of the method, one section at the end of the last chapter is devoted to uses in archeology. In general the book is well organized, although the inclusion of a brief overview of the steps involved in fission-track analysis at the end of the first chapter might have made the detailed discussions in the subsequent chapters more clear to the nonspecialist. The analyses of the principles behind the method, the steps involved in age determination and track length measurement, the methods used to quantify fission-track annealing, and the assumptions used in geological interpretation are drawn from the considerable experience of the authors and from work done by others in fission-track laboratories around the world. The book ends with a number of application case studies from a wide variety of geological situations, including the absolute dating of tuffs, measurement of rates of uplift and



"Spontaneous fission tracks in muscovite after etching in 40% [hydrofluoric acid] for 15 h at 25°C." [From *Fission-Track Dating*]