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¹ Swets Backsets Service (<http://www.swets.nl/backsets/contact.htm>) offers for sale, at between EURO 27 and 65 per volume, all 7 volumes and 3 supplements published between 1936 and 1944.

Voyages of the Pyramid Builders by Robert M. Schoch and Robert Aquinas McNally. New York: Jeremy P. Tarcher/Putnam. i-viii + 338 pp., plates, bibliog., index. \$24.95 (cloth). ISBN 1-58542-203-7.¹

Robert M. Schoch is a geologist who first became known to a wide audience by proposing that Egypt's Great Sphinx—and, therefore, civilization—is of much earlier date than the circa-2550 B.C. conventionally supposed (see his book *Voices of the Rocks*, 1999, revised 2000 for UK edition, which also presents other material leading to the present book). In *Voyages of the Pyramid Builders*, Schoch examines the question as to whether the world's pyramids and similar structures are historically related, going back to a common source, and if so, what that source may have been. This is an issue of long standing among cultural historians, but Schoch's examination is both comprehensive and up-to date, and he has a new "take" on the matter.

Regarding the antiquity of Egyptian monuments, he updates his proposal regarding a 7000–5000-B.C. age for the Sphinx (based on weathering) and points out that carbon dates at Giza's nearby pyramids are earlier than the pharaohs who allegedly had the structures built but for whose involvement in their construction there is little evidence. He notes other early pyramids: a 40-foot platform mound at Uruk, Sumeria's first city (about 3000 B.C.), followed by ziggurat-building at Ur, and circa-3500-B.C. pyramids in Peru. Other parts of the world—China, India, Mesoamerica, etcetera—display similar structures but later in date.

These various edifices have far more than form in common, says Schoch. Typically, they symbolize the World Mountain, a peak that mediates between the sacred and the profane. Running through the World Mountain is the *axis mundi*, the locus of the commencement of time and space. Pyramid-building societies were characterized by divine absolute rulership, and the structures were points of contact between humans (through the rulers and priests) and sky deities such as the Sun, and between Father Sky and Mother Earth; pyramids healed the ancient pushing apart of these two aspects of the cosmos. Sometimes, pyramids were built over caves, representing connections to the underworld as well. Many pyramids memorialize dead kings, giving the latter existence beyond the grave, even deification, and the man-made mountains frequently served as tombs for the rulers, who in some societies were mummified. Rulers' deaths were seen as sacrifices that lifted mortals to immortality; in some areas, animals and even human family members and retainers were

sacrificed and placed in the tomb—interred while still living, in the case of wives. There are also associations with water and water rituals. Schoch summarizes:

Pyramids re-create the world mountain that centers the cosmos; they serve as monuments to, or stages for, great religious events; they provide pathways for gods to walk among humans and for humans to enter the realm of the gods; they are the work of powerful male monarchies and priestly elites, some of whom embraced religions promising regal immortality; they are associated with sacrifices; and they incorporate in their structures mythological associations with water, underground spaces, and celestial bodies [pp. 76–77].

After reviewing the world's pyramids and what he sees (sometimes dubiously) as related structures, Schoch considers chronological issues (a map of global pyramid occurrences with earliest dates would have been helpful here). Then, using Sorenson and Raish's (1996) very extensive bibliography, among other sources, he reviews a great range of kinds of evidence for transoceanic influences in the pre-Columbian Americas. He handles these data—which I feel are convincing—reasonably competently, especially considering that his training is in vertebrate paleontology, not anthropology or history. He acknowledges that much of this material is not specifically related to the spread of pyramids; apparently, he includes it both for its intrinsic interest and because it bolsters his argument that pyramids could have spread by means of ancient overseas voyaging. He also devotes a chapter to the initial peopling of the Western Hemisphere—which seems a bit distant from his main theme—although the proposed connection between Iberia's paleolithic Solutrean culture and America's Clovis, plus the presence of the Europoid haplogroup X in North America, has early transoceanic implications.

Evidence for transoceanic interinfluences that the author forwards includes not only a variety of cultural commonalities such as metallurgy, barkcloth, and blowguns, but also biological evidence, including seemingly unequivocal indication of American maize (corn) in pre-1492 Asia, pre-Columbian American cotton containing African chromosomes, and strong indications of the Asiatic chicken in the pre-1492 Americas. Schoch also notes that tropical Asiatic intestinal parasites have been found in New World human remains; these parasites were incapable of entering the hemisphere through the "cold filter" of the Bering Strait region. Those not familiar with the rapidly growing biological evidence for transoceanic encounters should find this material exciting; those who prefer to see the populations of the two hemispheres as essentially isolated from each other before Columbus may find the same material disturbing of their assumptions. But there the evidence is, and most of it is difficult to dismiss if one studies the original sources. Schoch also looks at seemingly Old World writing on rocks at Peterborough, Ontario, and at Michigan's Newberry inscription, and, putting them together with Old World-style copper weapons and tools from the region and the vast-scale prehistoric copper mining in the Upper Great Lakes region, he raises once again the intriguing old

query as to whether this copper was destined largely for Bronze Age cultures of the Mediterranean realm.

Understanding that the postulated transoceanic contacts could not have occurred without appropriate means by which to accomplish them, Dr. Schoch looks at the watercraft and navigational methods that would have been available to the ancients, and finds them to have been quite adequate—as demonstrated by modern experimental voyages. Motives for travel across oceans would also need to have been strong, and so he considers these as well.

Voyages of the Pyramid Builders is not just about pyramids, by any means. Building on the proposals of earlier workers such as Victor Clube and Bill Napier's (1990) "coherent catastrophism," Schoch hypothesizes that various critical happenings in human history (including instances of transoceanic contacts) were associated with comets or parts of comets hitting Earth, which occurred with a certain regularity. The time of early construction of pyramids in Mesopotamia, China, and Peru more or less fits with one circa-3150 B.C. episode, with Egypt's pyramids coming in slightly later. The fall of China's Shang Dynasty and the end of the Mediterranean Bronze Age correlate with another, around 1159 B.C. Pyramids have astronomical, sky-god, and specifically cometary associations (the last symbolized by dragons and serpents). Pyramids are usually aligned to the cardinal directions (i.e., to the sun) or, sometimes, to other heavenly bodies such as Venus or the Pleiades' rising. Schoch sees the surrogate sacred mountains as intended to appease the dangerous, even catastrophic potential of the heavens. The impacts of meteors and comets are not only directly destructive but are also devastating owing to the veils of pulverized dust generated by terrestrial impacts, which shades and cools the earth, wreaking havoc with vegetation growth and causing crop failures and starvation. He speculates that the form of the pyramid could have been inspired by the triangle of zodiacal light—the pre-dawn/post-sunset sky glow—which would have been enhanced by comet-caused dust veils.

Schoch attributes rapid-onset Holocene global climate change to impacts: cooling to terrestrial ones, as explained, and warming to oceanic ones. Oceanic cometary impacts would not cause dust veils and cooling but would put more moisture into the atmosphere and thus result in increased precipitation, atmospheric warming, melting and catastrophic collapse of ice sheets, with impounded water rushing rapidly into the seas. The result would have been tsunamis followed by rapid sea-level rises leading to definitive inundations of low-lying areas. The jarring impacts could also have triggered ocean outgassing—release of poisonous methane trapped in bottom sediments—possibly killing human and animal life in coastal areas.

But, by far, the most important possible cometary connection, according to the geologist, is one corresponding to onset of the early Holocene Climatic Optimum of about 6000 to 4000 B.C., when global warming contributed to sea-level rises that led to the inundation of half of Sundaland, the Pleistocene-exposed continental shelf off Southeast Asia whose remnants

make up today's Indonesia. In this regard, Schoch follows Stephen Oppenheimer's (1998) provocative *Eden in the East*. There, Oppenheimer proposed that this inundation spurred the distant dispersal of those (presumably, Austro-nesian-speakers) whose lands were taken by the sea, and that these folks seminally influenced Mesopotamia and even the Americas (cf. Jett 1968). Drowned Sundaland is seen as where civilization may well have emerged. Schoch thinks that not only was this region the source of the world's widespread chaos and catastrophe myths such as the flood story and other myths and iconography such as that of the tree of life with a bird and a serpent, plus other traits, including agriculture, bronze-making, and a system of kingship and social hierarchy, but also was the point of origin of pyramids, whence the form and its conceptual associations spread, ultimately to all the world's areas where pyramids came to be erected. He is not saying that Sundalanders built all these pyramids, but that locals built them under inspiration from the perceptions and myths introduced by the immigrants, and that the artificial mountains were intended to recreate "an ancient order, a time long lost, when [cosmic] unity and harmony prevailed" (p. 269).

Although Schoch sees Peru's earliest pyramids (circa 3150 B.C.) as perhaps a direct result of Sundalander voyaging, he says that the practice then died out in the Americas, only to be reintroduced later from across the oceans:

So who built the pyramids of the New World? The cultural evidence shows that it was New World peoples working with ideas and techniques they adapted from Old World immigrants. . . . [Small] numbers of Old World outsiders made landfalls in the New World, blended with the locals, and contributed their skills, energies, and ideas to the mix that created the civilizations of the Americas. [p. 164]

Specifically, he attributes Mexico's earliest pyramids to an Egypto-African-Chinese influence in the Gulf Coast's Olmec country (which jibes with significant cultural and linguistic evidence), Maya ones to South and Southeast Asia, Teotihuacan pyramids to China, and later Peruvian ones to Mesoamerica. Schoch's specific proposals are semi-sophisticated but will require major refinement. I disagree, for example, that Southeast Asian stepped temple Pyramids, as basic forms (as opposed to reflections of style) came from India, where true pyramids as I would define them appear to have been absent. Rather, although there seems to have been considerable Southeast Asian Hindu-Buddhist impact on the Maya, I see pyramids as quite possibly a reciprocal Maya influence on Southeast Asia rather than the reverse; the fact is, the form is older in Mayaland than it is in Southeast Asia (Jett 1983).

The book paints with a broad brush, and no doubt Dr. Schoch would be the first to admit that many details need to be filled in and ideas reassessed. Some of these relate to relative chronologies of pyramids. Others have to do with supporting or contradicting data of other kinds. I am certain that the picture will turn out to be much more complicated than the scenario Schoch puts forward. Whereas I think it likely that there was a diaspora from Sundaland

owing to inundation and that that part of the world was probably the global hearth of watercraft development and the evolution of navigation, possibly horticulture, and perhaps many myths, I am less persuaded of its also being the hearth of a civilization that included such things as bronze-making and proto-pyramids. One may say that the remains of any such civilization would now be invisible under the risen sea; however, half of Sundaland did *not* disappear, and I am not aware of early evidence of these kinds in the surviving land areas, as one would expect if this region had produced bronze-making and pyramids. Too, in the alluvial lands covered by the rising sea, there would have been neither stone nor metallic ores to support some of the arts postulated to have originated there. (Note, nevertheless, that the megalithic cultures of some of the rockier parts of the islands may relate to the very widely distributed ancient phenomenon of megalith-erection found elsewhere in Eurasia and Africa.)

Schoch believes that the pyramids have three major messages for us of the present. The first is the "deep oneness" of civilization; that is, that civilization was something that arose only once, under a particular set of circumstances never duplicated (or duplicatable), and that all subsequent specific civilizations descend from the one original one in Sundaland, through cultural dispersal and hybridization. The second message has to do with the significance of comets in human history, their having caused climate change, sea-level fluctuations, dynastic upheavals, pyramid religion, and massive and long-distance migrations and spreads of culture. The third message is that pre-civilization cultures were much more sophisticated than is generally supposed.

The book contains 24 color plates depicting pyramids around the world. There is also an extensive bibliography, but (other than the occasional mention of a specific work) there is no citation of references in the text—a quality that scholars will find most frustrating; I urge publishers not to fear that discrete endnoting will detract from the popular appeal of their publications. The volume's print is quite small, and, personally, I don't much care for the typeface and overall design. But content is the main thing, and this book's content is above average for this kind of work. It should serve readers as a decent and palatable introduction to the broad field of cultural origins and dispersals, including across the oceans, not to mention to neocatastrophism in history and the specific hypothesis of civilizational roots in Sundaland.

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¹ A version of this review will also appear in the serial Professor Jett edits, *Pre-Columbiana: A Journal of Long-Distance Contacts*, www.Angelfire.com/az3/pre-columbiana/

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The First Americans: In Pursuit of Archaeology's Greatest Mystery by J. M. Adovasio with Jack Page. New York: Random House, 2002. xx + 328 pp. \$26.95 (cloth). ISBN 0-375-50552-0; 2003, \$14.95 (paper). ISBN 0-375-75704-X.

When did the first humans arrive in the Americas? From where did they come? By land or by sea? What was their life-style? How were the continents settled following the initial arrivals?

For much of the twentieth century, the mainstream dogma was that the first Americans came across a land bridge from Siberia about 11,000 B.P. (before the present) and rapidly spread over the continents, leaving as signs of themselves, throughout North America, the distinctive Clovis spear-points, finely shaped and fluted. This book recounts how doggedly and viciously this dogma was upheld, no matter the absurdity of believing that the earliest so-far discovered sites should also and already be from the earliest migrants. The book's lead author, Adovasio, worked for several decades at Meadowcroft, a site that in the last decade has become generally agreed to be at least three or four thousand years older than the "Clovis Bar" of 11,000 years B.P.

The book recounts the history of American archaeology and the people who made it, warts and all. There were many faulty, mistaken pre-Clovis claims which persuaded or encouraged the mainstream dogmatists. The polemics are featured primarily in Chapters 7 and 9, though allusions to them are to be found at many places throughout the book. The intervening Chapter 8 recounts the battle by Adovasio's friend Tom Dillehay to gain acceptance of the work on a very early site in South America, Monte Verde, whose date has lately been accepted to be 12,500 or 13,000 B.P., though indications of human occupation there as early as 33,000 B.P. (p. 215) remain understandably controversial. Adovasio notes that two of the most unrestrained opponents of pre-Clovis claims had, early in their careers, themselves made such claims, which turned out to be ill-founded; as converts, they became among the most zealous "Clovis First" adherents.¹