

physical universe (p. 147). “Reality was reduced to matter alone, and a fittingly bounded respect for science was replaced by an unrestrained scientism” (p. 160). “Although the forms of religious theater found in ‘Cosmos’ may have been more subtle than what one finds in a fundamentalist revival tent, its evangelistic fervor was nonetheless intense” (p. 176). The internal contradictions of Sagan’s stance are also made plain: “Sagan called us to be loyal and reverent toward the Cosmos. But if that Cosmos is itself both impersonal and indifferent to our human concerns, what satisfaction can possibly be derived from such loyalty? Where the naturalistic religious agenda sought to plant hope we find sprouting the seeds of futility” (p. 166).

This is an incisive, knowledgeable, and fair-minded work. The extremists on both sides of the “creation–evolution” debates are equally castigated:

“Evolutionary naturalism is a folk science which seeks to employ the scientific concept of evolutionary development as a warrant for its nontheistic world view. Scientific creationism is a folk science which claims scientific evidence for its scenario of a recent creation by divine fiat. The debate, therefore, is not a contest between natural science and religious belief. It is a confrontation of two folk sciences, each seeking to employ the results of scientific investigation in the support of its own world view” (p. 171).

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Notes

¹ So does *Finding Darwin’s God: A Scientist’s Search for Common Ground Between God and Evolution* by Kenneth R. Miller, reviewed by Karl D. Fezer in *JSE* 17(1).

² I obtained a copy within a couple of days through the Interlibrary Loan system and also found several second-hand copies for between \$8.88 and \$10.10 through <http://dogbert.abebooks.com/>, <http://www.bookfinder.com/>, and <http://www.amazon.com/exec/obidos/subst/books/misc/bibliofind.html/>.

³ The individual chapters were written individually by the three authors of the book.

1421: The Year China Discovered America by Gavin Menzies. New York: William Morrow, 2003. xxiv + 532 pp., plates, figures, maps, references, index. \$27.95 (cloth). ISBN 0-06-053763-9.¹

A massive book about an alleged 1421–1423 (and therefore pre-Columbus) Chinese exploration of the world, including America, was on the *New York*

Times best-seller list for weeks in early 2003. It was authored by retired British submarine Commander Gavin Menzies (pronounced “*Ming-eez*”), a seemingly unlikely scholar but one whose navigational experience and interest in old maps has carried him far into his subject. He is squarely in the fine old British tradition of serious amateur scholarship.

Menzies attributes this purported Chinese global voyaging to admirals under the general command of Admiral Zheng He, the “Three-Jeweled Eunuch,” who was ordered by the Ming emperor Zhu Di to “sail the oceans of the world and chart them, impressing and intimidating foreign rulers and bringing the entire world into China’s ‘tribute system’” (p. 26). That Zheng launched half a dozen sets of fleets over the first third of the 1400s has long been well known. In 1994 Louise Levathes published *When China Ruled the Seas: The Treasure Fleet of the Dragon Throne, 1405–1433*. Menzies cites Levathes in one footnote each in chapters 1, 2, and 15 but does not otherwise give credit to her work, which appears clearly to have strongly influenced him. Levathes discusses only the known Indian Ocean and Southeast Asian voyages but does suggest a Chinese presence in Australia (pp. 195–198, 202–203) as well as influences in the Americas (pp. 25–32). Menzies goes well beyond this and creates an astonishing scenario in which various of the 1421–1423 fleets explore not only major coastal parts of Australia and North and South America plus the entire arctic coast of Siberia but also some of Antarctica and possibly the North Pole!

A 1431 stele commemorating the voyages of the treasure fleets exists. It avers that the sixth (1421–1423) voyage(s) involved more than one hundred ships and several tens of thousands of troops, and traveled 40,000 nautical miles. It states: “The countries [beyond the horizon] at the ends of the earth have all become subjects and to the most western of the western or the most northern of the northern countries, however far away they may be.” (pp. xxi, 90). However, there is no extant direct documentation for the specific itineraries Menzies proposes or even that they went beyond Asian and African waters; any such documentation that may have existed would have been destroyed during a post-expedition isolationist expunging of all materials relating to overseas activities. This, says Menzies, is why the extra-hemispheric Chinese discoveries have remained unknown to the world. (Yet, there is a multi-volume Chinese language collection of source material related to the eunuch admiral’s career, *Zheng He ziliao huibian* [Levathes, 1996, p. 235]; I find no reference to it in 1421.)

The author believes that on fifteenth- and early sixteenth-century world maps, he has found indirect but definitive evidence in the form of accurate depiction, including as to longitude, of large areas of Australia, the New World, and Antarctica, which Europeans had not yet explored. Of all the world’s peoples, only the Chinese, asserts Menzies, had the know-how and the ships to have gathered these data, and the only great Chinese explorations known are those of Zheng He’s treasure fleets (the 1421 fleets, under admirals Zhou Man, Hong Bao, and Zhou Wen, included 3,750 [sic] vessels, some of them 2,000–3,400

tonners 400–480 feet long with nine masts, together carrying 30,000 or more persons; p. 26). Therefore, the European mapmakers Zuane Pizzigano (1424), Fra Mauro (1459), Andrea Bianco (1488), Cristobal Soligo and Henricus Martellus (1489), Alberto Cantino (pre-1502), Caveiro (1505), Martin Waldseemüller (1507), Piri Reis (1513), and Jean Rotz (pre-1542) must have had access to an earlier, Chinese-derived map. This now-vanished map, Menzies concludes, is one asserted in the 1500s to have depicted the Cape of Good Hope and the Straits of Magellan and to have been acquired by the Portuguese prince Dom Pedro (brother of Henry the Navigator) in Venice in 1428 and to have been closely guarded: “a map of the world [probably by Fra Mauro], which had all the parts of the world and earth described” (p. 350), which had been, thinks Menzies, based on a Chinese one brought home by the Venetian Niccolò da Conti. Conti, known to have been in Calicut, India, the year the treasure fleet called there, sailed with the Chinese for months, concludes Menzies, somehow abstracting their cartographic data, probably from Ma Huan, fleet chronicler. Menzies has performed a service in highlighting these maps and their implications, and his proposed explanation for them is certainly most clever.

Menzies thinks he has been able to reconstruct the fleets’ routes, on the basis of the old maps, his knowledge of winds and currents around the world, archaeology, and ethnography. The old maps are indeed intriguing and have been insufficiently accounted for by mainline scholars, although others before Menzies have raised the question of how these maps could depict areas not yet officially explored at the time of their drafting (he rejects Charles Hapgood’s 1966 proposal of Ice Age explorations). It is, however, a leap from that to conclude that the maps’ source is Chinese.

One problem is that the cartography of known Chinese maps is relatively crude. Menzies reproduces only two examples. Even major locations shown on the Mao Kun map from the *Wu Pei Chi* (a book of sailing instructions) could not be deduced on the basis of its drawing. The other, the Kangnido map of 1402, is completely distorted in scale (Menzies’s attempt to account for this notwithstanding) and has virtually no detail. Even if any Zhang He maps that may have existed were destroyed, surely we would still have *some* Chinese maps, if only regional ones of China, that display the kind of accuracy found on the Renaissance European maps; but I know of none. What we *do* have as precedent for the European maps are the data for the first-century-A.D. map of Ptolemy of Alexandria, which shows the Mediterranean region (if not Asia and Africa) with stunning accuracy. Rather than assume a Chinese source more or less contemporary with the 1428 map of the Portuguese, I would hypothesize that the principal model was an unknown, perhaps secret, and now lost classical or earlier source or sources that went beyond Ptolemy, perhaps brought to Venice from Byzantium (then threatened by the Turks), as were Ptolemy’s *Geographia* in 1409 and Ptolemaic maps in 1415. A sixteenth-century Portuguese did write of the “famous Cape [of Good Hope] concealed for so many centuries” (p. 375), implying that it had been known in the West in

antiquity (as it had). Granted, mine is, in a way, more radical a proposal than Menzies's, postulating as it does undocumented global exploration on the part of the ancients and offering very much less evidence than does Menzies; but the Greeks, or, more likely, the Phoenicians/Carthaginians (of whose records almost none survive) could conceivably have accomplished such a feat, over a long period of time. (Of course, Phoenicians *had* circumnavigated Africa for Egypt [see Herodotus]. And Carthaginians *had*, it would appear, reached at least the Madeira and Azores islands, and there *is* the debated Canaanite Parahiba inscription from Brazil recounting an accidental Phoenician voyage there.)

Menzies does address the issue of how longitude—supposedly unmeasurable until the eighteenth century—could have been ascertained with such accuracy. With the collaboration of astronomer John Oliver and student of pre-Columbian matters Marshall Payn, he provides an appendix explaining a plausible method (workable on land, though only during eclipses, and not usable for navigation at sea). Observers at two different longitudes could 1) note which star was in each of the respective meridians at the moment of the event; 2) record, at a single place, the time (*t*) elapsed between the apogees of those two stars (using a water clock or hourglass); 3) solve the equation $t \div 24$ [hours] = $X \div 360$ [degrees]. With the help of observers, in 2000 Oliver and Payn (2002) tested the procedure during a lunar eclipse and found their calculations of longitude to be accurate within 1.22 degrees. The employment of such a system in earlier times gains credibility in light of the fact that “For the determination of longitude he [Hipparchos of Nicaia, second century B.C.] suggested the observation of eclipses from different points; the difference in local times would give the difference of longitude” (Sarton, 1993, p. 415).

Latitude, says Menzies, was determined by Polaris in the Northern Hemisphere and by Canopus in the Southern, after cross-referencing the latter star with the former, and the southern voyagers endeavored to cross the oceans in the latitude of Canopus, setting up island observatories as they went.

Menzies indicates that the great Iberian explorers had access to the now-lost 1428 map, and that they therefore knew of the existence of the Americas and even of the Strait of Magellan before they ever set sail—through the inadvertent courtesy of the Chinese treasure fleets. Only with that information did Columbus, Magellan, and even Dias dare to set out on the oceans, so that the Great Age of Discovery took place thanks, if indirectly, to the Chinese. However that may be—and at least Iberian foreknowledge from maps carries considerable plausibility—it does not explain why Columbus always believed that he had reached Asia rather than any intervening continent as shown on various of the aforementioned maps.

Regrettably, Menzies's work is detracted from by numerous factual errors, both trivial and important, as well as by unsupported assertions, which make one wonder about possible presence of fundamental mistakes. He refers to 1638 as “medieval” (p. 503). He calls the University of California, Berkeley, “University College, Berkeley, California” (p. 208). He writes “longitude”

when he means “latitude” (p. 129), “north-easterly winds” when he means “south-westerly” (p. 203), and he calls submarine sand bars “sand dunes” (p. 268). He refers to “New Mexico” when he means “Mexico” (p. 208), and Baja California becomes “Bahía California” (p. 200). Coronado’s “Tiguex” is said to be the Missouri River instead of the Tiwa-speaking Rio Grande province it was. Attu is characterized as “an island off the coast of British Columbia” (p. 414), whereas in fact it is at the western end of the Aleutians, over 2,200 miles from B.C. Menzies calls Puerto Rico’s southeastern tip the southwestern one (p. 369); he interprets the place-name Tiburones as *tiberon*, which he glosses as ‘drainage’, when in fact *tiburones* means ‘sharks.’ The West Mexican lacquer-makers are termed Mayas (p. 224), when they are actually Tarascans and others.

The amateur researcher considers sea levels to have risen some six feet since 1421, thus accounting for distortions in the depiction of sizes and shapes of some Australian and New World bays as shown on the European maps (but he does not wonder why the maps’ depictions of bays in the Mediterranean do not show similar distortion). In this context, he claims that it was lower sea levels that caused Australia’s Cooktown harbor to be shown larger than at present on the 1551 Desliens map (p. 388), the opposite of what would happen with lower sea stands. There are also some discrepancies between the book’s text and its maps, and one map (p. 95) shows a current bearing down on the Falkland Islands from the north when in fact the Falkland Current runs in the opposite direction. Regarding currents, Menzies “corrects” the Kangnido map for current set in an east-west direction but not in a north-south one (p. 100).

Menzies’s discussion of DNA and transferrins is confused. In addition, he says the South American sweet-potato could have reached Easter Island only from Mexico (p. 210). He states that “George Carter [is the] author of several fascinating books on the subject of Chinese voyages” (p. 232), but, despite his many contributions, Carter has not written a single book on the subject. Geographer Carl L. Johannessen becomes a “distinguished biologist.” On no noticeable evidence, Menzies attributes to pre-Columbian Puerto Rico Old World cucumbers, coffee, mangos, star fruit, and papayas, and claims that Columbus found coconuts in the Caribbean (p. 364). He attributes apples and plums to pre-Cookian southwestern Australia (p. 153) and has Asian camels in South America (p. 412; he must have been confused by mentions of *camelids*, which include native guanacos, alpacas, and llamas).

The author calls Central Mexican Cholula ware “porcelain”; thin-walled and spectacularly decorated this pottery may have been, but no porcelain was made in the pre-Columbian New World (even glazing was late and confined to New Mexico), and the likelihood of an exploratory fleet (or even purported colonists) introducing the complex technology required seems virtually nil. He incorrectly states that “copper had become the coin of the Maya realm” and has Mayas mining that metal in Michigan (p. 425), yet he equally incorrectly contends that green jade “was unknown in Mexico” (p. 414).

Although he has commendably accomplished a tremendous, even amazing amount of research and admirably has visited many archives and sites in the field, Menzies tends to imply, a bit misleadingly, that he has uncovered many documents previously unknown or little-known to scholarship: e.g., “I had unearthed this extraordinary chart [the Cantino map]” (p. 256). Still, I do not think that the man is particularly egotistical and suspect that the publishers urged this sort of “there I was” statement. A curious matter is that a number of individuals whom he mentions in his acknowledgements do not remember rendering him any assistance.

Menzies labors under some misconceptions regarding premodern watercraft. He asserts that square-rigged European ships “often had no rudder” (p. 346); in fact, such ships always had at least one quarter rudder (steering oar) if not a stern-post one. He states that Chinese ships had stemposts beginning in the first century but that European ships lacked them until the fourteenth century (p. 251); this seems to be the reverse of the case, because traditional Chinese ships were transom-ended whereas European ones have carried stemposts since early antiquity. The most serious such misapprehension for his argument is that Chinese ships were square-rigged (pp. 259, 272, 290) and, being flat-bottomed, could sail only before the wind. On this assumption, he has them blown about more or less at the mercy of the prevailing winds, and he builds his itineraries accordingly. But whereas the ships would doubtless have wanted to sail with favorable winds whenever possible, they were not square-rigged but carried fore-and-aft-rigged Chinese lugsails. This sail type was in most ways far superior to the European square-rigged sail. It has been widely praised by Westerners. For instance, Captain C. P. Fitzgerald considered Chinese ships to be “the handiest vessels in the world” (Ronan, 1986, p. 190). With its Chinese lugsail and its rudder, “the junk is an able vessel, maneuverable, sweet,” wrote Captain Alan Villiers (1973, pp. 52, 54). The treasure ships appear to have been V-shaped in cross-section and keeled. But even in the absence of keels, traditional flat-bottomed junks counteracted leeway problems by means of their rudders and by use of leeboards. So, in fact Menzies *underestimates* the treasure ships’ capabilities.

The commander refers to 24 wrecks around the world that he suspects are from the Chinese treasure fleets. In most cases, that is, so far, only wishful supposition. Two are more explicitly intriguing, however. One, off Australia, is said to be fifteenth-century, and Menzies’s evidence of a late pre-European Chinese presence in that continent (which the Chinese definitely knew of by A.D. 600 and probably much earlier) is far more impressive than for the Americas (although insufficient citations are given). The other is a 1410 Chinese wreck reported from California’s Sacramento River (which was a surprise to me because for three and a half decades I lived not far away and never heard about it). Of great interest as well is the occurrence of andesite manos and metates (mullers and saddle stones) “from Central America” in the fifteenth-century Pandanan junk wreck off Palawan in the Philippines, a huge vessel that may well be one of the treasure ships. Although Menzies is in error in saying that manos

and metates were “then unique to South America” (p. 227), cylindrical handstones, as these are, are, as far as I am aware, found only in the zone between Middle and South America. We need closer identification of these objects, which have certain unusual characteristics. Menzies states that what appears to be Cholula ware was also recovered from the wreck.

Menzies trumpets the abilities of the Chinese but downplays others’ possible accomplishments. Without any documentation, he asserts that “Egyptian and Syrian seafarers never reached the Atlantic” (p. 285) and that Arabs and Indians “never” sailed beyond Madagascar (p. 104; what about Arabs in Morocco?) and lacked the ability to chart the world (p. 332). He says that the Renaissance Iberians were astronomically unsophisticated and could never have mounted enough ships to do the job, either (p. 259). And he fails to consider the possibility that ancient Mediterraneans were capable of accomplishing the mapping involved.

Rightly or wrongly, he interprets everything in the light of his ruling theory; thus—usually without ages being ascertained—Polynesian *ahus* and *heiaus*, some American pyramids, and even the Newport Tower in Rhode Island (whose dimensions are said to be in Sinitic units of measure) are asserted to be Chinese celestial observatories. New England’s standing stones are suggested to be Chinese markers and the Bimini Road in the Bahamas becomes a Chinese careening dock (the stones are artificial and measure 1 *chi* [32 centimeters] square, says Menzies). That the Chinese charted Greenland as shown on the disputed Vinland Map is another startling assertion.

One flaw of Menzies’s interpretation has to do with the various Chinese-looking culture traits in the Americas. These are legion, but there is no call to suppose, with the Commander, that all (or most) of them are attributable to the 1421 fleets. Many items he mentions, such as certain dyestuffs (concerning which he cites my writings) and lacquer use, as well as the Old World genetic component of New World cotton, predate 1421 in the Americas by centuries or even millennia and are in no way evidence of Ming contacts. Likewise, some New World items such as maize were already in Asia long before Zheng He’s day. Menzies naively attributes the Asian economic plants in the Pacific islands to introduction by the treasure fleet; however, the islanders had been there for centuries, subsisting on these plants (some of which are attested archaeologically), which they undoubtedly brought with them from Asia. Of course, excluding these things in no measure precludes those postulated Ming contacts, but neither does it strengthen the case—except by the implication that people from China (and elsewhere) had been sailing the seven seas for a long, long time.

Again, regarding plants, we are told that the tropics of the two hemispheres share scores of genera. But we are *not* told that almost no non-strand, non-aquatic *species* of wild vascular plants are shared (sharing at the genus or higher taxonomic level presumably usually reflects continental drift.)

1421 is a healthy antidote to European ethnocentrism, correctly stressing as it does late pre-Columbian China’s being far more advanced in many ways than contemporaneous Europe, including in maritime abilities. Zheng He’s flotillas

certainly did sail very widely, in ships far larger than anything in the West and in bigger fleets than ever assembled by Europeans to that time. But did they map the world, as asserted by Menzies? That he is convinced by his own scenario is repeatedly made clear with statements such as that his contentions are “beyond argument” (p. 367) and that “There was no longer a scintilla of doubt in my mind that the Chinese fleet had been in South America in 1421 . . .” (p. 127), and with flat statements such as “the Chinese then set sail” (p. 251) that imply that his “unequivocal proof” (p. 367) is definitive. Nevertheless, scholars and other readers may be forgiven if they retain reservations about many of these points. Following Levathes’s lead, the author wisely searched for supporting evidence in Sorenson and Raish’s (1996) marvelous bibliography of pre-Columbian contacts, but he uncritically accepted many doubtful sources and inadequately digested others (he may have actually examined few of the items synopsized in the bibliography). Too, there are many “must haves” and “would haves” in the writer’s reconstructions, some of which can well be questioned as imperatives.

Menzies is able to “see” things that this reviewer cannot—for instance, that “The Waldseemüller map clearly depicts the [Vancouver] island” (p. 414) and “nearly one thousand miles of the Mississippi” (p. 416), and that “San Francisco and Los Angeles are clearly depicted at the correct latitudes” (p. 202). In fact, that map’s depiction of the Americas’ west coast is entirely schematic, and one stretch is actually labeled *incognita*. I speculate that the Atlantic side of the Americas *had* been mapped on site (by *someone*) and had been determined not to be Asia, but the fact that there was a Pacific shore to those continents was merely inferred from knowledge that an ocean existed to the east of Asia. (Menzies has the Chinese treasure fleet establishing permanent colonies along the coast from California to Peru.)

What Menzies interprets as Patagonia alone on the Piri Reis map, I see as all of eastern South America from Brazil southward but without the Strait of Magellan, which Menzies insists is there. The supposed depiction of South America’s Pacific coast (or the Pacific at all) on this map appears to me to exist only in the eye of Commander Menzies and to have been intended actually to imply “unknown.”

This is not the place to debate Menzies’s identifications of various islands that appear on the European maps (regarding some of which “there cannot be the slightest doubt”; but see Fuson, 1995) or his ideas concerning sea-level rise or the extent of sea ice at the time (e.g., up to 1400 miles further north from Antarctica than at present but absent around Greenland and along the Siberian coast) or his proposed itineraries. Suffice it to say that such debate is very possible and very germane.

The writer feels that animals depicted in South America on the 1513 Piri Reis map and in the circa-1430 Chinese *Illustrated Record of Strange Countries* are the huemil (an Andean deer), llamas/guanacos, the armadillo, the jaguar, and the extinct sloth-like mylodon (pp. 229–231); however, on the basis of illustrations in the book and of better images that he showed at his March 2002 Royal

Geographical Society lecture, I could not conclude that these were the creatures illustrated (Jett, in press). (Menziés does not try to account for animals shown in Antarctica.)

One might suppose that the active minority of scholars, professional and amateur, interested in the question of pre-Columbian transoceanic contacts would welcome *1421* with enthusiasm. However, all reaction that I have so far witnessed has been angry, owing not only to the many inaccuracies and cavalier scenarios but also to the author's attributing "everything" to one set of voyages. Diffusionists generally think in terms of many voyages, from different areas, over very long periods of time. Too, such instant popular success may engender a little pique in light of the struggles for consideration that careful diffusionists have, mostly without result, striven for for decades.

Although I have pointed out numerous shortcomings in *1421*, the baby should not be thrown out with the bathwater in this fascinating if flawed work. The Chinese treasure fleets were certainly capable of accomplishing transoceanic voyages and may well have done so. If continuing investigation verifies the Sacramento wreck and the Pandanan manos and metates as being what they seem to be, then Menziés's general case will be much boosted. His proposal is dramatic, but even if generally correct its importance should not be over-estimated. Although the year 1421 is pre-Columbian, it is not so by much. It cannot by itself account for all or even most of the massive indications of East and Southeast Asian impacts on the cultures of the New World. Those indications in fact suggest sea-borne ties between the hemispheres going back to Neolithic times. Perhaps *1421*'s main virtue will prove to be in opening people's minds to the potential for pre-Columbian transoceanic voyaging in general, especially by non-Europeans.

The research continues (aided by the writer's royalties), and Menziés notes that he has additional evidence on his Web site, www.1421.tv (which I have not yet visited); Appendix 5 of his book provides an outline of topics covered there.

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Note

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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FURTHER BOOKS OF NOTE

Behind the Crystal Ball: Magic, Science, and the Occult From Antiquity Through the New Age by Anthony Aveni. Norman, OK: University of Oklahoma Press, 2002. 408 pp. \$24.95 (paper). ISBN 0-8708-1671-3.

Our age is often called a “scientific age”—accurately, if that is understood to mean that science is the consensually acknowledged source or validation of knowledge. One indication of that is the tendency to denigrate earlier times, in which magical or superstitious beliefs by contrast to scientific beliefs flourished. This book traces the history of “magical” beliefs, and among other things shows how some of those beliefs are alive and well in our own time.

I have wondered occasionally why the subjects of interest to the Society for Scientific Exploration became so publicly prominent in the latter half of the 20th century. Surely it was not coincidental that the International Society for Cryptozoology, the Society for Scientific Exploration, and CSICOP were founded within a few years of one another. Aveni’s book gives an opportunity to mull over this question, particularly in Chapter 25, “Magic in the Twentieth Century: What the Pollsters Say”.

Of course the book covers much wider ground, and it is easy and pleasant reading. It appears to have been widely read, since this is a re-printing after 1996 and 1998 editions sold out.

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Undead Science: Science Studies and the Afterlife of Cold Fusion by Bart Simon. New Brunswick, NJ: Rutgers University Press, 2002. x + 253 pp. \$22.00 (paper), ISBN 0-8135-3154-3; \$60.00 (cloth), ISBN 0-8135-3153-5.

This book is not about cold fusion, but about how the social phenomena surrounding it might best be viewed by academics in the field of “science studies”. The chief innovation appears to be the naming of a new category, “ghostly” science or “undead” science, to categorize situations like cold fusion where the mainstream has dismissed the claims as wrong and yet a noticeable number of qualified mainstream researchers continue to carry