dinosaurs, radical theories of "the end times" are prevalent, even among some members of Congress. America is becoming "Southernized," Phillips argues. By that he means fundamentalist worldviews are influencing public policy. The Republican Party is already a "church" in Texas (their 2006 platform explicitly rejects church-state separation), and a theocratic country is one of the many possibilities Phillips sees looming on the horizon. Using the word "evangelical" as synonymous with "fundamentalist," he writes that evangelicals believe that the "world is at most ten thousand years old … In considering stem-cell research … depleting oil or melting ice caps … (they) have at best limited openness to any national secular dialog" (pp. 66–7).

Part III, 120 pages long, is the most frightening. We may yet solve the energy problem (not without severe dislocations) and the fundamentalists will probably split ranks, for fighting with one another has been their history. But Phillips sees no solutions to the US's soaring debt; he speaks to history's "unlearned lessons," and sees doom and gloom in the future—the near future. Every year foreign bond and stockholders own more of our country. There will come (there has to come) a tipping point. Today, America dominates the world. We do so on the backs of those who came before us; we are squandering our inheritance. It is only a matter of time until catastrophe arrives. The rich become richer while the poor get poorer and the middle erodes. There is no happy ending.

On page 315, discussing the erosion of America's manufacturing capability, he quotes Randall Isaac, former vice president of IBM Technology and current ASA executive director: "You cannot do effective R&D if you do not have the manufacturing to insure that the R&D is actually relevant. If the United States loses its manufacturing lead, it will lose everything else with it." I do not recommend this book for light reading—only for serious study.

Reviewed by John W. Burgeson, 36633 Road P.8, Mancos, CO 81328.

Letters

Author Corrects the "Science or Sience" Article

I thank an astute reader for pointing out two errors in my article, "Science or Sience: The Question of Intelligent Design Theory" (*PSCF* 58, no. 3 [Sept 2006]: 226–34), on p. 233, second column, first full paragraph.

I meant to say that humans have one LESS chromosome than other primates, not the other way around. The general reasoning is still correct, however. If you karyotype their chromosomes and arrange them next to one another as in the picture below, you'll notice a strikingly similar banding pattern between human chromosome 2 and two primate homologs. You may notice the remnants of a second centromere in the G-banding pattern of the human chromosome corresponding to the centromere of one of the primate chromosomes. There is also evidence of pretelomeric sequences as well as inversion sites, where for example instead of 5′ (TTAGGG) it switches to 3′ (CCCTAA), which is what you would expect in the fusion of two telomeres. A relevant citation is:

J. W. Ijdo, A Baldini, D. C. Ward, S. T. Reeders, and R. A. Wells, "Origin of Human Chromosome 2: An Ancestral Telomere-Telomere Fusion," *Proceedings of the National Academy of Sciences USA* 88, no. 20 (1991 Oct 15): 9051–5.

As for the question of genomic differences between humans and chimpanzees, reports provide differences, ranging from 1.2% to 6% and everywhere in between. This number changes depending on what you are looking for, be it single-base measurements, coding region sequencing, inclusion or exclusion of gene duplications and deletions, etc. Regardless, at a minimum, the difference between the human and chimpanzee genome is at least 1.2%, not 0.012%.

Jeff Mino
5 Morey Lane
Randolph, NJ 07869
jeffmino@hotmail.com

Life and Energy Are Siblings Entities

Jerry Bergman's article (*PSCF* 58, no. 4 [2006]: 303–9) on "The American Scientific Affiliation Booklet Controversy" is most revealing, amazingly timely, and tells us that when the ASA leadership approached the nation's science teachers they really hit the nerve of spokespersons for the atheistic regime. It is time to remind these teachers that we appreciate their efforts to convey the miracles and mysteries of what it is that tells us a newborn will breathe, a grain of wheat will germinate, a dog will return our affection, a stem cell will show differentiation, and all such events that require the presence of the life entity.

There are other good reasons for giving biology teachers a leg up. The courses they teach are generally required and thus may be the final chance to produce a citizenry that has the ability and is inclined to rely on the logic and methods of science when facing problems and making decisions. In this, today's teachers face intense competition from interests who can afford the services of experts in influencing what people believe and how they arrive at their decisions. It is little wonder that these experts find ways to put down the teaching profession and thereby deny teachers the respect, guidance, and support that this nation provided so abundantly during the first half of the previous century.

It is time to help the teachers of the life sciences to enjoy the success of their compatriots in the physical sciences. Their subject matter is similar. In the physical sciences, the focus is on the properties of the energy entity and the role of these properties in the inanimate world. In the life sciences, the focus is on the properties of the life entity and their role in the animate world. Actually, both life and energy are so similar as to suggest they are sibling entities. Both entities propagate themselves as far as possible in every direction.

Neither entity can be experienced absent interaction with some form of matter. Neither entity can be destroyed and it is equally probable that neither can be created anew.