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## Two Cooks for the Same Kitchen?

There is reason to assume that the differences between religious doctrine and scientific thought in the matter of biological origins were resolved by the Huxley-Wilberforce debates of a hundred years ago, or most certainly by the Supreme Court's 1968 action in overruling a long-standing Arkansas statute against the teaching of evolution. However, the matter has not been settled, and recent events in California warrant the serious attention of every citizen—scientist, theologian, or otherwise.

In the fall of 1969 the State Advisory Committee on Science Education, after several years of work and with the approval of the Curriculum Development and Special Materials Commission, presented a new *Science Framework*\* for kindergarten through the secondary school levels to the State Board of Education. During the Board's consideration of this document, objection was raised that in dealing with the origins of life, the Committee did not so much as allude to creationism; following subsequent discussions, the *Framework*, modified to include creation theory as a complement to evolutionary theory, was adopted. The Committee vigorously protested the change, but to no avail. Subsequent statements from the Board strongly suggest that it will require that all science textbooks to be considered for adoption in California include a serious treatment of creation theory.

The implications of these actions are several and serious:

First, what is "good" for California is likely to become "good" for the rest of the nation, since California purchases 10 percent of all textbooks sold in the United States. Unless publishers are prepared to produce special California editions—and they probably are not—the standards set for California will, willy-nilly, become the standards for many other states.

Second, success in this first step will make a second, third, or fourth step toward politicizing the classroom that much easier, for if the state can dictate the content of a science, it makes little difference that its motivation is religious rather than political. The consequences will be the same. Many will recall the condition of Russian genetics during the heyday of Lysenko when Russian biologists defended an erroneous theory on the grounds that it must be true because it was Marxist.

Third, the Board's action is testimony once again that scientists have failed in their communications about science to the nonscientific public. We have taught the substance of science without communicating the approach, the methods, or the rationale of science. The essential requirement of scientific theory is that, in principle, it is capable of contradiction by empirical data. It is perfectible and it stands only as long as it has not been contradicted. It is in the process of becoming. Thus classical (Darwinian) evolutionary theory has been significantly transformed and enriched not only by the discoveries but also by the thinking of Mendel, and later of Weissman, and, most recently, of Wilkins and of Watson and Crick. Creationism is a theory of primordial history and, as such, it responds to different rules of discourse. It is not subject to empirical test, nor does it allow of improvement. Certainly it is not a logical complement of evolution theory.

The action of the Board with regard to textbooks will be a matter of record sometime this fall. Advocates of creationism are bringing pressure for the use of creationist materials in the schools both of California and of other states as well. Meanwhile, the National Association of Biology Teachers, stimulated by the California events, has established a Fund for Freedom in Science Teaching aimed at preserving sound science education whenever it appears in jeopardy.

—WILLIAM BEVAN

\* California State Department of Education, *Science Framework for California Public Schools, Kindergarten-Grades One through Twelve* (State Printing Office, Sacramento, 1970), xii + 1948 pp.