than 750 lives lost to cancer in this country alone. Any law complicating the solution of health problems should be required to offer great and certain benefits before being adopted.

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Paleomagnetism and Evolution

"An obscure Cambridge scientist wrote a book in the 1850's; and, although Darwin shaped no national policy in those ten years, the book altered, for ever since, the way in which educated people look at any question." So wrote T. R. Glover, the Cambridge historian (*The Ancient World*, Cambridge University Press, 1935); but as far as I know, no one has looked at paleomagnetism in an evolutionary kind of way.

The earth began as a homogeneous mass. It is now a highly differentiated mass with nickel-iron core and silicate crust. Of significance for paleomagnetism is the iron core. But since the earth began as a homogeneous mass, there has been an evolutionary process by which the mantle has gradually differentiated from the heavier iron-rich core. With the iron of the earth dispersed, or in local centers, the magnetic qualities of the earth must have been different from the present.

But there is a second component in the magnetic phenomena of our planet —the Van Allen belt. Over a century ago Balfour Stewart put forward the idea of the earth as a dynamo, and forecast the presence of the ionosphere (*Encyclopaedia Britannica*, ninth edition), although the idea was not accepted at the time. The present Van Allen belt could hardly have been there when the earth was formed, and so it also has, apparently, an evolutionary history.

A study of the evolution of the earth as a magnet could throw light on the subject of paleomagnetism. In that the earth is not yet fully differentiated, it may well be that this is a continuing process, and it would be interesting to consider how this continued evolution will affect the magnetic qualities of the earth.

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