are 10^{10} to 10^{12} different kinds of protein molecules (Lehninger, in *Biochemistry*, 5, Worth Publishers) the probability of getting that many functional proteins with the limited material available would appear to be infinitesimal or at least such that reasonable doubt may be expressed that probability is the only answer. Intervention by God to make functional protein and nucleic acid is not disproved by these statements.

It would appear that the cardinal question is, "Is there a God?" If not, how can we prove that scientifically? If we cannot prove the absence of a God, then we must consider the possibility that there is a God and He could certainly also have the power to be active in the universe (a far more positive apology for the existence of God and what He means to individuals can be given, but I see the issue in your editorial as whether anyone in your readership feels that there is reasonable doubt that evolution supplies all the answers to a scientific mind). In my opinion there is sufficient doubt such that the California Board of Education cannot be told that "evolution is . . . the truth" and no other alternatives need be considered.

A far more consistent universe may be studied if we are not left to the vagaries of probability but rather can study the works of an unchangeable and sovereign God. Such a basic philosophy concerning the universe can make for a more meaningful science, limited only by man's ability to discover and rightly interpret the works of God.

Yours faithfully,

HAROLD VAN KLEY

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SIR,—I am a taxonomic botanist and have been for the last ten years.

I was at one time a convinced believer in evolution, but that was before I studied the subject with a critical eye. I now reject the whole thing as an utter tissue of lies, and have come to accept the fundamentalist position of divine creation as being the only possible explanation of origins—that is, with purpose and destiny, as opposed to blind meaninglessness, which is what evolutionism presupposes.

Too late was my attention drawn to your generous offer (*Nature*, **239**, 420; 1972), but I am not so concerned about obtaining free copies of your journal as I am about making known God's truth.

May the light of God's holy word shine in upon and illuminate the souls of those whose understanding has been darkened by the specious arguments of the Devil, and may the sons of men sing praises to their Creator and Redeemer instead of paying lip-service to Satan.

Yours faithfully,

ALAN RADCLIFFE-SMITH

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SIR,—With reference to your editorial comment "Creation in California" (*Nature*, **239**, 420; 1972), though not a convinced creationist, and certainly not a supporter of the more extreme forms of creationism, I do want to defend the more moderate creationist views, which I think are scientifically tenable and so deserve to be considered alongside evolution.

Theories of the origin of life can be classified under three headings: naturalistic evolution, theistic evolution, and creationism. It is difficult to think of any scientific test to distinguish between the two evolutionary views. Creationists make postulates about the past that can be checked by the evidence and which differ from evolutionary postulates. All creationists hold to a polyphyletic view of the origin of life—a view that an evolutionist has shown to be scientifically tenable[1]. They believe in the original creation of a multitude of "kinds" of organisms (the term is not synonymous with "species") which have since undergone some speciation. Thus they predict the existence of gaps in the fossil record between the remains of the older forms or organisms, as is the case[2]. Some creationists believe that there was only one creative act, which occurred some tens of thousands of years ago. Others hold that there were a series of such acts spread over hundreds of millions of years. These postulates can be tested. The first is at variance with radioactive dating (which its adherents regard as erroneous), but the second is in accord with the datings and the fossil record. Thus the more moderate creationist views are just as compatible with the evidence as the evolutionary views.

The present antipathy towards all forms of creationism arises, at least in part, from the invasion of science by an extra-scientific assumption—namely the belief that the universe is a closed system which cannot be invaded by the supernatural. This view was not held by the founders of modern science, most of whom were devout Christians, and is not an axiom essential for the practice of science (the essential axiom is that the supernatural interventions are non-capricious), nor is it deducible from the success of science (as fallaciously argued by Hume). Scientific investigation can only show whether or not a particular event was genuinely supernatural, not whether supernatural events in general can or cannot occur. The influence of this philosophical prejudice in science is well illustrated by the readiness to accept the idea of creation as a "natural law", as in the original steady-state cosmology, whilst rejecting the idea of creation as an *"act of God"*. If it is objected that "acts of God' 'have no place in science, the answer is that if one chooses to hypothesize about the origin of things one must become unscientific in that origins are once-for-all happenings that cannot be experimentally verified. At best theories of origins can be falsified by comparison with the circumstantial evidence available. Also, if a creator-god exists, then his creative act will be met at some point, if not the origin of life, then the origin of matter/energy. All this shows the importance of clearly stating one's philosophical and religious position when postulating theories of origins, since this inevitably influences such theories.

One final comment. Why was your "challenge" limited to university scientists? Are industrial scientists an inferior breed? Maybe they are freer thinkers as a result of being less affected by the pressures for conformist thinking that exist in universities. As a point of information, the Creation Research Society, one of the lobbies in California, has a few hundred members, all with higher degrees in science.

Yours faithfully,

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[1] Kerkut, G. A., *Intern. Ser. Monogr. Pure App. Biol.*, **4** (Pergamon, London, 1960).
[2] Simpson, G. G., *The Meaning of Evolution*, 209 (Bantam Book, New York, 1971).

SIR,—I agree with the basic points you raised in your editorial on "Creation in California" (*Nature*, **239**, 420; 1972). Being a former resident of that allegedly super-sophisticated state, I have witnessed first hand the emasculation of scientific truths in education that you spoke of. To set the record straight, the non-fundamentalist educational authorities of that state are just as much to blame for the institution of these measures as the "special creation" advocates. Take, for instance, the present Superintendent of Public Instruction there, whom I personally heard bluster: "Any method of teaching reading is as good as any other." Presumably he extends this eclectic approach to interpretation of biological facts as well.

The arguments of the special creationists usually involve irrelevant