the oldest known stromatolites, those from the Early Precambrian of Rhodesia, are only 3 to 4 cm high, a height which suggested to them that tides then were very small. In fact, domed layers within these stromatolites have a relief of up to about 60 cm, as Macgregor's (*8*) illustrations show. Olsen (*4*) and Alfvén and Arrhenius (*2*) do not believe, as Cloud does (*3*), that moon capture and closest approach to the earth were necessarily simultaneous (in terms of geological time); thus they can accept Cloud's evidence for large lunar tides throughout the Middle and Late Precambrian while postulating the latest Precambrian as the time of closest approach.

A point not mentioned in earlier discussions is the fact that in Early to Middle Cambrian rocks (about 570 to 515 million years old) near Lake Baikal in Siberia there are large domal and subspherical stromatolites up to 15 m high (*9*). Individual layers within these have a relief of 5 to 6 m and in some illustrations appear to reach 15 m, although this is not clear. Laminae are not shown in the illustrations, but if successive layers (groups of laminae) have this much relief, then during growth the stromatolite itself must have projected at least this far above its substrate. Thus some Cambrian stromatolites during growth were as high as, or higher than, any known Precambrian forms, and those known Precambrian stromatolites with the greatest growth relief are probably latest Precambrian in age. Therefore if stromatolites are used as indicators of former tidal ranges, one would have to conclude that the largest tides occurred during the Cambrian and latest Precambrian. On the basis of geological evidence, Cloud (*3*) has discounted the possibility of a very close approach of the earth and moon at that time.

Doubt is cast on these intrepretations by the fact that only rarely is there firm evidence that Precambrian stromatolites actually grew in an intertidal environment. Many may have formed subtidally. Furthermore, a recently published observation shows that the assumption that large domal stromatolites could grow only in the intertidal zone is invalid. Playford and Cockbain (*10*) have very elegantly and cogently demonstrated that Devonian stromatolites in Western Australia grew in water as deep as 45 m; they state that some of these are "mound-shaped" (the type considered here). These mound-shaped stromatolites had a growth relief of 30 to 150 cm (*11*). They occur in the fore-reef facies of Devonian reef complexes, where geopetal structures indicate depositional slopes. Thus an interpretation based on the single published record of Recent stromatolites conforming in growth relief to the tidal amplitude is contradicted by evidence from the geological record. The conclusion that the growth relief of Precambrian and Cambrian stromatolites necessarily indicates the contemporary tidal amplitude is unwarranted.

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A Multiple Origin for Plastids and Mitochondria

Although I tend to agree with the general thesis advanced by Raven (*1*), it is only fair to state that the arguments against the symbiotic origins of chloroplasts and mitochondria are not as weak as he would have us believe. Particular mention should be made of work by Bell *et al.* (*2*) and Camefort (*3*) which presents substantial arguments against the symbiotic theory (*4*). Similar, over-enthusiastic statements of these concepts led to the downfall of the original theory advanced by Mereschkowsky (*5*), and caution should be used lest history repeat itself.

It should be noted that *Platymonas convolutae* is not a dinoflagellate as indicated in the text of Raven's paper, it is a species of Chlorophyceae belonging to the Pyramimonadales. Furthermore, the reference cited for the symbiosis between this alga and *Convoluta roscoffensis* actually deals with the endosymbionts of *Paramecium aurelia* (*6*), when the work of Parke and Manton (*7*) should have been noted. If contemporary examples of algal-invertebrate symbiosis are used to illustrate points in a theoretical discussion of this type, the specific identities of hosts and symbionts should be given correctly since this can affect the validity of the conclusions that can be drawn.

In short, the theory of symbiotic origins for chloroplasts and mitochondria is now very attractive, and there is much evidence in its favor. Nevertheless, it is not yet dogma, and a great deal of study will be needed before it is unchallenged.

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Treatment of Organophosphate Poisoning

In his article Nachmansohn (*1*) said that "Pyridine 2-aldoxime methiodide is much more efficient and less harmful than atropine, still frequently applied by physicians in organophosphate poisoning." If a physician construes this to mean that atropine has been replaced by the oxime, the consequences could be fatal. These two drugs are not competitive. An oxime has not and cannot replace atropine, but can be used as an adjunct to atropine.

Atropine acts by inhibiting the muscarinic parasympathetic effects of acetylcholine (for example, excessive secretions and smooth muscle spasm) but has