FOSSIL BACTERIA

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Repeated claims that living bacteria have been recovered from Cambrian or Devonian rocks deserve careful reinvestigation. One of the first reports was by Dean Charles B. Lipman of the University of California, Berkeley, California (1931) He claimed recovery of bacteria from ancient rocks after taking all possible precautions against contamination.

More recently warm spring water, which contained carbon dioxide, was found to hold bacteria. The water in question originated in a spring at Bad Nauheim, Hessen-Darmstadt, West Germany. The mineral salts contained in the spring-water arose from rock salt having its origin in Permian beds.

The bacteria found in the spring-water were hitherto unknown. However they belong to the Pseudomonida. They were named Pseudomonas *halocernae* n. sp. Ott.

Both the rock salt and the spring water contain the same kind of pollen and splinters of wood, both typical of Permian flora.

It was claimed that the bacteria were Permian bacteria.

Pieces of rock-salt were then removed from the original formation. Some pieces were placed in a solution of formalin (10%). Other pieces were placed in saturated corrosive sublimate and some were glowed. Following these sterilization techniques the pieces were placed in nutrient agar containing a balanced nutrient solution. In a short time living bacteria were found in about 20-30% of the test dishes. They were able to multiply and 40 different kinds were isolated. Only one corresponded to a modern species.

Some of the bacteria from the test-dishes were later precipitated in salt crystals. These bacteria were afterwards placed in new test dishes and were able to revive.

Devonian beds were also shown to have bacteria.

which after rigorous sterilization precautions were able to revive in nutrient agar.

It is of course unreasonable to suppose that bacterial spores could survive for over 150,000,000 years, the presumed age of the rocks. However from the viewpoint of Flood geology in terms of a "young" earth it may well be that spores could survive for several thousand years. Instead of dismissing the many reports such as summarized above as being due to contamination, imagination or desire for notoriety, we should reinvestigate these claims making the following studies:

- 1. Make more detailed laboratory tests of the longevity of bacterial spores, particularly under conditions such as obtain in sedimentary rocks.
- 2. Make a careful checkup as to the question of whether surface water may not have penetrated and contaminated the various strata in which these bacteria are found.
- 3. Study the effect of cosmic radiation and radiation from underground sources as regard their effect in causing mutation in the spores thus giving rise to the many distinctive forms reported.

It would be most valuable to make new comparative studies in regard to spore longevity as related to their environment in space, possibility of variation in terms of the baramin concept of Marsh (Evolution, Creation and Science, 1947), and ability of radiation to effect such variability.

¹Lipman, Charles B., Living microorganisms in ancient rocks. Journal of Bacteriology. Volume 22, Number 3, (1931) 183-198.

(Editor's note — More exact information as to the Bad Neuheim report may be obtained from Mr. Rasmussen. The reports of Lipman are fascinating and deserve careful study in view of recent findings that under certain conditions virus particles have amazing longevity. It is hoped that some of our members who are bacteriologists will make careful experiments in order to verify the above reports made by very competent well trained men.)

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