

NOTES ON EXPERIMENTS RELATING TO THE ORIGIN  
OF LIFE-FORMS.

By Mark G. McElhinney.

On January 17th, 1908, while examining several slides, made on May 6th, 1906, I made an interesting find.

Near the centre of slide No. 3 was an object, very different from the surrounding crystals. It closely resembled a small star fish, having six radiating arms. Five of these were slightly wavy, while the sixth had a decided curve to its outer third. It lacked the rigid geometrical form and outlines of the usual crystals, and the arms appeared to be rounded in section.

After it had been examined by myself, my assistant and several members of my family, I lost it on the field. After some minutes of searching it was found and then again lost. Being called away I did not look for it again for several hours and was disappointed in not rediscovering it. Some two hours of further search failed to again reveal it, and, as the slides change somewhat rapidly when removed from the incubator, I concluded that further search would be useless.

It was identical in form with a diatom described by Carpenter as *Bacteriastrum jurcatum* which is frequently found in the stomachs of Ascidians, Salpae, Holothuriae and other marine animals.

My highest power being a quarter inch, I was unable to examine its structure and so am unable to say whether it was the true diatom or a crystal prototype. Its disappearance would incline one to the latter view. There not being time to stain and cover it, it may have become detached from the slide. Generally when crystals become detached, an outline remains on the slide; in this case I could find no outline.

Near it was a large crystal by which I tried to locate it. After the disappearance of the starlike form I saw an object which before had been unnoted; it resembled a large irregular amoeba, but I cannot say that it was not there before.

All of the slides are covered by an open network of fine lines which branch out irregularly, like rivers and their tributaries on a map. They appear to be a primitive form of vegetable life.

The slides were made by evaporating drops of a three percent. solution of sodium chloride, containing certain proportions of the elements found in animal life, and to which were added bisulphide of carbon and silicic acid.

On the morning of the 18th, I found, on the same slide, a form resembling a ciliated columnar cell. No movement was detected in either form. When my photographic apparatus is completed, I hope to be able to make positive records of the slides.