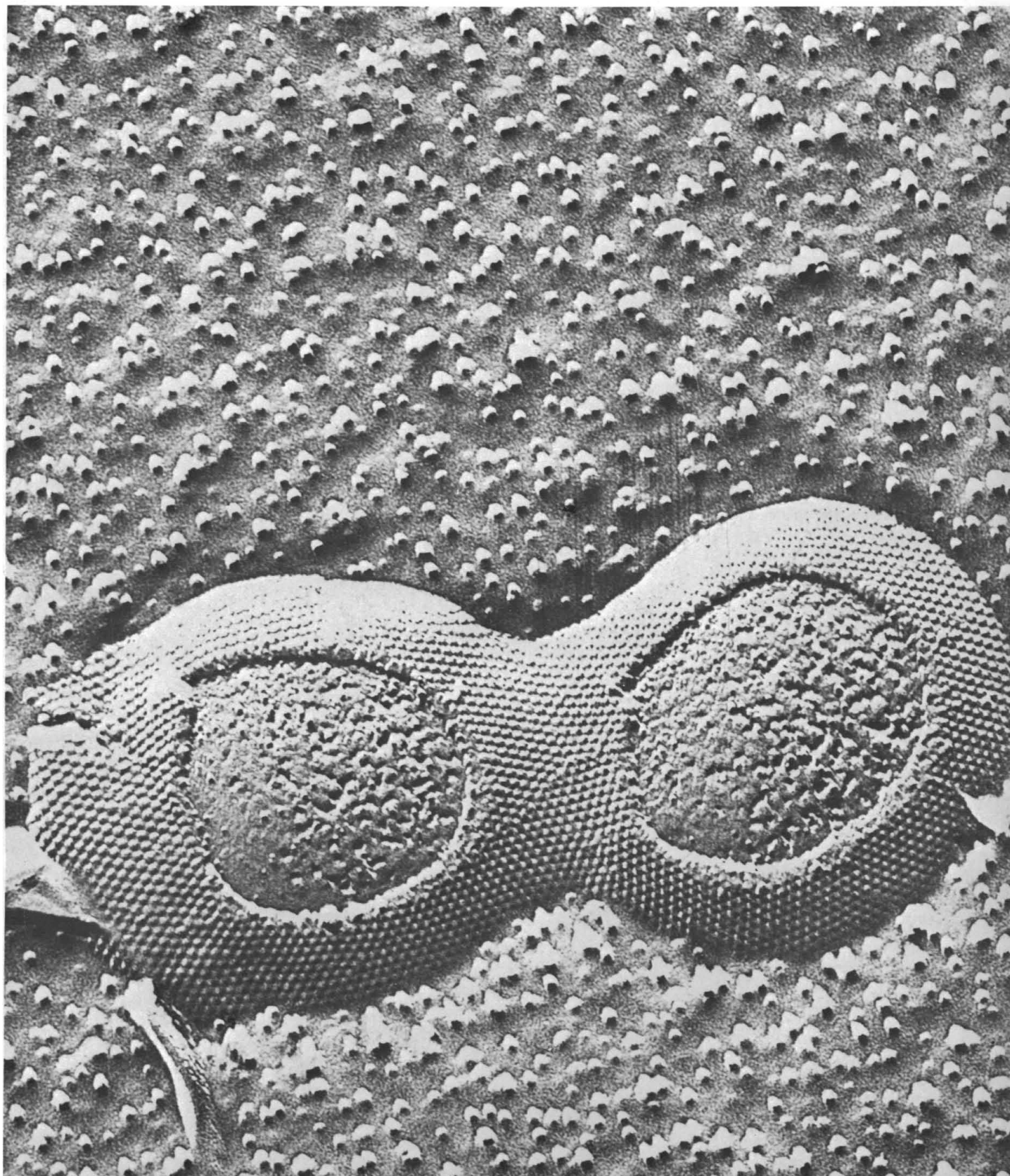


# SCIENCE

14 February 1969

Vol. 163, No. 3868

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE







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about Sartorius Membrane Filters  
is they seem like any other.**

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## In hope of doing each other some good

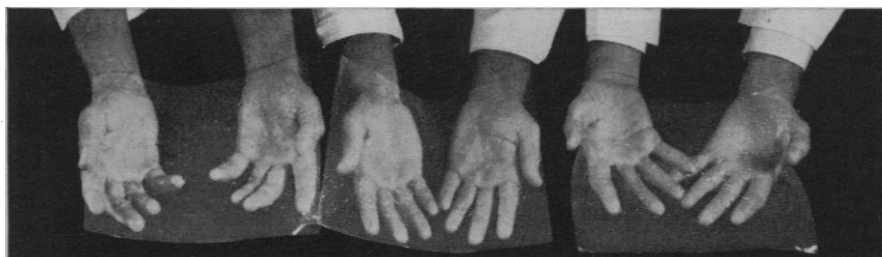
Kodak

Some scientific people should never leave the campus for too long. The house of learning needs them and only there can they flourish. To try luring them away is a disservice to all.

Other scientific people—no worse scientists—may wish they felt that way but really don't. Those are the ones we must convince of the satisfactions in a scientific career that results, quite indirectly often, in goods and services that one's fellow men want and need. We invite them to our laboratories in Rochester, N.Y. or Kingsport, Tenn. to talk in great detail, not forgetting to mention the differences from academic life.

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## COVER

Freeze-etching of the outer cell wall surface of a marine strain of *Nitrosomonas*. The large subunits, measuring approximately 150 angstroms, are believed to be composed primarily of structural protein. See page 685. [S. W. Watson and C. C. Remsen, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts]

The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are to further the work of scientists, to facilitate cooperation among them, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.



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# Beings from Outer Space—Corporeal and Spiritual

Since World War II, concern with UFO's from outer space, controlled by intelligent beings, bears much resemblance to concern with the so-called physical phenomena of psychic research after World War I. Spiritualistic mediums claimed they could produce movements of objects by supernormal forces, including the production of ectoplasmic emanations from their bodies. Today this nonsense is pretty much forgotten but these manifestations reverberated in the press during the 1920's and 1930's and were regarded by many as proof of communication with beings from another world in the form of spirits of deceased persons. Belief in this sort of thing involved many professional people including some distinguished scientists, clergymen, physicians, writers, and men of affairs, and the psychic research societies published numerous supporting papers of a pseudoscientific nature.

A famous case was that of a Boston medium in the 1920's, who had a wide following. She was the wife of an eminent surgeon and claimed communication with her dead brother. The old *Scientific American* magazine had offered a prize of \$5000 to anyone who could demonstrate supernormal physical phenomena to a committee of its choosing. At her request, she was investigated in 1924 by this committee, composed of several Harvard and M.I.T. professors along with Harry Houdini, the magician. The committee reported that evidence for her supernormal powers was inconclusive, although Houdini denounced her as fraudulent. Following wide press publicity, a group at Harvard, of which I was one, later investigated her in a series of seances in the psychological laboratories and found not only that the phenomena were due to trickery, but also how the tricks were done. Our findings, published in an article by me in the *Atlantic Monthly* of November 1925, resulted in violent recriminations and denunciations of us in published pamphlets and press statements by her followers. Our exposure enhanced her publicity, and she gained more adherents. She was skillful in modifying her mode of operation, depending upon the gullibility of her audience and other circumstances. On several subsequent occasions she was also exposed by other scientists, but at no time until her death did she lose a diminishing circle of devoted believers.

The basic difficulty inherent in any investigation of phenomena such as those of psychic research or of UFO's is that it is impossible for science ever to prove a universal negative. There will be cases which remain unexplained because of lack of data, lack of repeatability, false reporting, wishful thinking, deluded observers, rumors, lies, and fraud. A residue of unexplained cases is not a justification for continuing an investigation after overwhelming evidence has disposed of hypotheses of supernormality, such as beings from outer space or communications from the dead. Unexplained cases are simply unexplained. They can never constitute evidence for any hypothesis. Science deals with probabilities, and the Condon investigation adds massive additional weight to the already overwhelming improbability of visits by UFO's guided by intelligent beings. The Condon report rightly points out that further investigations of UFO's will be wasteful. In time we may expect that UFO visitors from outer space will be forgotten, just as ectoplasm as evidence for communication with the dead is now forgotten. We may also anticipate, however, that many present believers will continue to believe for their own psychological reasons, which have nothing to do with science and the rules of evidence.—HUDSON HOAGLAND, *President Emeritus, Worcester Foundation for Experimental Biology*, and *Member, AAAS Board of Directors*

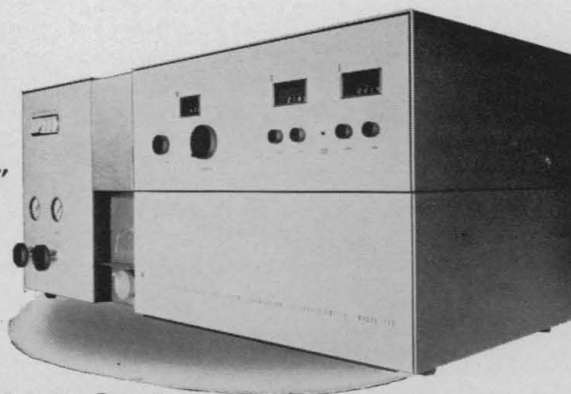
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