While we must realize that we can not exactly simulate natural conditions in the laboratory, it would seem that organisms which had been leading a saprogenic life for years would be more resistant to the conditions of the experiment than would the same organisms in a highly virulent parasitic condition.

The Plymouth typhoid epidemic was caused by a fresh and vigorous strain, as is indicated by the severity of the early cases. It is not likely, therefore, that it was caused by organisms which had been in a frozen medium for any length of time. I would suggest the theory that the epidemic was caused by the organisms in the feces which were deposited within a few days of the time the reservoir was opened, about the time of, or after, the thaw.

STANLEY THOMAS
LABORATORY OF BACTERIOLOGY,
LEHIGH UNIVERSITY

ANALYZED SOUND

IN the issue of SCIENCE for July 4, 1924, an interesting discussion of "Analyzed sound" by Alexander Forbes appeared. This description of the several instances coming to his attention brought to mind an experience of mine with a similar phenomenon occurring at Oxford, Massachusetts, many years ago. Having very carefully kept journal records almost daily since 1898 of my thoughts, experiences, etc., in contact with all natural phenomena, I made a search of my journal and found the following record which I will copy just as written:

Aug. 11, 1902. Oxford, Mass.

As an early train passed by this morning, I noted a most remarkable echo every time it whistled. The first echo was immediate, sharp and distinct, appearing to rebound from a neighbor's buildings nearby. Some seconds after all was quiet, another faint, far-away musical echo came stealing up the valley, apparently emanating from a wooded hillside far away. The echo ever increased in intensity until it seemed to pervade every corner of the landscape, filling it with a wonderful harmony of sound that beat upon the air in ever fainter waves, ever becoming farther away, until the sounds could no longer be heard. At no time were the sounds loud but seemed to fall upon the ear in infinite waves, as if thrown back from some invisible dome overhead. It did not seem to be a terrestrial echo, but seemed to fill the skies overhead with sweet, spiritual sounds, that seemed also to reecho far back in the skies, one could not tell where. I think some obscure atmospheric condition overhead was responsible for this remarkable echo, the most exquisite, the most sweetly celestial sound I have ever heard in the skies.

At the time I was greatly impressed with this remarkable sound phenomenon, but I have never since heard anything even approaching this strange breaking up and reflection of a sound into musical tones such as occurred in this instance.

H. A. ALLARD
U. S. DEPARTMENT OF AGRICULTURE,
WASHINGTON, D. C.

IN connection with the article in SCIENCE of July 4, 1924 (page 5), on "Analyzed Sound," attention should be called to Lord Rayleigh's discussion of the phenomena half a century ago (*Nature,* 1873, Vol. VIII; "Theory of Sound," Chap. XV) under the title "Harmonic echoes." His conclusions from a mathematical investigation of the reflection of sound-waves from small surfaces, as tree trunks, were that the intensity of the reflected wave varied inversely as the fourth power of the wave length. The overtones in the echo of the voice would therefore be very much stronger relatively to the fundamental than in the original sounds and the effect might easily be called a change to the octave.

Many years ago there was such an echo at the Adirondack resort, Loon Lake, Franklin County, N. Y.

CHARLES K. WEAD
ANN ARBOR, MICH.

SCIENTIFIC BOOKS

Extinct Plants and Problems of Evolution. By D. H. SCOTT. Pp. xiv + 240. Macmillan & Co. London, 1924.

THIS little book, founded upon a course of lectures given at the University College of Wales in 1922, is a largely non-technical and very readable account of the main points in our knowledge of fossil plants, written for the non-specialist.

The first chapter is an all too brief, but very illuminating, sketch of the present status of the various theories that have been advanced to explain the facts of evolution. A consideration of extinct floras is preceded by a very brief sketch of recent floras, and the former are taken up in the sequence from youngest to oldest. The great transformation periods of floral history are considered to have been the middle Devonian, the Permian and the mid-Cretaceous, ushering in respectively the so-called Carboniferous flora, the Mesozoic flora and the flowering plants. The consideration of the early Devonian flora is almost entirely devoted to considerations growing out of the recently discovered petrified material in the Rhynie chert, and showing certain bryophytic and algal characteristics. It seems to the reviewer that a somewhat misleading impression is given of the extent of the Permian transformation, which was really a gradual process when viewed in the true geological perspective. The consideration of the Mesozoic floras is