distort the speech before it is heard, by introducing filters, overloading the amplifier, adding various kinds of noise, etc.

This set-up was first demonstrated before a meeting of the Ohio Association of College Teachers of Speech this spring. In this demonstration, all frequencies above 1,500 cycles per second were removed from the speech as heard through the loudspeaker. A disturbing amount of noise was added by a loud buzzer. Under these conditions, sentences were practically never intelligible to any one. Only a word or two could be occasionally recognized. When the inside booth lights were turned on, however, sentences were correctly understood by practically every one, although the speech sounds were just as greatly distorted as before. This experiment is very effective in demonstrating the important part played by vision in speech understanding, even when untrained.

One of the major functions of our laboratories is the detection of students with deficient hearing from among those entering the university and the provision of special training for such students. A motion picture method of developing visual hearing was introduced in our laboratories and has been in successful use for the last five years. In this way students learn to understand speech with the auditory element entirely removed. Under this training students soon acquire strengthened visual speech associations which serve materially to facilitate their university work.

We are planning a series of articulation and intelligibility tests for use with this booth. These tests have been standardized by workers in the Bell Telephone Laboratories and have been used extensively in investigating telephone systems. The addition of the visual factor should be of interest to telephone engineers, talking picture producers and others, as well as to workers with the deaf and hard of hearing.

JACK C. COTTON

THE OHIO STATE UNIVERSITY

A PHENOMENON IN FUNGI IMPERFECTI

WHILE doing research on variation phenomena in *Fungi imperfecti* it was observed that many isolates, representing 28 strains, 12 species and 7 genera in 3 orders of this group, behaved similarly to bacteria, in that single-spore culture series (composed of from 20 to 100) showed them to be dual in nature. Such single-spore series gave rise to three growth types, one mainly mycelial in character with scant or no production of conidia (designated as M), another usually with limited mycelial growth but producing conidia abundantly (designated as C) and a third type (X) similar to the primary isolate but intermediate in cultural characters between M and C. In *mass transfers* from M and C, cultural characters remained constant. In mass transfers from X, cultural characters were not uniform and constant but varied between those of M and C. Subsequent single-spore analyses of the three types revealed the fact that M and C were apparently definite entities as they retained their respective characters, whereas X again gave rise to the three types M, C and X. The X type can be produced *in vitro* by growing M and C together in mixed culture where they apparently combined by the mechanism of anastomosis. Single-spore series from such a combined culture, even when the spores are taken from a given sporocarp or from a single spore head, give rise to the three culture types, M, C and X. This behavior indicates that the X type is really heterocaryotic[1] and that the M and C phenomenon as it occurs in the laboratory is due to dissociation of discrete nuclei and not to mutation or nuclear change. Some of the M and C types have been kept in culture for more than five years and are still true to type. In this respect they seem to differ from smooth and rough in bacteria, which, according to the majority of investigators[2] (working mainly with mass transfers), may change rather rapidly from one form to the other, either directly or through intermediate forms. A more detailed account of the M and C phenomenon will be published soon.

H. N. HANSEN

UNIVERSITY OF CALIFORNIA
BERKELEY

THE DESTRUCTION OF "VERMIN"

THE writer, who is not interested in killing for sport, is in constant disagreement with his sportsmen friends in regard to the wholesale destruction of certain animals classed by organized sportsmen as "vermin."

As has often been pointed out, many of these animals, even if not of positive economic value to the community as a whole, are of great interest to nature lovers, and these non-killing nature lovers have as much right to enjoy animals alive as the sportsmen have to enjoy them dead. There are many sportsmen who are "sports" enough to concede this point.

Although most organizations of sportsmen do not realize it, there is considerable difference of opinion as to the actual part taken by predatory animals in the reduction of the total amount of game. There are other factors of perhaps greater importance than the predators.

As chairman of the West Virginia Biological Survey, the writer has been collecting the reports of the vermin-destruction contests held in 1935 in 40 of the 55 counties of the state. In these contests, local mer-

[1] H. N. Hansen and Ralph E. Smith, *Phytopathology*, 22: 953–964. 1932.

[2] Philip Hadley, *Jour. Inf. Dis.*, 40: 1–312. 1927.