dosage of calcium arsenate which is fatal to the larvae of the Mexican bean beetle, no effects on larvae placed on the foliage could be detected. The larvae fed on the treated foliage, consumed as much leaf area as the larvae placed on untreated foliage and molted successfully.

Back and Cotton[2] found that "solutions of Epsom salt are of no value" for moth-proofing purposes.

Conversations with entomologists located in some of the southern states where growers had used magnesium sulfate in the field indicated that the material was valueless as a remedy for the Mexican bean beetle. One of them suggested that the reason some growers believed that benefits had resulted was that the larvae which were devouring the plants pupated shortly after the spraying, and that when observations were made the quiescent pupae only were present. The growers, not being familiar with the biology of the insect, decided that the treatment had killed them, since they were unable to move.

NEALE F. HOWARD

BUREAU OF ENTOMOLOGY AND
PLANT QUARANTINE
U. S. DEPARTMENT OF AGRICULTURE

A MATTER OF TERMINOLOGY

IN a recent number of SCIENCE[1] Dr. Ramaley raises a question of terminology which is often encountered by plant morphologists and teachers of botany, but I am not sure that he arrives at the best answer. He criticizes a recent text in which the terms *male* and *female* are applied to the parts of the sporophyte of a flowering plant, while he would apparently reserve these for the gametophyte.

This latter usage, suggested many years ago in connection with the growth of the idea of the alternation of generations, was supported by most morphologists, who insisted that the monoploid generation be regarded as "sexual" and the diploid as "asexual" or "non-sexual." It is hardly conceivable that any experienced teacher's lapse from this standard to-day should be due to a failure to recognize the two generations and to distinguish clearly between them. Even the poorest of our college teaching is probably too well grounded for that. I believe it is rather because the old distinction between the two as sexual and non-sexual is useless if not actually misleading. If categorical earmarks of the two generations are needed for pedagogical purposes, those based upon chromosome numbers and relations to spores and gametes are probably much more intelligible.

There is much to be said for the idea that the entire life cycle, consisting of both the monoploid and diploid parts, is a *sexual* life cycle, as contrasted with those cycles in which there is no union of gametes. Starting at any point in the sexual cycle, reproduction should be regarded as having been accomplished only when that point had been reached again. It is hardly logical to say that the gametophyte reproduces sexually (by gametes) or that the sporophyte reproduces asexually (by spores). Neither actually *reproduces* in that sense; it only produces something else as the first step in reproduction.

Those of us who had our early training under the strict morphological régime were taught to keep our fingers crossed when we spoke of "male" and "female" flowering plants or flower parts. I wonder, after all, how much logic there was to this inhibition. If there is any homology between plants and animals as far as sex is concerned, it is perfectly consistent to call staminate and pistillate individuals or parts of individuals male and female. As in animals, it is the diploid generation which is concerned, and to say that a thing is male or female simply implies that it is so specialized that it is instrumental in the production of sperms or eggs.

The process is a little more direct in the animal than in the plant, but the two cases are closely comparable. The comparison is somewhat obscured by the extension of the monoploid generation in most plants and by the greater prevalence of sexual differentiation in animals; but these are matters of degree rather than of quality.

The source of the confusion of words is the common one occurring when the application of a term is extended into a new field. The words "male" and "female," or their equivalents in other languages, were applied to animals for a long time before anything definite was known about sexuality in plants. Now, that the latter field is better known, who is to say how the old terminology is to be carried over? The answer comes only through usage; legislation almost universally fails in such cases. Consistency and convenience point toward the rejection of an illogical dictum of morphology and the promotion of a usage exemplified by the expressions which Dr. Ramaley criticizes.

PAUL WEATHERWAX

INDIANA UNIVERSITY

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[2] U. S. Dept. Agr. Yearbook, 1927: 467. *Furniture Warehouseman,* 8: 800.

[1] SCIENCE, 86: 36, 1937.