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COVER

The eggs of the grasshopper, Romalea microptera, are yellow when first laid, but through the action of a secretion added to them at oviposition, they subsequently tan to a dark brown. The three eggs were dissected from the ovary of a gravid female. The eggs on either end have undergone localized tanning as a result of being spotted and streaked with secretion; the center egg is an untreated control (Actual size, 7 mm). See page 95. [Thomas Eisner, Cornell University]
Graduate Student Support

Universities are limited in their ability to provide maximum educational opportunities for all students in graduate school because the several forms of support for graduate students often carry restrictions as to the kind of work or service the student may render. Recipients of many federally supported fellowships and traineeships are free from any service obligation associated with that support. Some students who are employed as research assistants get substantial research experience but no teaching experience and no period of time free from service requirements. Still others serve as teaching assistants throughout their graduate years.

The decision as to how each student will spend his years of working for the doctorate is therefore often determined by the source of his financial support rather than by what would be educationally most beneficial. Ideally, whether in a particular year he works as a teaching assistant, as a research assistant, or as neither should depend upon his previous experience, his present stage of development, and his future plans. One student might do well to spend the first year or two as a teaching assistant, benefiting from the opportunity teaching provides of clarifying one's ideas and consolidating one's grasp of his field. Then, when he had completed his course work and while plans for the dissertation were maturing and the work was being started, he might spend a year or two as a research assistant. Finally, a year or so free from any service obligation would provide an opportunity for doing the intensive work of completing the dissertation and preparing for doctoral examinations. For another student it would be better to start with a fellowship year, and for others, still different sequences or patterns would be more appropriate.

Such individual planning is made difficult, however, by the regulations which govern the federal programs that now provide a large fraction of the support for graduate students. The length of tenure varies. Recipients of some forms of federal support are limited in the amounts of service they may render. Some forms of support are available only to students in certain fields.

Federal agencies have been quite flexible in pioneering new forms of support for scientific research and education. One direction of change has been to give the receiving institution much greater responsibility for deciding how research money can most usefully be employed. Federal funds for the support of graduate students have reached such a size as to make one ask whether comparable modifications in programs for graduate student support might not increase their educational value.

Suppose the presidents of several universities that now receive substantial funds for fellowships, traineeships, and research assistantships were jointly to approach the major federal science agencies with this proposal: “For the next five years we would like to receive approximately the same amount for the support of graduate students that we would receive under the present arrangements, but with freedom to arrange, for each student who receives some part of this support, the program that seems best for him, using, each year, funds from whatever source seems appropriate. If you approve this experimental program, we will keep full records for each student who receives any portion of his support from federal funds. Periodically we will review the records with you so that we may jointly judge whether these experimental arrangements seem beneficial and should be continued.” If a few good universities were to propose such a plan, they should be given the opportunity to try it.—Dael Wolfle