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A Distinction with a Difference

Responses have differed to the recommendation by a group of mathematicians that the thesis requirement for the mathematics Ph.D. be broadened. The new requirement would permit not only, as at present, theses that offer new mathematical proofs, but also theses that are expository or critical in character. Dartmouth College responded to the recommendation by incorporating it in its new Ph.D. program in mathematics, while the mathematics department of the University of Chicago responded by vowing that it, at least, would have no part of any effort to relax present standards.

The recommendation was the outcome of a conference held at Yale University last October under the auspices of a joint committee of the American Mathematical Society and the Mathematical Association of America. The conference was called because of the mathematical community's concern with the growing shortage of college teachers of mathematics. Although more Ph.D.'s in mathematics are now being turned out than ever before, they are not rushing into college teaching.

The Dartmouth program will permit a thesis which offers new mathematical proofs or which is expository or critical in character or which is some combination of these different kinds of study. The course work will also be different from that offered in traditional preparation in that there will be greater emphasis on mathematical breadth. The principal aim of the program is preparation for an academic career, and, with alternate routes open to the student, the idea in this preparation is to make embarkation on a thesis something less of a gamble. This is the first time Dartmouth has offered a doctorate in mathematics, and the department reports that it is encouraged by the good number of highly qualified students who have applied for admission.

Opponents of the effort to broaden requirements for the doctorate have granted that there is a need to increase the supply of college teachers of mathematics, but have argued that the M.A. could be regarded as a mark of sufficient attainment for this purpose. The difficulties here are that the M.A. stands for a variety of attainments, from 1 or 2 years' work to work just short of a Ph.D. More important is the practical difficulty, given our present system of values, of getting this degree accepted as a form of certification for college teachers.

In an earlier stage of thinking about increasing the supply of teachers, there was a proposal that the broader thesis be honored by a new degree, something to be called a "Doctor of Arts." But the proposal was rejected because it also poses practical difficulties. A university faces administrative and legal problems if it decides to grant such a degree. And there is again the problem of acceptance of the degree once granted. Rejection of the proposal to establish a new degree was also based on the feeling that if the work really qualifies as an alternate, but equally effective, preparation for teaching, then it also qualifies for a Ph.D. In any event, differences in preparation will not be any great secret. One need merely ask a person whether he got his degree at Dartmouth or at the University of Chicago.

The number of additional teachers that the use of broader requirements at Dartmouth and other interested universities will eventually provide is not known, but the idea, we think, is worth pursuing. Requirements will be lower, of course, in that more people will be able to get the degree. But the whole idea is precisely to get more teachers. The basic argument for the broader requirements is that, while you have to know harmony to be Leonard Bernstein, you do not have to be Bernstein to teach harmony. And no one is going to be upset if you, again like Bernstein, have interests and abilities that include composing, conducting, and popular exposition.—J.T.