men among our colleagues can each effectively direct sixteen theses or more." The committee said that in many cases the individual student "is being shabbily treated" and the individual professor "is courting thrombosis."

In considering solutions to this problem, the committee made a recommendation that could prove alarming to some academicians. The committee recommended that in those cases where, over a period of years, it proves impossible materially to decrease the number of thesis writers in a given field within a department, the department should redistribute its faculty positions and give priority to the overcrowded fields when making new permanent appointments, even at the cost of sacrificing traditional patterns of coverage.

Reactions among the faculty to the Wolff report were mixed. *Science* interviewed a dozen senior faculty members and found that most were in general agreement with the committee's conclusions, but to varying degrees. Some professors found the report self-serving; a reduction in the number of students would mean less work for the faculty in grading papers and supervising projects. Others felt that, with fewer students, less research would be done and important areas of study, especially in the basic sciences, might suffer. Some professors felt that the university is, indeed, neglecting its children by harboring too many of them. Others felt that the quality of education at Harvard is not directly related to the number of students enrolled.

Natural Scientists Dissatisfied

The greatest dissatisfaction was expressed by professors in the natural sciences. Most of the scientists interviewed felt that the natural sciences departments should be allowed to maintain their present size. They noted that scientific research depends more heavily on graduate students than most other academic research does. And they asserted that the natural sciences are "rich" in comparison to the social sciences and humanities, and should be allowed more students because faculty in these disciplines usually have substantial research grants that enable them to finance the thesis writing of their doctoral candidates. Most of the natural scientists interviewed felt that the natural sciences were in less trouble, in terms of growing numbers of students, than the social sciences.

Konrad Bloch, chairman of the chemistry department, said that the Wolff report is a "necessary measure," but he stressed his hope that the chemistry department would maintain its present size, emphasizing a need in the natural sciences for more graduate students to assist with undergraduate teaching. Bloch said that the attrition rate in chemistry is "exceedingly small" and noted that the dropout rate, on the whole, is far smaller in the natural than in the social sciences.

Christopher Jencks, director of Harvard's Center for Educational Policy Research and co-author, with Harvard sociologist David Reisman, of a recent book on higher education, *The Academic Revolution*, told *Science* there is no particular evidence to indicate that reducing the size of the graduate school will reduce the number of problems. He said that in many cases the faculty members who complained of being overworked would continue to be overworked under any system because these professors invariably choose to be more fully involved. Commenting on the widespread student dissatisfaction among graduate students, Jencks said that the faculty could become more responsive to students' needs by choosing new faculty members who would serve as "good models" for students. Jencks believes the solution to student dissatisfaction is less a matter of good teaching than of good advisory qualities. He stressed the need for students to be motivated by intellectuals and emphasized that these motivators need not be "standard academicians" but could well be experts brought in from outside the ivory towers. Jencks commented that he finds Harvard's attrition rate neither surprising nor "necessarily undesirable." One of the greatest problems that graduate students face, he said, is that of being unsure what they want to do and of becoming frustrated at having to focus on a narrow profession.

It is somewhat doubtful that recent steps taken by Harvard's faculty to reduce the size of Harvard's graduate school will set a general trend for other institutions, but some of Harvard's ills —such as overcrowding and increased dissatisfaction with the quality of graduate education—are shared by many universities with large graduate programs. Of the Harvard faculty members interviewed, most expect that the nation's graduate schools will tend, on the whole, to grow to meet the rising demands to educate more students on the graduate level, but they expect that the rate of growth will tend to be much less pronounced at prestigious private institutions like Harvard than at state universities and many second-level institutions.

In adopting the Wolff committee recommendations, Harvard's faculty members decided to place the emphasis at Harvard upon high quality rather than upon large numbers of graduate students. They dissented from the widespread view that bigness in the university is almost inevitable. Instead, they stressed a belief that the moral and social obligations of universities like Harvard lie, not in training as many good graduate students as possible but in training a few excellent ones well.—MARTI MUELLER

APPOINTMENTS

C. Kupfer

F. T. Wall

Carl Kupfer, professor and chairman of the ophthalmology department, University of Washington Medical School, Seattle, to first director of the new National Eye Institute. . . . **Frederick T. Wall**, vice chancellor for graduate studies and research, University of California, San Diego, to first executive director of the American Chemical Society. . . . **Richard C. Dorf**, chairman, electrical engineering department, University of Santa Clara, to dean, College of Engineering and Technology, Ohio University. . . . **Mortimer H. Appley**, head, psychology department, University of Massachusetts, to dean, Graduate School at the university. . . . **Lewis D. Conta**, program director for special engineering programs, National Science Foundation, to dean, College of Engineering, University of Rhode Island. . . . **Fred M. Davenport**, professor, epidemiology and internal medicine, University of Michigan Medical School, to chairman, epidemiology department, School of Public Health at the university.