

The Future of Departments

After a reign of more than one hundred years, the academic department has been challenged and, some say, undermined, in many universities. A new organizational model is beginning to take hold, with significant consequences for research and teaching.

Created in the late nineteenth century in conjunction with the rise of the research university and disciplinary specialization, the department has had the authority to set the requirements for concentrations, undergraduate majors, and graduate degrees – and admit students to them; identify the areas of study associated with the discipline and see to it that an appropriate array of courses are offered within each area; search for and make offers to new faculty, with the consent (but not necessarily the advice) of a dean; recommend salaries of and promotions for faculty; and allocate resources, including offices and laboratory space, to faculty and students.

Several developments at Cornell University, where we are professors and deans, indicate the direction and dimensions of the challenge to the sovereignty of departments in academic affairs:

- Following the designation (by a commission of distinguished faculty and administrators) of genomics as a strategically important "enabling" area, the president and provost has provided "seed money" for a Genomics Initiative. Working with relevant departments, members of the Genomics Task Force have recruited and hired more than two dozen professors. Appointments are made only when the department and the task force agree on the candidate. Genomics Initiative money has also been used to create and/or support greater DNA sequencing on campus, a micro-array facility, a transgenic mouse facility, and a Nanobiology Center.
- For computing and information sciences, another field deemed strategically important by the commission, the president and provost created the Faculty of Computing and Information, an academic unit, independent of the Computer Science Department, and not anchored in a college. Composed (like the Genomics Task Force) of faculty from departments across the university, the FCI has its own dean. It, too, has used "seed money" to entice departments (seventeen at last count) to make appointments in areas of inquiry they might not otherwise consider their highest priorities. Two major research centers, The Theory Center and the Program in Computer Graphics are closely associated with the FCI.
- To foster greater visibility for and collaboration among the statisticians scattered around the campus, a "virtual department" of Statistical Sciences has been created. Faculty associated with "the department" have their primary appointments in other departments. While the Biometry Department in the College of Agriculture and Life Sciences offers an undergraduate statistics major, Statistical Sciences is responsible for the requirements, curriculum, and staffing of a masters program. It serves as well as a lobby for the hiring of more statisticians.

- A multidisciplinary Visual Studies Program has been established in the College of Arts and Sciences, with the authority to offer an undergraduate concentration. Opponents of Visual Studies charge that the program is a Trojan horse, designed to weaken, destroy, and then replace the History of Art Department.

Although it is rarely expressed explicitly, the rationale for these new structures is clear: academic departments perennially "fight the last war" because they tend to hire faculty members with expertise in the subject areas of the professors they are replacing, be they specialists on renaissance painters or polymers. At a time when the size of the faculty and whole is not increasing, the innate conservatism of departments leaves little room for emergent (multidisciplinary) fields like genomics, information science, statistics, and visual studies. The new structures provide deans and provosts with greater flexibility and control in allocating faculty lines than they have when departments "own" them.

The aim in each field is to build a critical mass of faculty members with complementary research interests. The FCI, for example, encourages collaborative work by cognitive psychologists, communications theorists, and historians of science and technology on the organization and use of knowledge, an inquiry unlikely to be undertaken inside a department of Computer Science. Will the Web be self-organizing? How will users interact with it? What is the economic value of the information on the Web and who will pay to create and maintain it?

When a field achieves critical mass, of course, it becomes easier to attract the very best graduate students and bring in research funding from government and the private sector. Momentum then builds on itself: distinguished scholars from other institutions may clamor to climb on the bandwagon as the field moves up the charts of the national rankings. Changes in the structure and content of the curriculum are likely as well, as multidisciplinary courses and programs accompany multidisciplinary research. An undergraduate course in computational biology has already been offered at Cornell; a major in Information Sciences and a program in Digital Arts & Graphics are on the way.

The new structures, alas, also exact potentially damaging costs. When deans, task forces, and programs, like the Godfather, make departments offers they cannot refuse (make this appointment or make no appointment at all), the priorities established by those departments are often trumped. In the scramble for faculty who live at "the cutting edge," the center of the discipline may not hold. When more and more faculty members have joint appointments and teach half their courses outside the department, who will teach an introduction to computer programming, organic chemistry, and renaissance art? Who will serve as director of undergraduate studies or as department chair?

Although more resources are available to them, academic life can be far more stressful for faculty members whose loyalties are divided between a department and a program. Faculty at Cornell do not agree about the role that the Genomics Task Force, the FCI, Statistical Sciences, and Visual Studies should play in reappointment and tenure. Critics of the new structures present nightmare visions of tugs of war and the evisceration of supportive department cultures.

Departments are too valuable to lose. But trans-departmental initiatives are too promising not to use. We recommend proceeding with a prudentially deliberate speed. New structures should be deployed only for a small number of fields deemed strategically

important by blue-ribbon committees, dominated by distinguished faculty. They should persuade and not coerce, accept an advisory role in reappointment and tenure, and concentrate on recruitment and hiring, securing funds from external sources, and facilitating multidisciplinary research and teaching. The effort will require, patience, perseverance, and trust.

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