INTRODUCTION

The World of Postdocs

Daniel Gilman, the first president of Johns Hopkins University, was looking for a way that his new research university could compete with the scientific powerhouses of Europe. He came up with the novel idea of offering $500 fellowships to a select group of 20 graduates interested in "further studies … of literature or science." Among that first class of 1876 were four men with doctoral degrees—in effect, the first postdocs. A 1946 history of Hopkins boasts that "probably no expenditure of $10,000 in American education has ever had so large and so enduring a return on investment."

A century and a quarter after Gilman's bold move to bolster U.S. research, the United States leads the world in scientific productivity—and in the number of postdocs, now nearing 40,000. Many would say that the two measures are closely related. Indeed, several English-speaking countries have embraced the American passion for postdocs and used their labor to build up their own research enterprises. And much of the rest of the scientific world, including Japan and many European countries, is moving quickly to set up or expand its use of postdocs in hopes of rejuvenating antiquated systems and ensuring a steady flow of new ideas.

In spite of its success, however, the postdoc system is under stress. Although most postdocs say they recognize the value of extended training beyond graduate school, many feel that their contributions to this scientific success story have not been sufficiently recognized and rewarded. They are in a kind of limbo between student and independent researcher, without the status that their peers in other professions enjoy. And it can be a long apprenticeship: In today's tight job market, it is not unusual for young scientists in some fields to do two or three stints as a postdoc before landing their first academic post. Many are frustrated and annoyed at being asked to support a system that seems increasingly unable to generate secure, well-paying jobs. They complain that employers and funders, typically universities and the federal government, don't understand the pressures they face or, worse, think that the status quo should be preserved. Their unhappiness has fueled the growth of postdoctoral associations and spurred universities to create offices and policies that address their plight.

This special report examines life as a postdoc in all its rich variety—the ups and downs, the ins and outs, the whys and wherefores. It looks at the system not only in the United States, but in Japan and Europe as well. An accompanying Viewpoint contains a report by the authors of a major study that tracked young scientists for 10 years after they earned their Ph.D. degrees, and a guest editorial examines how Japan is trying to avoid the worst aspects of the U.S. system as it adjusts to a growing pool of postdocs. We recognize, however, that there are viewpoints and experiences that are not covered. To include them, *Science*'s Next Wave, the electronic network for young scientists, is hosting a forum on the issues raised in this special report with invited perspectives from experts in the field at nextwave.org/feature/postdocforum.shtml. We urge you to participate.

–JEFFREY MERVIS

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ILLUSTRATION: PETER HOEY

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