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Seize the Neuroscience Moment

THERE SEEMS TO BE AN ABUNDANCE OF NEUROSCIENCE INITIATIVES RIGHT NOW. THIS YEAR, THE European Commission launched a Human Brain Project, and the U.S. government announced its Brain Research through Advancing Innovative Neurotechnologies (BRAIN) project. They join other recent neuroscience efforts across the world aimed at advancing our understanding of the brain. Exploiting these diverse initiatives to yield scientific, clinical, and economic benefits, however, will require not only political and policy-maker support but also endorsement and extensive involvement by the neuroscience community, which already saw a “Decade of the Brain” come and go about 20 years ago, with little direct result. What’s different now?

In 1990, U.S. President George H. W. Bush declared the 1990s the Decade of the Brain; a European Decade of Brain Research was announced shortly thereafter. Yet relatively little special funding was ever allocated to them. These projects did spur private support for U.S. and European versions of the Dana Alliance for Brain Initiatives, which have done much to educate the public about the importance and excitement of brain research. But in the absence of substantial dedicated funding, little scientific coordination, and no real champions of the efforts in the policy-making community, neither brain project ever really gained momentum or generated unified advocacy among scientists or anyone else.

Circumstances are different now. With or without special efforts, neuroscience research has progressed at an explosive rate over the past three decades. Never before has the often-quoted adage of having learned more about the brain in the past decade than in all of recorded history been more apt. Some of this progress has resulted from advances in the technologies that allow neuroscientists to ask wholly new kinds of questions; some from the collaboration among multiple fields that characterizes so much of modern science. An increasing focus on translational research is yielding new treatment approaches in neurology and psychiatry and greater hope for practitioners and patients.

And there now are policy-maker champions for neuroscience. In the United States, the BRAIN project is being coordinated by the White House Office of Science and Technology Policy, directly involves the leaders of many U.S. science funding agencies, involves major private philanthropies, and is taking shape under the guidance of a superb group of scientific advisors. There is an active Neuroscience Caucus in the Congress, and influential members, such as Representative Chaka Fattah (D-PA), have been touting BRAIN wherever they can. Some money has already been set aside for it in federal agency budgets, and if the project gains momentum, one can imagine the commitment of additional financial support. The European Human Brain Project and other national brain projects similarly have high-level policy-maker advocates and dedicated funding.

The neuroscience community should fully exploit these opportunities, even if it requires some behavior change among scientists. In many ways, these initiatives resemble “big science,” like the Human Genome Project, requiring extensive coordination among many scientists and subfields. On the other hand, in spite of increasing interdisciplinary collaboration, neuroscience still remains more typically a “small science” field, characterized by individual investigators working with a small group of students and postdoctoral fellows. Moreover, neuroscientists have never really rallied in a unified way behind a large-scale effort that could probably benefit the entire field; neuroscience advocacy typically has focused on the needs and opportunities in individual investigators’ own areas of interest. Large-scale projects require a different, more unified style of advocacy, whether or not the benefits to individual scientists are immediately evident. Many other fields, such as physics and astronomy, have successfully come together to participate in and support large projects that subsequently garnered substantial public and policy-maker support and funding. The new brain initiatives have great potential to accelerate progress in all of neuroscience. They should be fully embraced.

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