

## No science left behind

**The contribution of private philanthropy to research has been growing. Although these large infusions of money can galvanize research, private and public funds now increasingly seem to support similar projects. Caution is warranted to prevent funding for specific topics from skewing research to the detriment of other fields.**

University College London (UCL) recently won £140 million (\$245 million) of private funding for a new initiative to study neural circuits and behavior, fighting off tough competition from Oxford and Cambridge. With reduced government grants and increasingly expensive technology, funding from private sources is crucial to continuing advancement in science. However, whereas private funding once aimed to fund risky projects and fill in gaps in public funding, public and private sources now increasingly seem to funnel money toward similar projects. It is essential that funding for specific topics does not skew research to the detriment of important areas that might be temporarily less fashionable.

Although foundations have always been a part of the research funding landscape, the contribution of private philanthropy to biomedical research has been steadily increasing. The Germany-based Hertie Foundation has spent more than \$122 million on neuroscience since 2000, a threefold increase compared to what it spent in the previous quarter-century. In the UK, funding from the Wellcome Trust is almost comparable to the funds available from the government's Medical Research Council. In the US, philanthropic funding for the biomedical sciences is reported to be about \$5 billion a year, roughly one-sixth that of the total amount granted by the National Institutes of Health. Such a trend certainly seems like welcome news to the scientific community.

Such large injections of money certainly have the power to galvanize research in specific areas, but they also have potential downsides. As they are targeted only towards particular projects, they have the potential to skew the distribution of research projects being proposed and executed, by pulling resources from other, less 'popular' areas. Recent funding decisions from private foundations in the US suggest a slant towards clinical rather than basic research: in 2006, 23% of a total of \$19 billion of private funding was spent on topics to do with health, compared to 2.9% on science and technology topics. This is a significant shift from the figures for 1999, when basic science received a slightly larger piece of the pie: 17.2% of \$11 billion of private funding was for research on health, compared to 3.6% for science and technology topics ([http://foundationcenter.org/findfunders/statistics/gs\\_subject.html](http://foundationcenter.org/findfunders/statistics/gs_subject.html)). Although this difference seems slight in terms of percentages, the percentage of money allocated to pure science and technology has decreased over the intervening years, while the total money available has increased by about \$10 billion from 1998 to 2006. These small differences in percentage points therefore mean huge differences in the money available. Areas deemed important by private donors are thus increasingly important for determining research priorities.

Of course, the increased interest in clinical work is hardly the domain of private funding bodies alone: government funding bodies have also

taken an increased interest in clinically applicable 'translational' research, which is more likely to have applications that are of wider public interest. The National Institutes of Health, for example, has established the Clinical and Translational Science Awards consortium, whose membership has significantly expanded since its original founding in 2006. Similarly, the Medical Research Council in the UK lists translating laboratory-based work into improved treatments and interventions as one of its two long-term priorities. One consequence of this increased emphasis, noted by Zach Mainen, a US researcher who recently moved to the privately funded Gulbenkian Institute in Portugal, is that researchers are more likely to skew their pitch to emphasize any possible clinical links to their research, even if the link is somewhat tenuous.

Clinically oriented work has not been the only area to disproportionately attract both public and private funding. The establishment of two centers (the Sainsbury-Wellcome UCL centre and Janelia Farm) on the broad topic of neural circuits clearly underlines the importance of this basic neuroscience topic. Government agencies have also identified this topic as one of special importance: the National Institute of Neurological Disorders and Stroke in the US lists "channels, synapses and neural circuits" as one of its program areas earmarked for funding. The Redwood Institute in California and the Swartz Foundation in the US both fund research on computational neuroscience, as does the Gatsby Foundation at UCL. The German Federal Ministry for Education and Research has also expressed a strong interest in this topic, starting the Bernstein Center for Computational Neuroscience in Berlin this year.

That federal and private agencies seem to be funding very similar research is perhaps the inevitable result of decision-makers from both groups wanting to support work that seems to hold the most promise. As a consequence, however, other fields of inquiry could face financial drought while the new institutes find themselves in cutthroat competition for limited talent to spend their abundant funds. Allocating all of the funding to clinical or translational neuroscience has the potential to ignore longer-term projects that may eventually result in treatments. The current clinical success of deep brain stimulation, for example, would not have come about without years of basic neuroanatomical groundwork elucidating the connectivity of basal ganglia.

We applaud and fully support the injection of more private money into science, whether clinical or basic. Nevertheless, it is important for each funding body to take into account the kinds of research being heavily supported by the others, to avoid putting all our eggs into a few baskets and shortchanging areas that may yet have crucial contributions to make. ■

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