Consiglio Nazionale delle Ricerche, Bari, Italy and Dipartimento di Bioscienze, Biotechnologie e Scienze Farmacologiche, University of Bari, Italy.

John F. Allen is at the School of Biological & Chemical Sciences, Queen Mary, University of London, UK.

Nick Lane is at the Department of Genetics, Evolution & Environment, University College London, UK.

William Martin is at the Institut für Botanik III Heinrich-Heine-Universität, Düsseldorf, Germany.

David M. Rand is at the Department of Ecology & Evolutionary Biology, Brown University, USA.

Gottfried Schatz is at the Biozentrum, Universität Basel, Switzerland.

EMBO reports (2012) 13, 473–474; published online 4 May 2012; doi:10.1038/embo.2012.57

A tribute to the ERC—long live basic research

Ilkka Hanski

The creation of the European Research Council (ERC) five years ago was a unique and singularly encouraging event. After long discussions among individual researchers and, later on, among national research organizations, a European-wide research council finally emerged. Its creation was a true grass-roots movement to address the shortcomings of the EU Framework Programmes (FPs) in supporting basic research, which were widely seen as suffering from excessive bureaucracy, top-down stipulation of what constituted topical research, politically motivated requirements for huge networks of laboratories, the fostering of proposals best written by consultants, and a generally uninspiring and uninspired vision of science. In reality, the situation might not have been as bleak: the huge sums of money spent by the FPs have certainly improved science, mobility, networking and training; and most scientists agree that concerted research efforts are needed to address pressing concerns about the economy, the environment, public health and so forth. Nonetheless, one might question the cost-effectiveness of the FPs, and the extent to which their research goals have been achieved.

The ERC was intended to add a completely different mechanism for supporting basic research in Europe and it has succeeded spectacularly. The only criterion for assessing grant proposals is the quality of

science. This is the case not only on paper, but also in practice, as ERC review panels are made up of independent researchers, and they have all the power. There are no Programme Directors in the sense of the US National Science Foundation, although there are highly motivated and competent staff in Brussels supporting the panels. There are more than 100 panels covering the sciences and humanities. With an average of more than 10 members per panel, this adds up to more than 1,000 independent researchers. The direct and indirect influence of the ERC is seen across Europe.

The ERC has been running two types of grant, the Advanced Grants for senior researchers and the Starting Grants for younger investigators. The first call for Starting Grants in 2007 attracted nearly 10,000 proposals, of which less than 3% could be funded. Since then, the acceptance rate has settled at around 10%. A new type of grant, ERC Synergy, was established last year and the first round of evaluations is taking place as I write. ERC Synergy supports 2–4 primary investigators working together on especially ambitious and challenging, big projects. Incidentally, I see ERC Synergy as a great opportunity to involve researchers with special skills from the smaller European nations. But it is up to the researchers to decide how they team up—once again, the only criterion is excellence of science.

The ERC's budget has accounted for around 15% of the total funding for research

and innovation in the 7th EU Framework Programme. In the planned Horizon 2020 Programme for 2014 to 2020, its share might increase slightly. Whether 15% strikes a good balance between basic research and the rest is debatable. I would prefer to see this figure approaching 20%.

In any case, the ERC has filled a vacuum in Europe to directly fund basic, investigator-driven research across the continent. The venerable argument for basic research is on the basis of the applications that inevitably follow on from new knowledge—even if we cannot predict how and when, and which particular piece of new knowledge will be especially influential. Being an ecologist and conservation biologist, I find the comparison with the value of biodiversity enlightening. Human well-being depends on biodiversity and the proper functioning of ecosystems, ('ecosystem services') but we cannot pinpoint exactly which species are most important, especially in a changing world. Species cannot be reinvented—notwithstanding the bizarre claims of some synthetic biologists—and truly new and, by definition, unexpected knowledge cannot be gathered at will; the trade of basic research must be kept alive.

New knowledge will lead to new applications, and the greater the pool of knowledge, the more diverse the set of applications. Sadly, such potential is under-appreciated in our societies. Nonetheless, it remains the responsibility of science and researchers to look beyond the short-term challenges. I think of scientists as co-pilots in a fast-moving rally car; they are the navigators, communicating the twists and turns to the driver by knowing in advance what is on the road ahead. The faster you move, the more you need good navigation. Alas, society often seems to want to increase the speed of the car by installing an extra gas pedal on the side of the co-driver. Navigation, well, that's regarded as expensive luxury.

Ilkka Hanski is at the Department of Biosciences, University of Helsinki, Finland. E-mail: ilkka.hanski@helsinki.fi

EMBO reports (2012) 13, 474; published online 11 May 2012; doi:10.1038/embo.2012.64