

Societal impact and freedom of research

by

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Over the last five to ten years, a worldwide discussion has evolved about the impact of research. Research councils began to ask their applicants to describe societal impact, to describe benefits for society when asking for financial support. Governments consider some areas of research more important for society than others, value-generating research and blue sky research seem to be, to them at least, distinguishable. And the abstract of our Workshops today asks how research can fuel innovation in a more effective manner.

Undeniably, Germany is an economically rather successful country. Quite a few medium size companies are global leaders in innovation-triggered industries, not only around car-production or beer-brewing. How do we foster a culture of innovation? There is probably a simple answer: by having a huge segment of our research system which does not bother about innovation at all.

Allow me to give you some very general figures for the year 2013. In 2013, the overall expenditure for research and development will be 75 billion Euros, roughly 2.9% of our GDP. Our industry covered about 70% while 30% came from the federal and the 16 regional governments. And the tax payers' share was split in a very interesting way: About one third goes into problem-oriented ministerial research programs or into dedicated extra-university research institutes such as the Helmholtz-, the Leibniz-, or the Fraunhofer institutes. A second third goes into the basic funding for university research, which, due to freedom of research at German universities, is then spent entirely according to the interest of the various researchers. The final third goes into organizations which are entirely dedicated to free, science-driven research. You all know the Max Planck Institutes where nobody ever asks for the societal impact of their output. And, hopefully, you all know my own organization. DFG has an annual budget of 2.7 billion Euros which we spend on project funding in what we like to call a

responsive mode. We listen very carefully to what German publicly funded researchers, mainly from universities, need and fund it after very competitive peer review of their project proposals. This is with permanently open calls, without deadlines, without thematic frames or demands. But we also might mould what we learn into new funding initiatives to foster new areas of research and thus help to build up new communities and areas of scientific excellence.

However, we never ever ask for societal impact or applicability. With respect to scientific and scholarly knowledge impact is a category in hindsight rather than with foresight; it is more an ex post than an ex ante category. So our funding policy takes into account the paradoxical nature of real innovation, namely that it cannot be planned and only rarely be anticipated. The pattern of that which is really new in an emphatic sense is like with Columbus' adventure: The exploration of America had almost no impact on his original project which has been the passage to India.

So the message from my own background is – and this is actually commonplace to all insiders worldwide, so I am very glad that some politicians are listening now as well – applied research and development is extremely important but will only be successful in the long run, if three conditions ensure a healthy balance between applied and basic research:

1. The private sector has to take major responsibility itself; 70% of R&D expenditure from private sources in Germany are an excellent figure, and there is not a great bias towards the D in R&D.
2. Pre-competitive applied research and non-commercial provision research for climate, health, societal cohesion or cultural identity, just to mention some areas, should be done by division of labor between university researchers and dedicated extra-university institutions.
3. All applied research needs a broad and deep foundation of all kinds of research results with or without individual societal impact or applicability, generally called basic research. The impact is obvious if you regard it as a kind of cloud impact – the sum of knowledge will help society to prosper in all different aspects. And innovation is one branch which will draw from it.

Finally one last remark: we should not overrate the importance of organizational structures and innovation programs – you cannot plan or even order innovation if you do not interpret innovation as improvements of already existing knowledge. And you cannot overrate the im-

portance of a climate for opportunities, the freedom to try new ideas which might sound unconvincing to others but still lead to major new insights an