

# Expectations of Societal and Economic Impact

Speech at the GRC Annual Meeting in Sao Paulo, 2 May 2019

by the President of the Deutsche Forschungsgemeinschaft  
Prof. Dr. Peter Strohschneider

- Check against delivery! -

[Address]

Thank you very much for the invitation to speak to you today on the topic of this year's Annual Meeting of the Global Research Council: Expectations of Societal and Economic Impact.

Preparing this topic for debate at the GRC Annual Meeting in Sao Paulo has been a joint effort of our Brazilian partners at FAPESP, our Argentinian partners at CONICET and of the DFG, which started exactly one year ago at the GRC Annual Meeting in Moscow. I therefore deeply regret that my Argentinian colleague Alejandro Ceccato cannot be here today, to speak to you on Expectations of Societal and Economic Impact, as it was originally planned.

Let it instead be me, to say a few words on how we approached this topic and give you some background on the discussions, which have fed into the Statement of Principles, which you are asked to endorse.

Increased expectations of societal and economic impact are nothing new. In fact, they are only the latest instance of a debate that has been ongoing, almost ever since there has been science – a debate on whether science should only be concerned with the pure search for truth(s) or whether this search should also be subject to utility considerations.

However, this opposition itself remains questionable: Can there indeed be such a thing as a definitely useless search for truth? And who would ever strive for such a truth?

Nevertheless, the debate has emerged in medieval university debates, the enlightenment discourse, in the plea for “pure science” as a response to the hegemony of the utilitarian discourse in the early 19<sup>th</sup> century and also in the invention of “basic” science by Vannevar Bush in his report called “Science – the endless frontier”.

In fact – in order to understand why we have been confronted again with increased expectations of societal and economic impact in the last twenty or thirty years – it helps to take a brief recourse to Vannevar Bush’s “linear model of innovation”.

World War II had seen unprecedented public investment into research. However, it was unclear what would happen with this investment after the war. This is when Vannevar Bush entered the scene.

In 1945, he invented a narrative that funding high-quality curiosity-driven research would eventually also benefit society and the economy. Scientists should be “free to pursue the truth wherever it may lead”. This would result in a constant flow of new general knowledge to those researchers, who would apply it to practical problems and thus create technological innovation and progress.

Thus, “pure science” was transformed into “basic science” and, at first sight, this seemed to prove a powerful tool to justify continued investments in curiosity-driven research. However, Bush’s narrative later backfired, as it had changed the legitimisation narrative of curiosity-driven research into something that should only be pursued as an instrument to *achieve societal and economic impact* and no longer as a *purpose in itself*.

It is similar to the lesson told by the German poet Goethe in his “The Sorcerer’s Apprentice”: Summoning the spirits is one thing, commanding them is quite another. This story of the evil genius, once he gets out of the bottle, is rather common knowledge among many cultures.

Accordingly, the “linear model of innovation” soon became controversial, when many policy-makers realised, that not all curiosity-driven research would immediately materialise in concrete economic and societal benefits. Soon, a distinction between *basic science* on the one hand and *use-oriented science* on the other hand gained popularity and provided the ground for policy-makers, to demand less of the first and more of the latter. This makes it hardly surprising, that our discussions today are so heavily centred on implementing strategic, priority-oriented, thematic or mission-oriented research and claims to maximise its societal and economic impact.

The reason why I am telling you this, is not part of an academic exercise. The reason is, that it illustrates, that the increased expectations of societal and economic impact, we are dealing with today, do not

reflect genuinely a deficit of research, but rather historically changing discourses about political expectations and social justifications of research funding.

It was very good to learn at the regional meetings, that we all agree, that we do *not* have to solve a deficit of research. This is also why the hosts have included this insight as first principle in the Statement of Principles.

However, even if we agree, that we are not dealing with a deficit of research, we will not escape the question of how to respond to these increased expectations, which will be the main focus of our meeting today and tomorrow.

One option could have been not to react at all to these increased expectations and treat them as an time and again emerging and receding political trend in the way I just outlined. However, this would have meant ignoring many of the fundamental concerns of funding organisations, who are at arm's length of their governments and have no political leeway to make such a choice.

Another option would have been to defend the significance of curiosity-driven research. For those of us, who can focus on funding curiosity-driven research, this is already one of the main tasks. However, many GRC participants fund a much broader portfolio of research. Following this option would not have helped them, neither.

As hosts of this year's Global Research Council, we have therefore opted to focus on two other approaches of how to respond to these increased expectations:

One approach has been to introduce societal and economic impact as funding criteria for research projects.

The other approach has been to improve the assessment and demonstration of the research we already fund.

While both approaches are complementary, I would nevertheless like to point out a fine difference in the rationale for employing them:

On the one hand, the introduction of societal and economic impact as funding criteria is based on the assumption, that the societal and economic impact of research can thus be maximised.

On the other hand, improving the assessment and demonstration of already funded research implies, that the research we fund already has the desired impact, which, however, should be made more visible.

Both approaches can raise awareness for the contribution of research to society and the economy and thereby strengthen the case for GRC participants to justify the use of public funds for research. However, both approaches also require some careful reflection, for which we have reserved plenty of time in the two sessions today.

Before starting these detailed discussions about impact assessments, let me outline the key assumptions behind both approaches, which are contained in the Statement of Principles. They concern the *impact of research* and the *role of GRC participants* in fostering it.

## 1. The impact of research

The Statement of Principles sets out with the assumption that “no research is impact-free, but the impact of research can have different forms”, as research contributes altogether to the advancement of knowledge, to the development of societies and to fostering technological innovation. More dimensions of impact are possible and many funding organisations distinguish them.

Also, the Statement of Principles states that “the different forms of impact can come in different degrees and at different points of time”. What is meant is, that a research project can primarily have an impact on scientific advances such as theory development. However, in connection with methodologies and insights external to the research system, for instance from the economy or society at large, it can also lead to disruptive innovations – even if only years later.

The Statement of Principles also points out that the different forms of impact will “vary in their predictability and measurability”. The generation of highly educated and skilled people, for example, is essential for a society to prosper, but the corresponding societal impact will be hard to measure. Moreover, the predictability of research impacts does mostly not correspond with requests for immediate application from policy-makers who think in their own time horizons.

Now, what should we make of that for impact assessments?

First, we must not expect impact assessments to ever be able to fully capture the value of research.

Second, we should consider both societal and economic returns and the virtue of curiosity-driven research to push the frontiers of knowledge as essential elements for vibrant national and international research ecosystems. We have to strike a balance between funding research oriented towards societal and economic impact and towards the advancement of knowledge.

Third, impact assessments should be sensitive to aspects such as the given geographic and social context, gender, diversity and equitable access. In this context, I am particularly happy that Londa Schiebinger from the University of Stanford will reflect on the link between research impact and gender in our third session this afternoon.

## 2. The role of GRC participants

Coming back to the role of GRC participants in fostering impact, I would like to stress again, that GRC participants have very different portfolios – ranging from organisations who cover the whole research chain to those focused on particular research sectors.

Quite legitimately, this will have an influence on the forms and extent of the impact assessments, which GRC participants will choose.

Having said that, I strongly believe that GRC participants – irrespective of their differing funding portfolios – also have a responsibility to not only consider the expectations of their funders, but to advocate different forms of research and funding within national systems in favour of an overall balanced structural pluralism of research ecosystems.

I would like to conclude this speech by emphasising the origins of this debate again.

Research funding organisations have not invented the impact agenda because they believe, that their research needs greater societal and economic impact. They have been confronted with demands from other stakeholders, who are concerned about a perceived deficit of research in contributing to the solution of societal problems.

The origins of the impact debate therefore reflect a mismatch of expectations between policy-makers and the research system, mirroring different functionalities respective to either the political or the research system.

Understandably, policy-makers have to look for more short-term impact of invested funds in order to be able to benefit from the success stories of their research policies in electoral campaigns. At the same time, the nature of scientific discovery does not always correspond to these demands – as mentioned before.

Finally, the debate about addressing increased expectations of societal and economic impact therefore reflects a deeper, underlying issue – the degree of trust, that policy-makers have into the functionalities of the research system.

Let us therefore bear in mind that we are dealing with a twofold challenge:

On the one hand, research funding organisations should recognise the constraints under which policy-makers are acting and not forget that evaluating impact will in the end also help ourselves, be it as an advocacy tool in budget negotiations.

On the other hand, funding organisations should always reflect whether impact assessments are the right instrument – not only to appease policy-makers in the short run, but also to restore societal trust in research in the long run.

Impact assessments are only one possible way to regain the trust of policy-makers and society. We should think of alternatives as well. It should become one of our core tasks, to bring policy-makers into a position where they do not have to rely on impact criteria in order to be able to justify research expenses.

Thank you very much for your attention. I look forward very much to the discussions today.