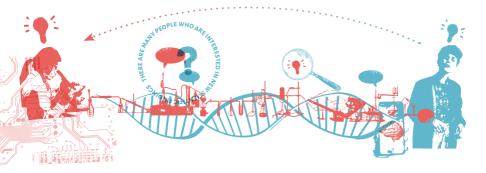
Science with and for society



BASICS JEAN-PAUL BERTEMES

Research in an ivory tower? Almost everyone is in constant contact, whether directly or indirectly, with the results of research. Indeed, research can benefit from contact with society. It even has obligations towards society. After all, society places a certain amount of trust in science and provides public money for public research. In return, however, society also has expectations, like a certain return on its investment. Societal investments in research are investments in know-how. And in a knowledge society, it is essential that this know-how is actually made available to society and that it contributes to social, cultural and technological development. Science in an ivory tower belongs to the past. For some time now, the approach has been "science with and for society"!

There are many people who are interested in new scientific findings, whether for professional reasons—such as doctors, engineers, farmers or policymakers—or simply out of curiosity, cultural interest or fascination. Science communication, open science, citizen science, science education and science engagement are important concepts for bringing society and science closer together.

However: Not every researcher has to engage with the public! Not every research result has to be communicated. And not every research project has to directly solve a human or societal problem. Researchers must have enough time to do their research, and basic research must not be sacrificed.

But science as a whole (not each researcher) should engage with the public. There is a need for structures that facilitate high-quality science engagement and communication, so that those who are motivated to engage with the public are supported, and so that relevant results and know-how can be shared with society in an appropriate way. Furthermore, science as a whole (not each project) should address societal problems in order to develop a better understanding or offer potential solutions, such as in the areas of environment, education, economy, politics, social issues and health. In all of this, it is important for research to be aware of society's values, needs and expectations and to integrate them into the research process in line with the RRI approach (Responsible Research and Innovation, as defined by the European Commission; see illustration).

Conversely, science can also benefit greatly from a high level of scientific literacy among the population, which has an enlightened, critical and at the same time appreciative relationship with science. One can assume that such a population will be more inclined to (critically) trust science and to grant it freedoms, such as allowing basic research and not only insisting on direct results. Science that is closely linked to society can also enjoy better access to data from the real economy and society, conduct research on society's prob-

lems and thereby create societal impact – something that is playing an increasingly important role in the evaluation of science by funding institutions.

In order for this dialogue to work and for researchers to continue pursuing their research, it is important to actively develop interfaces between research and society. And this includes: science communication.

Ensure R&I addresses societal challenges

RRI

Open R&I to all actors and at all levels

Align R&I with, societal values, needs and expectations

Recommended reads:

- European Commission, Directorate-General for Communication, Directorate-General for Research and Innovation, Responsible research and innovation (RRI), science and technology: report, Publications Office, 2013, https://data.europa.eu/doi/10.2777/45726
- Schnurr J. & M\u00e4der A. (2020), Wissenschaft und Gesellschaft: Ein vertrauensvoller Dialog. Springer Verlag. https://doi.org/10.1007/978-3-662-59466-7