Science with and for Society: rekindling the love affair through integration, participation and integrity.

A commentary on Carlos Moedas article 'Rekindling the love affair' in 'nature' on May 23rd, 2019.

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Carlos Moedas, EC commissioner for Research, Science and Innovation, and many others have led an enormous endeavour moving the European Framework Program towards encompassing Blue Sky Research, opportunity-driven innovation and mission-orientation. In 'Horizon Europe' (HE) this is embodied in the three pillars 'Open Science', 'Global Challenges and Industrial Competitiveness' and 'Open Innovation'.

Due to the expansion of European academic systems over past decades 'Open Science' is utterly necessary. Moving towards 'Open Innovation' is laudable but seems a little outdated. Let's see how the ECs framing of 'Open Innovation' turns out.

On May 23rd, 2019 'nature' published the article 'Rekindle the love affair' by Carlos Moedas. It makes me wonder about two issues. Firstly, have the insights gained from the programs 'Science in Society' (SiS, FP7) and 'Science with and for Society' (SwafS, H2020) not reached the EC? Secondly, is there an over-simplified understanding of the interrelationship of science, technology and economics prevalent at the EC?

Integration of STEM and SSH vs. technology-fix

According to the insights gained by SiS and SwafS there are the following fault lines with respect to science and innovation: (1) between science and innovation, (2) between science and the European citizens, (3) between innovation and the European citizens, and (4) there is an abyssal gap between Science, Technology, Engineering and Mathematics (STEM) and Social Sciences and Humanities (SSH) communities.

Contrary to Carlos Moedas assumption it is my conception that todays' contestations of science are not so much originating in failing scientific literacy, but rather in (a) the European citizens marginalisation in the production of knowledge, technology and impact and (b) limited academic readiness to engage in dialogue at eye level, alienating especially the democratically-minded amongst the scientifically literate. I would caution to assume an age of scientific denial with populist politicians leading the fight against science. To me this seems to be a relatively small part of the larger picture. Why not instead assume that European citizens are calling on science to move into the post-technocratic paradigm? To make a point here: American legal scholars are currently studying the question of how judges can evaluate the credibility of scientific expertise in a situation where the academic systems are in crises and the validity of scientific knowledge has to be considered questionable. Will we contest their scientific literacy too or call them populist?

To mend the above fault lines we need to develop and establish proper modes of representation and participation in the production of knowledge, technology and impact. Multi-stakeholder multi-disciplinary communities to find out how to do that have been financed via the programs SiS and SwafS since 2007. As these communities are starting to hit it off, their funding is significantly reduced in HE. Is the prevalent view in the EC seriously that todays' societal challenges can be tackled through

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science and innovation by STEM communities with SSH as an add-on to assure public acceptance? Climate marches by adolescents and young adults erupting all over the planet are a testimony that that's not working.

Participation vs. citizen science-fix

Now, on the interrelationship of science, technology and economics: to properly do my job as an innovation funder I need to differentiate at least between (a) the creation of knowledge, (b) the invention of technology and (c) innovation for impact. (a) takes place mostly in the academic sphere, (b) in both the academic and the economic sphere, and (c) almost exclusively in the economic sphere. There are legal reasons for that (see COMMISSION REGULATION (EU) No 651/2014 from June 17th, 2014). European citizens are barely involved in any of the above, if they are, they are involved as users or consumers not as citizens.

Reflecting on Moedas' article, I do not contest that academic science is a key to shaping the future as we both so passionately believe. Yet, our technological futures are realized through processes of turning knowledge into invention and invention into impact. Academic science is hardly involved in anything but the first part of these processes. Opening up the production of knowledge through 'citizen science' is hence a good first step, but it is bound to fail in rekindling the love affair of the European citizens with science. Simply because they are left mostly excluded from the creation of technology and impact. Also, I can't see that the European citizens differentiate much between the creation of knowledge, technology or impact. So, why would they not blame undesirable impacts of innovation on science? Again what is needed are proper modes of representation and participation in the production of knowledge, technology and impact.

To conclude: moving towards Horizon Europe and with a follow-up on SwafS far beyond

I realize I might sound a little harsh, still it is not my intention to diminish what has been achieved. My sincere appreciation goes out to Carlos Moedas and many others, e.g. Helga Nowotny, for the hardships they have so willingly endured to get the current conception of Horizon Europe this far!

While the ambition to focus 'Horizon Europe' on todays' and tomorrows' societal challenges is dazzling it is misinformed in so far as it focusses too much on objectives and, as we know from Responsible Research and Innovation, too little on process and practice. A generation younger than them, I seriously fail to see how anyone with a willingness to engage in dialogue could oppose future making with an eye towards the needs, expectations and ethical values of the European citizens. Why not look for compromise that serves science, economy and the European citizens? Are there still enough liberal gatekeepers with the necessary backbone and leverage around to advance the democratisation and socialisation of science and innovation? To get there we need a strong follow-up program to SwafS with a substantial, but let's be honest, comparably miniscule budget! How about 1% of the cake to keep us moving towards the future we all so desperately desire?

A longer version of this article including a call for action can be found at http://deep-agency.eu/resources respectively http://deep-agency.eu/action.

