Responsible Life Science Policy between Private and Public Funding - Workshop Report

Life sciences receive funding from both the public and private sectors. These sectors variably emphasize commercially viable and socially responsible research. Given the COVID-19 pandemic and the fact that most medical research is privately-funded, the question of how to responsibly fund life science becomes even more urgent. For instance, decisions about how the vaccine will be distributed will likely favor richer countries and perhaps even deepen existing global economic inequalities. One argument to justify such inequality is that the countries or corporations who pay for the science should be the ones to reap the rewards. To what extent this is convincing depends on ethical questions about the status of intellectual property rights and a host of national and international laws, as well as more general issues about fairness and justice. In November 2020, researchers gathered to discuss responsible life science funding policies. The speakers came from different backgrounds including social studies of science (Sergio Sismondo), science funding sector (Matthew Wallace), medicine (Ivor Ralph Edwards), pharmacology (Rade Injac), and philosophy of science (Manuela Fernandez Pinto and Jacob Stegenga).

The workshop started with Sergio Sismondo's (Queen's University) talk, which provided an overview of canonical works in science and technology studies that may be useful for thinking about socially responsible funding policy more broadly. These include insights that research should go into technologies whose impacts are relatively easy to undo, research on civic epistemologies that tie questions of funding policy together with a host of national decision-making considerations, and contentions that we should not engage in research where there are no problems. He goes on to claim that all, or maybe most, pharmaceutical research is best understood as a form of marketing. Publication planning, ghost-writing articles, sponsoring conferences or keynotes, and regulatory approval are, according to Sismondo, steps towards mass prescriptions rather than the development of reliable medical knowledge, as contemporary drugs are often either clinically ineffective or are only slightly more effective than previous drugs.

In her talk, Manuela Fernandez Pinto (Universidad de los Andes) focused more specifically on the impact of commercialization of biomedical research. The impacts are, more or less, the same during the COVID-19 pandemic, as Pinto argues that very little has changed. Since the end of the Cold War private funding for R&D, especially in pharmaceuticals, has steadily increased to the point where roughly 70% of research is performed and funded by the private sector. Most of this funding comes from companies profiting within the global north. Research in the global south is mostly funded through special grants, charity donations, and other mechanisms to transfer both funds and research agendas from the global north. While some journals such as Elsevier are making publications in their journals open access, research on COVID-19 vaccines and therapeutics are still driven by commercial interests. It should come as no surprise, then, that the top 10 candidates for COVID-19 vaccines all involve private firms.

Mattew Wallace (International Development Research Centre) reminded us that science is often improved when it draws on diverse sources of evidence. In the context of a global pandemic, we look for global solutions, which work best when international collaborators are able to participate in their own ways. Wallace highlighted three barriers to autonomous democratic global collaboration in science. First, many actors in the global south face systemic external pressures. Often, they are not in a position to set their own research agendas, as funding agencies from the global north dictate what is to be researched, and how. Also, they do not have the same access to research infrastructures, publishing venues, or even always to the output of their own work. Second, within the global south, national science funding bodies also face homogenizing influences, for example, from the private sector and lobby groups. Third, and perhaps most fundamentally, the notion of "research excellence" itself, which drives most science funding decisions, inherits neo-colonial legacies unfit for the global south. To move forward, more research is needed on how funding agencies in the north and south make funding decisions, and to identify more precisely the power dynam-

ics between all the relevant institutions and organizations that influence these decisions.

Rade Injac (Sandoz International GmbH, and the University of Ljubljana) began his talk by defending the pharmaceutical industry, emphasizing that it has increased the quality of life for millions of people. According to Injac, many people criticize pharmaceutical companies without really knowing what goes on within them. On many occasions, companies receive their funding from private agencies and individuals, e.g., funding from LGBT communities financed important HIV/AIDS treatments. Also, some of the big corporations often work with smaller start-ups, as with Pfizer and BioNTech, which allows for the sharing of knowledge, methods, and resources. Ivor Ralph Edwards (Uppsala Monitoring Center) approached the topic of responsible life science from a medical perspective and emphasized the importance of good evidence in clinical trials. After revealing the worrisome fact that adverse drug reactions are the fifth-highest cause of death in the US, Edwards advocated for transparency in medical evidence and interaction with the patients during the trials. In this way the monitoring agencies can better evaluate the outcomes of the trials. Moreover, responsible science funding, according to Edwards, should include not only short term project goals, but also their long term impacts.

In the concluding talk, Jacob Stegenga (University of Cambridge) discussed optimal ways of funding pandemic science. As the pandemic spreads fast, rapid response from scientists is required. In return, the rapid increase of scientific articles makes it harder to track the research quality. In order to tame quick science, Stengega pointed out, we need controls such as randomized trials. He advocated for a proactive approach that would be organized on an international level, as diseases do not "respect" borders. Moreover, in the ideal case, this global scientific response should be independent of industry biases.

The event has been co-hosted by the Carl Fredrich von Weizsäcker Center of the University of Tübingen, Centre for Philosophy of Science of the University of Geneva, and the Forum for Advancing Science and Education through Philosophy – Advise. The videos of the talks are available at the following link.

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