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BOOK REVIEW

A glimpse on European science policy from the viewpoint of SSH research infrastructures

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This volume collects the proceedings of the conference of the same name, held in Bologna in January 2018 at the seat of the Fondazione Scienze Religiose Giovanni XXIII (FSCIRE). Featuring contributions by both academics and professionals working in national and European institutions, it focuses on the European research infrastructures for social sciences and humanities. The contributors discuss the best way to conceptualize and measure the impact that such infrastructures have or can have on European society and economy.

Research infrastructures, impact, and the European science policy

Research infrastructures (RIs) are a vast and diversified group of organizations that provide scientific and technological support for research. They include experimental facilities and observational platforms, technological equipment, ICT resources and services, and providers of access to data and other digital resources. Research infrastructures for social sciences and humanities (SSH RIs) are mainly of the last kind, i.e., distributed e-infrastructures producing and preserving data for social scientific and humanistic research.

In recent years, the European Commission has recognized the strategic importance of RIs to assure the scientific excellence and economic competitiveness of Europe on the global scale. Five of the European RIs with the status of European Research Infrastructure Consortium (ERICs) are explicitly devoted to social sciences and humanities: Consortium of European Social Science Data Archives (CESSDA),

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European Social Survey (ESS), Survey of Health, Ageing and Retirement in Europe (SHARE), Common Language Resources and Technology Infrastructure (CLARIN), and Digital Research Infrastructure for the Arts and Humanities (DARIAH).

At the same time, research policy in Europe has witnessed the increasing importance of the topic of *impact*. Impact has become a keyword in European Commission policy documents, and it will gain even more weight in the next European Framework Programme, Horizon Europe 2021–2027 (European Commission 2017). As it happens frequently with buzzwords, however, the meaning of "impact" is not clear. Originally, it denoted the economic spillovers of scientific research, e.g., technological transfer and applying for patents. However, in the last years, the notion has been extended beyond the realm of the sciences. The entire range of academic disciplines is now asked to demonstrate their "impact." A broader notion is thus needed:

> We need a definition of impact that captures all important elements such as the impact on science; on skills and competences; on competitiveness of the European industry; on innovation practices; on performance of Member States and policy-making. (Ales Fiala, Head of the Unit Research Infrastructures at the European Commission, in her welcoming address at p. xxx of the volume)

A complex social negotiation of the meaning, definition, and scope of impact is thus currently occurring in European science policy circles. This volume sheds light on this process from a specific and relatively unusual viewpoint, that of SSH research infrastructures.

The concept, measure, and historical nature of "impact"

After welcoming addresses from dignitaries and a short introduction by the editors, the first two contributions are the keynote speeches delivered by Milena Žic Fuchs and Yves Gingras.

Fuchs is a former Croatian Minister of Science and Technology and member of the High-Level Group on Maximizing Impact of EU Research and Innovation Programmes. In her article, she addresses the impact of SSH RIs more on research rather than on economy or society. She stresses the importance of including in the assessment of impact not only publications, but also datasets, software, and the development of research infrastructures. Moreover, she points out that multidisciplinarity is the key to innovation. Unfortunately, the reasons for which she believes that innovation will arise out of a multidisciplinary research infrastructure are not laid out. However, she concludes that the creation of multidisciplinary RIs, including both SSH and the sciences, should be fostered to increase the impact of research on society.

Gingras is a historian of science and scientific director of the Observatory of Science and Technology in Montréal. He offers a very clear overview of how bibliometrics can contribute to the measurement of SSH impact. Also, he points out the major pitfalls generated by a mechanical application of bibliometric indicators to SSH. Even if he does not address directly the topic of research infrastructures, his

essay is a very good introduction to the advantages and limits of the application of bibliometrics to SSH. Moreover, Gingras insists on the necessity to distinguish between *prescription* and *description* in science policy, two domains that are frequently conflated in science policy discourse. Often, descriptive measures such as interdisciplinarity or internationalization become "goods in themselves" in developing policy, creating perverse effects. For instance, local research questions might be neglected by researchers because papers addressing these questions are more difficult to publish in international journals, regardless of the societal importance of such questions.

The remaining contributions are collected into five parts. Part 1 addresses the definition of impact for SSH RIs. Part 2 examines how impact can be quantified and measured by indicators. Part 3 analyzes the demand for SSH research and SSH RIs in Europe. Part 4 presents the five SSH RIs we mentioned above, along with the strategies they developed to measure their impact. Part 5 sketches some lines for the future development of SSH RIs, such as a further integration between SSH and the sciences and wider participation of SSH to Open Access.

Besides significant facts and figures about European SSH RIs and presentations of indicators to measure impact, there are three general themes in the volume.

The first concerns the possibility and desirability of a *unified notion of impact*, which, once translated into indicators, would allow us to compare different RIs and evaluate their performance. The contributors divide into "unificationists," believing that a common, standardized framework is possible and should be pursued, and "pluralists," arguing that RIs are too different to be compared and that their mutual differences constitute a resource. Interestingly, the former come mainly from economics and management, whereas the latter are mostly the personnel working in the RIs. The arguments supporting the unificationist side are clearly presented by Jelena Angelis and co-authors, who illustrate an H2020 project whose aim is to chart the mechanisms that generate impact, and Jean Moulin, who provides an overview of the qualitative and quantitative indicators currently used to measure the impact on science and society of RIs. As for the pluralist side, the best arguments can be found in Esposito's contribution, Woolard and Moody's contribution, and throughout Part 4.

The second common issue is whether the impact of SSH RIs *can be measured, quantified, and monetized at all*. As before, the authors divide between "positivists" and "skeptics," with the former more represented by economists and the latter by professionals and humanities scholars. Positivists recognize the difficulty of measuring the different dimensions and timescales of SSH RIs' impact, but are confident that refined indicators can capture it. The skeptics, on the other hand, insist on the indirect, diffuse, and long-term nature of SSH RIs' impact that stretches beyond the horizon of easy measurability. Almost all the contributors in Part 4 stress these points, based on their concrete attempts to measure the impact of the five SSH RIs.

The last theme is addressed explicitly only by a couple of the contributors, but it is a theme that underlies the entire volume. It is the *historical nature* of the notion of impact. We should always remind ourselves that the notion of impact is only one of the *possible* ways in which the relationship between science and society can be conceptualized. The discourse around impact is the product of specific social,

economic, and political conditions. It has not fallen from the sky with apodictic validity. The essay by the historian Alberto Melloni highlights this point, tracing a "historical semantics" of the term impact, a project that I believe is worthy of further study (see, for instance, Godin and Schauz 2016; Schauz 2014). Also, Melloni advances an alternative model to impact that he calls "fertility": "the 'fertility factor' … will consider the capacity to rediscover far off ideas … to prepare the ground for other ideas to bloom" (Melloni, 99).

A report and a source

The volume may be of interest to two audiences, a specialized audience and a broader one. The first audience is SSH academics active in science policy and/or involved in SSH RIs. For them, the volume constitutes the most up-to-date *report* on the discussion around impact in SSH RIs and the attempts to measure it by indicators.

The second audience includes philosophers and historians of science and STS scholars working on contemporary science policy and science–society interactions. Reading this volume with critical distance, they will find a precious *resource* for studying the complex negotiation between science, politics, and society that is currently happening in Europe, and that will have deep consequences on the future of research in the Union. Impact is a crucial crossroads in which several cornerstones of the neoliberal science policy agenda converge, including accountability, entrepreneurial university, performance evaluation, innovation, research valorization, and third mission. Reconstructing the genesis, underlying assumptions, and modes of operation of, what might be called, in Foucauldian terms, the *science policy discourse* of the European Union is not only an academic interest. It is vital for imagining *alternative* science policies.

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