

RESSH 2019

**The Third Research Evaluation in the
Social Sciences and Humanities
Conference**

VALENCIA, 19 - 20 SEPTEMBER 2019

EVALHUM

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KEYNOTE



DIANA HICKS, PH.D.

SCHOOL OF PUBLIC POLICY, GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA, GA, USA

Dr. Diana Hicks is Professor in the School of Public Policy, Georgia Institute of Technology, Atlanta, GA, USA specializing in metrics for science and technology policy. She was the first author on the Leiden Manifesto for research metrics published in *Nature* which has been translated into eleven languages, see www.leidenmanifesto.org. Her work has been supported by and has informed policy makers in the U.S., Europe and Japan. She has advised the OECD and the governments of Flanders, the Czech Republic and Sweden on national research evaluation systems. She chaired the School of Public Policy for 10 years from 2003. She co-chairs the international Atlanta Conference on Science and Innovation Policy and is an editor of *Research Evaluation*. As Senior Policy Analyst at CHI Research between 1998 and 2003 she conducted policy analyses for Federal research agencies using patent and paper databases. Prof. Hicks has also taught at the Haas School of Business at the University of California, Berkeley; SPRU, University of Sussex, and worked at the National Institute of Science and Technology Policy (NISTEP) in Tokyo. Dr. Hicks earned her D.Phil and M.Sc. from SPRU, University of Sussex.

PROGRAMME

Thursday, September, 19

08.45-09.15h Registration [*Red Cube · 3rd Floor*]

09.15-10.00h Welcome and opening by the president of EvalHum, Geoffrey Williams [*Assembly Hall · Red Cube · 3rd Floor*]

10.00-11.00h Keynote · Professor Diana Hicks, “What does open science entail for the Social Sciences and Humanities?” · [*Assembly Hall · Red Cube · 3rd Floor*]

11.00-11.30h Coffee break [*Purple Cube · 3rd Floor*]

11.30-12.30h

SESSION 1.1

[*Descubre Room · Red Cube 4th Floor*]

> **Special session** · Careers and Research Evaluation Systems for societal impact (1)

> **Chair** · Paul Benneworth

Conceptualising and characterising the mechanisms for Grimpact · *Gemma Derrick, Rita Faria, Paul Benneworth, David Budtz-Petersen and Gunnar Sivertsen*

Open research behaviour in management studies: an ideal honoured more in the breach than in the observance · *Julia Olmos-Peñuela, Inma Aleixos-Borras, Paul Benneworth and Ignacio Fernández-de-Lucio*

Steering effects of research evaluation on SSH early career researchers · *Paul Benneworth, Julia Olmos-Peñuela and Elena Castro-Martínez*

SESSION 1.2

[*Aprende Room · Red Cube 4th Floor*]

> **Research Cultures**

> **Chair** · Jack Spaapen

How reporting requirements can shape research activities · *Agnė Girkontaitė and Michael Ochsner*

Evaluation games as the resistance: Towards a framework for research evaluation studies · *Emanuel Kulczycki*

Towards Ethical Principles of Research Evaluation in SSH · *Aldis Gedutis and Maria Teresa Biagetti*

12.30-13.30h

SESSION 2.1

[Descubre Room · Red Cube 4th Floor]

> **Special session** · Careers and Research Evaluation Systems for societal impact (2)

> **Chair** · Paul Benneworth

Professional factors affecting career and engagement success for Early Career Researchers · *Julia Olmos-Peñuela and Paul Benneworth*

Early Career Researchers and Societal Impact: Motivations and Structural Barriers · *Corina Balaban, Marta Wróblewska and Paul Benneworth*

Diversity in impact conceptualization and engagement: accounting for social, epistemic and local contexts within the social sciences and humanities · *Marc Vanholsbeeck, Karolina Lendák-Kabók and Alexis Dewaele*

SESSION 2.2

[Aprende Room · Red Cube 4th Floor]

> **Diversity in publishing**

> **Chair** · Janne Pölönen

Dominant language of researchers across fields · *Przemysław Korytkowski and Emanuel Kulczycki*

Boosting Open Access books in Spanish &, contributing to the multilingualism in the Open Access space · *Elea Giménez-Toledo and Jorge Mañana-Rodríguez*

Gender differences in journal publishing in the social sciences and humanities · *Raf Guns, Emanuel Kulczycki, Alesia Zuccala, Kasper Bruun, Tim Engels, Olli Eskola, Andreja Istenič Starčič, Michal Petr, Janne Pölönen and Gunnar Sivertsen*

13.30-15.00h

Lunch *[Purple Cube · 3rd Floor]*

15.00-17.00h

SESSION 3.1

[Descubre Room · Red Cube · 4th Floor]

> **Societal impact. Science and society**

> **Chair** · Jordi Molas

A cartography of philosophy's engagement with society · *Diana Hicks and Britt Holbrook*

Exploring Notions of Impact in the Humanities · *Lai Ma*

Does impact have gender? Gendered definitions and framings of impact in social sciences and humanities · *Karolina Lendák - Kabók, Marc Vanholsbeeck and Alexis Dewaele*

Evaluating academic research at the crossroads of academic and societal demands · *Nelleke Van den Broek Honingh, Ad Prins and Jack Spaapen*

How evaluation can contribute producing social impact in social science research · *Emanuela Reale*

SESSION 3.2

[Aprende Room · Red Cube · 4th Floor]

> **Academic publishing · internationalization & metrics**

> **Chair** · Ismael Rafols

International visibility and impact of national journals. A comparative study of Spanish and Italian legal journals · *Rafael Aleixandre Benavet, Ginevra Peruginelli, Daniela de Filippo and Elias Sanz Casado*

Using Google Scholar and LexisNexis to compile citation profiles for South African journals in legal research: An exploratory study · *Nelius Boshoff*

Coverage of journal articles in social sciences and humanities in Web of Science and their distribution in citation indexes · *Michal Petr, Tim C.E. Engels, Emanuel Kulczycki, Marta Dušková, Raf Guns, Monika Sieberová and Gunnar Sivertsen*

Gender publication gap: a case study in Italian legal periodicals · *Ginevra Peruginelli, Tommaso Agnoloni and Sara Conti*

SESSION 3.3

[Debate Room · Red Cube · 4th Floor]

> Careers and early career researchers

> Chair · Pedro Marques

Survival strategies of economists and political scientists in contemporary academia · *Dorte Drongstrup*

Information ecosystems in early academic career building: how do researchers in the social sciences and humanities learn the tricks of the trade? · *Marc*

Vanholsbeeck, Jolanta Sinkuniene, Karolina Lendák - Kabók and Haris Gekić

Early Career Investigators' Views on Evaluation · *Michael Ochsner, Karolina Lendák-Kabók and Jolanta Šinkūniene*

Any Publicity Good Publicity? The Effect of Satirical Bias on Twitter and the Altmetrics Attention Score · *Arto Lanamäki, Muhammad Usman Ahmad and Michael Ochsner*

17.00-17.30h

Coffee [Red Cube · 3rd Floor]

20.30 h

Conference Dinner

*Restaurante Filigrana · Reina Victoria Hotel
Barques street 4, 46002 Valencia*

Friday, September, 20

09.00-10.30h

SESSION 4.1

[Descubre Room · Red Cube · 4th Floor]

> **Societal impact · Science and Society**

> **Chair** · Stefan de Jong

SSH knowledge transfer activities included in the Technological and Social Development Projects (PDTs) of Argentina. Is changing researcher's evaluation enough to improve knowledge transference? · *Mauro Alonso*

Does knowledge transfer occur in action research? · *Joaquín M. Azagra-Caro and Alejandra Boni*

Use me when you need me: firms' co-creation output with universities and the economic cycle · *Ana M. Gómez-Aguayo and Joaquín M. Azagra-Caro*

SESSION 4.2

[Aprende Room · Red Cube · 4th Floor]

> **Peer review**

> **Chair** · Emanuel Kulczyk

Decolonising the social sciences and humanities through peer review · *Tony Ross-Hellauer and Gemma Derrick*

Innovating the peer review process: A publisher's ethnography · *Serge Horbach and Willem Halffman*

Criteria for Peer Review of Manuscripts and Grant Proposals: a systematic literature review · *Sven E. Hug, Marek Holowicki, Lai Ma and Michael Ochsner*

10.30-11.00h

Coffee break

11.00-12.30h

SESSION 5.1

[Descubre Room · Red Cube · 4th Floor]

> **Societal impact. Science and society**

> **Chair** · Gemma Derrick

From interactions to conditions: Toward evaluating university impact strategies · *Stefan de Jong*

Fiction lagging behind or non-fiction defending the indefensible? University-industry (et al.) interaction in science fiction · *Joaquín M. Azagra-Caro, Laura González-Salmerón and Pedro Marques*

How can higher education institutions foster societal relevance for development? · *Andiswa Mfengu*

The Sustainable Development Goals, Capabilities and the Societal Impact of the Humanities · *Eiríkur Smári Sigurðarson*

SESSION 5.2

[Aprende Room · Red Cube · 4th Floor]

> **National evaluation exercises**

> **Chair** · Ginevra Peruginelli

Impact Assessment of Research Evaluation: The Bulgarian Case · *Albena Vutsova, Todor Hristov and Martina Arabadzhieva*

National evaluation exercises as implementation of research policy. A comparative study of Norway and Portugal · *Jon Holm and Ana Ramos*

Impact in and of the Academic Humanities: Lessons We Might Learn from a History of Public Cultural Policy in England · *Zoe Bulaitis*

12.30-13.45h Lunch *[Purple Cube Hall · 3rd Floor]*

13.45- 14.45h > Round table

Research Evaluation and the SSH: Is a common strategy possible? ·

[Assembly Hall · Red Cube · 3rd Floor]

Chair · Dagmar Simon

Participants · Ana Ramos, Elea Giménez-Toledo, Ginevra Peruginelli,
Jon Holm and Michael Ochsner

14.45-15.30h General Assembly of EvalHum

EvalHum and ENRESSH, where do we go? · *[Assembly Hall · Red Cube · 3rd Floor]*

15.30-15.45h RESSH 2019. Concluding remarks

[Assembly Hall · Red Cube · 3rd Floor]

BOOK OF ABSTRACTS

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Conceptualising and characterising the mechanisms for Grimpact · *Gemma Derrick, Rita Faria, Paul Benneworth, David Budtz-Petersen and Gunnar Sivertsen*

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Conceptualizing and characterizing the mechanisms for Grimapct

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Introduction

The rise of the “impact” agenda has in part provided a forum where the public value of research is discussed, weighed and promoted. It has been included as a formal criterion in many funding paradigms across Europe, UK and North America – all countries where the effect of these political changes are acutely felt. This has included the widening of research funding criteria to include notions of research excellence beyond academia, as well as the inclusion of public representatives as members of extended peer review panels. Its inclusion is reflective of the “abstract faith” that public assign trust in science (Luhmann, 1979), and the potential it brings to improving their lives.

Any claim for the wider public value of research depends on making claims on behalf of the public and what creates value for them. A distinction can be drawn here between creating social capacities and whether publics regard those capacities as being positive or negative depending on their ideological inclination. In the long-term perspective, publics have been conditioned to regard valuable research as research that creates a positive economic impact. This, on the other hand, creates the short-term problem which we potentially envisage; there are no generally believable claims for the public value of science to use as baseline indicators when particular political projects make populist claims about the positive or negative impact of specific branches of research.

Within these debates around the wider value of publicly funded research, is discussion about negative impact. What is missing is a deeper conceptual exploration of this politically contested version of impact in terms of its definitions, characteristics and precursors, and without that necessary is it not possible to get beyond the domination of economic and non-controversial versions of impact. A useful starting point is to look at extreme examples of impact and public valuation of that impact, namely where there is a strongly negative impact, what is referred to in this paper as “Grimapct”. It presents three powerful cases (Siggelhow,

2007) of Grimpact to better trace out the core tensions, drivers and lines of force within this wider notion of public value.

Methodology

Selection of case-studies

Three case studies were selected as powerful cases that represent an extreme where the tensions are so foregrounded that it becomes possible to more clearly perceive them as the basis for addressing them. A description of their precursors and an exploration of their identification as “negative” is provided below.

Measles Mumps and Rubella combined vaccine (MMR)

Published in The Lancet in 1998, the paper “*Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children*” by Wakefield and colleagues, implied a link between the measles, mumps and rubella (MMR) vaccine and a “new syndrome” of autism and bowel disease. As a result, a vaccine scare ensued where vaccine rates globally dropped, as worried parents withdrew from voluntary vaccine programmes (to a vaccination level of 80% in the UK, well below the WHO 95% level for herd immunity). Although the causality of this link (between publication and falling vaccination rates) has been difficult to quantify (Godlee, 2011) especially on its direct impact (vaccine coverage), it is even more difficult to quantify its indirect impacts (resources away from studying autism, contribution to the decrease in trust of experts).

What makes this a case of Grimpact from this paper’s perspective is that as the ensuing vaccine scare took off, critics of the paper quickly noted that it was a small case series with no controls that linked three common conditions and relied too heavily on parental recall and beliefs. A number of major scientific and professional organisations argued that there was clear evidence of data falsification, whilst subsequent epidemiological studies continued to find no evidence of a link between the MMR vaccine and autism. Wakefield was given many opportunities either to replicate the paper’s findings, or to acknowledge his failings but declined to do either. In 2010 after a hearing by the general Medical Council regarding Wakefield’s fitness to practice as a medical professional, The Lancet retracted the article citing fatal flaws both scientifically and ethically. Despite having been stripped of his clinical and academic credentials, he continues to push his views to a growing number of anti-vaccination groups.

Cambridge Analytica (CA)

A second more recent case study used is the Cambridge Analytica scandal that emerged into public consciousness in early 2018, with an investigation into the research of a Dr Aleksandr Kogan and Dr Michal Kosinski from Cambridge University and his connections to a data company, Cambridge Analytica. Cambridge Analytica has since been linked with Breitbart’s Steven Bannon, and the use of what some have called information warfare to unduly influence the outcomes of a number of elections, most high profile the UK Brexit Referendum, European elections, 2016 US Presidential Election with the total number of rigged votes estimated by some to be as high as 200.

As part of his research into neuro-psychology, Dr Aleksandr Kogan built the app “thisisyourdigitallife” in 2014, marketed through his company Global Science Research in collaboration with Cambridge Analytica. Using Kogan’s app, participants consented for the data to be used for academic purposes only. However Facebook allowed for data to be collected not just on the participants, but also all people within the participant’s social network. As a result, an conservatively estimated 50m profiles were collected and, through Kogan’s affiliations with CA, allowed to be used for commercial purposes.

In combination with the work of Michal Kosinski (also affiliated with CA and Cambridge University), which developed behavioural models based on users’ social media interests (“likes”) (Kosinski, 2013), and using a tool known as “behavioural microtargeting” (Kosinski, 2015) was also to influence behaviour. The use of this data has been since linked to unduly influencing the US elections since 2014, including the 2016 Presidential election; the 2016 UK/Europe referendum; and the 2013 & 2014 Kenyan elections. The capture of these grimfacts is still ongoing, and will be monitored as this study continues.

Economic theory and the financial crisis (ETFC)

The 2008 global financial crisis was mostly due to misbehaviours from financial private firms, such as banks or rating agencies, who have been accused of committing financial crimes by offering predatory loans, gambling with toxic assets, and selling Ponzi schemes. Nonetheless, many of those actions, especially those concerned with innovative financial engineering (typified here by Collateralised Debt Obligations based on extremely risky loans) were not neither banned nor illegal. Deregulation and a lack of adequate supervision by Regulators of the world’s leading capital markets allowed financial actors to extract super-profits by selling on these supposedly safe products, that were then sold on further into secondary markets hiding the underlying volatility of the loans behind a supposed top credit rating. The deregulation had been pushed by an intimate network of policy-makers and lobbyists, validated by economists pursuing these same free-market, laissez-faire lines.

These economists, holding teaching and researching places in several universities, seldom disclosed their financial relationships with financial firms, or financial groups of interest which had interests in such deregulation initiatives. These scholars also were invited, and accepted, public offices and decision-making or expertise roles. Although the direct causes of the global financial crisis cannot be attributed to economists alone, it seems that their impact on economic and financial policies, in the US and other places, was crucial for allowing a general climate of deregulation of dangerous activities. Critically, almost no economists that were predicting the toxicity of the assets and the consequences of the systemic failure were provided a platform for their findings.

Measuring & characterising Grimfact’s impact

For this study, the non-academic impacts of research around the ways in which research is taken up within society, through its encounter with users, its adoption by user communities and its incorporation into outcomes (Spaagen & van Drooge, 2011, Benneworth *et al.*, 2016) were characterised. The focus is specifically on those impacts that were; attributable to the original research article, or researcher’s body of work; emphasis on a change,

benefit/drawback and influence beyond academia; measurable and comparable, with a preference for indicator-level evidence; and/or verified through independent evidence/ and or research.

To produce these grimpact characteristics case study analysis was grounded in the analysis of the influence of the research, beyond academia that had had an extraordinary effect. The categories were developed independently during the analysis of each case, and then drawn out and compared between cases. The characteristics emphasised an “effect”, rather than through the mapping of micro impacts that underpins models such as SEP, SIAMPI and the ReACT models (Spaapen & van Drooge, 2011). To focus on the outcome/change/effect-driven model of impact was also necessary in this study in order to examine the ex post characteristics of the impact pathway. However, future studies will broaden this conceptualisation and not be restricted by this view and instead should encompass a broader, interaction/micro impact view and is grim characteristics, towards a clearer conceptualisation of grimpact.

Results

In each case study, the analysis was restricted to first order, direct effects rather than the second- and higher-order effects that may have been enabled by the first order effects produced. Analysis allowed to distinguish grimpact into four overarching headings, namely the violation of normal impact, the diffusion of attribution, academic transgressions and its contagion effects. More information is provided below as well as summarised in the Table 1.

Violation of normal impact

In line with Sivertsen’s (2018) distinction between normal and extraordinary impact, “normal” impact is found in the responsible relations between academic and other, non-academic organisations. These relationships exist for the pursuit of the research but nevertheless through interactions with and spillovers to societal stakeholders, there is an impact produced as a direct consequence of the conditions necessary for the research. By undertaking issues on societal subjects with societal subjects, research outcomes are readily and seamlessly available for implementation by these collaborating, non-academic organisations. Grimpact is characterised by the absence of this normal impact emerging, and the distinction between the researchers and the subjects of the research.

This is arguably most clear in the ETFC case, where ongoing interactions between research and their respective stakeholders suggested that it would be expected that normal impact would be created. However, because of the absence of blame placed at the door of those economists who had been involved in enabling the crisis, there was no feedback from the crisis situation to the academic discipline, hindering economics own attempts to come to terms with its own conceptual, theoretical and methodological shortcomings in which a focus on the mechanisms of market processes had obscured the wider systemic risks that might emerge from this.

Part of the absence of this normal impact arises from the presence of research misconduct, which through a manipulation of details or excessive framing and omission of putatively relevant variables a desirable set of results are arrived at. This was seen in both the CA and

MMR cases, and under conditions of research misconduct this coupling and feedback mechanisms were also violated, leading to a breakdown of normal impact and ultimately enabling the Grimpect. This resonances with Sivertsen (2018)'s argument that research misconduct could also potentially have an impact.

Attribution (aka allocating blame)

Whereas attribution is a widely discussed limitation in impact evaluation studies, the same also applies to grimpect. In two of the cases (CA and MMR), the grimpect and therefore the accountability could be attributed directly to one individual publication, limiting the ability to analyse the individual research behaviour that is characteristic of grimpect. However, in the CA case at least, a number of papers published by the researchers at the fore of the CA grimpect were identified, it was not clear what characteristics of the papers, independent of the behaviour of the researchers, led to the negative social consequences. A device was created which was in the first instance intended to be positive, to enable individuals to contribute to scientific endeavours by making their own personal data available to researchers. At some point, this was then commercialised to create a device which was invisible to the services and which harvested their data and also tailored content to them in ways that made them most receptive to the messages of the broadcasters.

Likewise in the ETFC case it is actually much easier to attribute the critique of ETFC than to the creators of it – by critique we are here thinking of Nassim Nicholas Taleb's Black Swan. ETFC operated as an enabling herd instinct in which academic research justified irrational exuberance in the finance markets and framing that irrational exuberance as reasonable. What was anomalous behaviour was regarded as normal, encouraging a shift in the academic science towards regarding these irrational anomalies as being rationally produced, and ultimately leading towards a set of false understandings and conceptualisations in the field as a dominant ideology between researchers and stakeholders. The effect was so diffuse that it is extremely hard to say at which point the assumption-making of efficient markets became an irrational dogma that led to the financial crash.

Transgressing boundaries between academic and entrepreneurial conduct

A third common characteristic seen in each case was that the degree of research misconduct occurred, and it was through the transgression between acceptable academic and non-academic behaviours that grimpect was created. Therefore, capacities that existed under strict ethical controls and with particular framings and limitations were freed from those limitations and were used to produce that grimpect. This suggests that a key characteristic of grimpect is that emerges as the result of transgressive behaviours by individuals (At odds with the supposedly prevalent ethical norms of the scientific communities), rather than an innate characteristic of the research, and that its spread is not necessarily serendipitous.

In the MMR case, the misconduct (both ethical and procedural) lead to all authors of the original article (except Wakefield) ultimately to accept their culpability and to retract the paper. Following the failure to replicate the results, and the backlash from the academic community surrounding the supposed misconduct coupled with the devastating effects of what could be regarded as unsubstantiated claims, the *Lancet journal* issued a formal

retraction in 2010. Nonetheless, Wakefield continues to claim the veracity of the study especially to anti-vaccination advocacy groups, and the grim pact in terms of the reduced vaccination levels.

In the CA case, however, the academic backlash has, at least for now, contained the grim pact. Here the academic misconduct of ethical mismanagement of personal information, as well as the use of social media profiles to influence behaviour has stimulated the creation of a reactionary regulations designed to ensure that such misuse in similar studies is acknowledged in assessments of ethical risk to participants. In addition, Facebook has since withdrawn their support for CA and a higher burden of risk has been applied to researchers wanting to access Facebook data for research purposes.

The degree of academic misconduct in the ETFC case is more nuanced. Here, as with all the cases, the grim pact was behavioural, but related to way that the ongoing relationships between researchers and stakeholders exerted a wider steering effect on the academic field as a whole that in turn reinforced and justified that core community. The temporary successes of these financial instruments gave strong signals to non-involved researchers that market-working and risk-dilution were functioning mechanisms rather than temporary bubble characteristics sustained by this irrational exuberance. Carrick-Hagenbarth & Epstein (2012) found that 15 of the 19 economists in the study, or almost 80%, worked in some capacity with private financial institutions. Over the period of 2005 through 2009 of these 15 economists with private financial affiliations, 13 did not disclose these ties in any of the academic publications we reviewed. Of these 15 economists, 11 had general media articles, interviews or testimonies; and of these 11, 8 failed to disclose any private financial affiliations.

The contagion of Grim pact

In all three case studies, the contagion of grim pact was both fast and broad, invading other fields (interdisciplinary) and extending beyond the primary geographical scope of the initiating researcher and stakeholder interactions. In part, that was due to the 'eye-catching' nature of the construct and the ease within which it could be used by others who were not necessarily cognisant of the background. The MMR case played to the more general parents fear of doing harm to their children, with inoculation raising the risk of sinning by commission, rather than the apparently less risky omitting to have one's child vaccinated. The CA case progressed quickly when the proposal was developed to weaponise the created capacity, transforming the apparently positive co-creative contributory tool into a weapon in the information war. In ETFC, the researchers had apparently found the 'golden egg' of finance by apparently allowing financial engineering to reduce the risk profile of junk investments (such as the predatory no income, no job, no asset mortgages) bringing with it the possibility for returns without risks.

The time of impact is more difficult to pinpoint as in many cases the grim pact is ongoing or indeed as with the case of CA has only just been exposed. In addition, the 'zombie' nature of grim pact was present, where it would be expected that the MMR crisis having been launched by a publication in the Lancet that a retraction would stop the negative consequences. This was not the case, and indeed led to the creation or at least empowering of vaccine denialist

communities increasing its overall impact by the decreasing the number of vaccinations taking place and the corresponding increase in cases of childhood MMR (Harmon, 2010).

Discussion

This paper provides an initial analysis of the characteristics of negative impact (Grim pact) in three well-known cases. A number of commonalities were found that can be used to drive future studies in this area. A greater recognition that research impact can be grim (sic) is increasingly important in light of the academy's drive to evaluate the ex-ante, as well as ex-post impact alongside the academic merits of research.

If in normal evaluative circumstances, accountability is the aim of mapping impact to both hold researchers accountable (reward) for the use of public funds as well as incentivise societally focused research, then the same ideals should apply to Grim pact. By acknowledging Grim pact (its existence as well as characteristics) prior to its realisation, there is an opportunity to hold researchers accountable. The extent that this is possible, however, is limited to recognising those activities and behaviours that can be monitored and measured. This is a common problem in impact evaluation as well, but for Grim pact as the three case studies have shown, there is an opportunity to hold researchers accountable by acknowledging that several common academic misbehaviours contribute to non-academic grim pacts as well. This includes consequences from research misconduct, and the alignment efforts such as engaging research end-users and stakeholders. Indeed, the loss of control over the trail of involved stakeholders and ownership of data and results was also characteristic in our three described cases of grim pact (MMR and CA).

Limitations of this brief introductory exploration include a degree of satisficing that determines the extent that the case study approach is able to determine the extent of each case's grim pact. As an initial analysis, however, this study provides a first step towards recognising that research has a broader influence beyond academia and that not all of these are worthy of celebration as part of the academy's dominant rhetoric of the value of the greater societal value of publically funded research.

Table.1: Summary of the characteristics of Grimpact in three case s

	Measles, mumps and rubella combined vaccine (MMR)	Cambridge Analytica (CA)
Public/private fraud	All authors of the original article have since renounced the study, except for Wakefield who continues to profit from his association with the paper (Godlee, 2011).	Used social media data beyond the contract guidelines of use.
Lost control of use		Colleagues registered company name, using the results, without the knowledge of the original researcher.
Had a negative intended effect	Influenced vaccination rates, that led to a rise in MMR cases, and deaths (Napier et al, 2016; Suk & Semenza, 2011)	Research if misused, posed <i>“a threat to individual’s well-being, freedom or even life”</i> (Kosinski et al, 2013)
Scientific misconduct	Original 2005 article, retracted from The Lancet due to scientific misconduct (Deer, 2011)	Compromise of research ethics due to the misuse of private, personal details.

			to identify their private affiliations were analysing financial regulatory issues that might affect the private firms in which they work.
Unnaturally influence public (campaigns/public opinion)		Links to Steve Bannon, and Russian influences on election campaigns in Europe, US and UK.	Strong influence over public opinion and policy makers Carrick-Hagenbarth & Epstein (2012).
Silenced “experts” (actively or not)	Decrease in public trust in evidence (Salmon et al, 2015; Stroud, 2003)		Carrick-Hagenbarth & Epstein (2012) showed that it is rare for academic financial economists to identify their private affiliations were analysing financial regulatory issues that might affect the private firms in which they work. Economists that used contrary theories and studies were not valued as highly, as those theories used by economists who has close connections with financial stakeholders (Cohen, The New York Times, 2009).
Tension between political versus scientific value			No tension. Shared political and scientific ideological ideas
Value linked with political ideology	More conservative political ideologies less likely to vaccinate citing vaccine safety fears and distrust in experts. (Baumgaertner et al (2018); Rabinowitz et al, 2016	The use of the data is currently under investigation for its use to unduly influence public opinion in the Brexit referendum and the 2016 US presidential election.	
Disproportionate research focus based on disease burden			
Establishment of anti-evidence advocacy groups	Post- publication establishment of anti-vaccination groups, which promoted studies that, supported their agenda, and not others. (Blume, 2006)		Advocacy groups established to develop proposals for the regulation of financial markets. In addition, many of these economists also wrote for the media on financial regulation (Carrick-Hagenbarth & Epstein, 2012)
Establishment of false economies and/or public campaigns	Advocacy group focused with on how to “green our vaccines” due to public fears of vaccine safety (Wessel, 2017)		

<p>Changed ways of thinking</p>	<p>Parents give greater weight to risks of vaccines than benefit (Baumgaertner, 2018)</p>	<p>Has contributed to the understanding and conceptualisation of “information warfare”</p>	<p>The Global Financial Crisis was a much broader and more dangerous closer; it popularised the phrase “systematic risk” to acknowledge the potential impact of the collapse of some firms and on the entire economic system Wilson & Grant, 2012, p. 1)</p>
<p>Influenced high level government debate through decrease in trust</p>	<p>During the 2016 US election, republican candidates publicly expressed a level of scepticism over vaccines, citing Wakefield (1998). These include the Presidential candidate Donald Trump (Knopf, 2017)</p>		<p>Influenced high-level government debate, which was largely due to mutual trust and shared ideology Carrick-Hagenbarth & Epstein, 2012)</p>
<p>Contributed to increasing inequality in society</p>			<p>The Global Financial Crisis (GFC) has been the most severe international economic crisis since the Great Depression, and resulted in a recession that has led to high levels of unemployment in the United States and most European countries (Wilson & Grant, 2012)</p> <p>The GFC had impact on employment rates, housing, GDP, exchange rates, and other socio-economic indicators (see Zestos, 2016, for overview of USA and some European countries)</p>
<p>Conflict of interest between the researcher and direct stakeholders</p>	<p>Wakefield used the ensuring public scare for private financial gain that were not in the public’s interests (Deer, 2011)</p>	<p>Passed the data collected onto a third party (Christopher Wylie of Eunoia Technologies, Inc) for personal financial gain through his company</p>	<p>No conflict of interest with direct stakeholders (policy makers, private and public financial corporations), on the contrary, it looks more like research-driven on behalf of those stakeholders (Carrick-Hagenbarth & Epstein ,2012). The conflict of interest is with indirect stakeholders, such as taxpayers, consumers, voters, and the public in general</p>
<p>Rectified the situation</p>	<p>No. Wakefield lost his medical licence but is still active in promoting vaccine scepticism globally (Deer, 2011).</p>	<p>Yes. Kogan has been banned from Facebook, and all data handled by Kogan and Wylie has since been “destroyed”</p>	<p>Many academic economists in the study have recently posted statements of disclosure of their private affiliations on their academic web sites (Carrick-Hagenbarth & Epstein ,2012). several economists refer readers of their journal articles to their public disclosure statements, groups provided lists with its many</p>

			members and their many affiliations. Other rectification (such as changes in the dominant university textbooks of Economics) have not happened (Cohen, The New York Times, 2009)
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Open research behaviour in management studies: an ideal honoured more in the breach than in the observance

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Introduction and background

Recent debates around academic research's societal contribution have emerged in response to demands for a new "social contract" for science, in particular demanding an increase of benefits for society (Martin, 2003; Sarewitz, 2016). Academia has focused on better understanding the conditions under which researchers engage with society and produce relevant knowledge that can be eventually transferred and applied outside academia (Amara et al., 2018; Perkmann, et al., 2013). Policy-makers have sought to promote relevant research that brings a societal impact, such as the EC, implementing specific programmes within the H2020 encouraging the development of "science with and for society". This centralises the importance of delivering Responsible Research & Innovation for society through public engagement, among others, as a means of stimulating the scientific "contribut[ion] to fostering more societally relevant and desirable research and innovation outcomes to help us tackle societal challenges".

This overall concern about research relevance has been felt across fields of science, stimulating a range of reactions from defensiveness and resistance (e.g. Collini, 2012) to more proactive rethinking strategies positioning public engagement as a positive force by bringing new knowledge into knowledge creation communities (Potts & Harley, 2015). Much research to date has focused on two kinds of response; first the growth of commercialisation and economic development activities around primarily 'hard' sciences, and second, the resistance/challenge responses from the arts & humanities. In soft disciplines, 'everyday engagement' (Sivertsen, 2019) is already widespread as a norm for researchers, where the nature of the research object demands intimate engagement by the researcher, and for which calls for additional engagement can seem instrumental, exogenous and dangerous.

An interesting example in this regard is management sciences (Bartunek & McKenzie, 2017), that emerged from very practical studies of the improvement of business (such as Taylor's (2004) very early time-and motion studies) in which engagement was a *sine non qua*, and that moved from the 1960s onwards to establish itself as a prestigious scientific-academic discipline rather than as something for professional-vocation schools, developing both an infrastructure and also a culture of non-public engagement. Since the 1990s, the discipline of management has been the site of a fascinating good-faith argument about whether it is possible for research to be both rigorous and relevant, undertaken against a feeling that to make the wrong choice might prove fatal for management's long-term academic viability.

This has manifested itself at times in a certain directness of these discussions, such as debates of whether management research lacks relevance to and impact upon business and managerial practices (Banks et al., 2016). Discussions on this topic have addressed whether it is ever possible to reconcile the production of both rigor and relevant research (Hodgkinson & Rousseau, 2009; Kieser & Leiner, 2009; Starkey & Madan, 2001). From this debate emerged the ideal type of the "engaged scholars" as an academic that conducts scientific activities taking into account users' needs without compromising scientific rigor (Van De Ven and Johnson, 2006). This ideal type has not been exempt from criticism (Mckelvey, 2006) with much criticism focusing on the point that those advocating relevance and do not themselves always meet the demands of academic rigour, using a naïve autoethnographic approach, writing from their own experience, sometimes as essays or opinion pieces (Bartunek & Rynes, 2014).

We seek to identify the conditions that research and its context must fulfil so that the former be both rigorous and relevant. We specifically focus on conditions of relevance, noting that conditions for rigor are signalled within academic communities. We contend that ‘relevance’ requires that the potential non-academic users can absorb academic knowledge, and following Olmos Peñuela et al. (2015, 2016), we use the condition of open research behaviours as antecedent to relevance. Open research behaviours are those in various kinds of research micro-practice in which academics consider non-academic interests, needs and/or make use of non-academic knowledge. The progressive nature of science means that the resultant research remains cognate with non-academic users’ interests because of this link via the non-academic knowledge.

Our heuristic has two main elements, that these open research practices (ORPs) are antecedent to the creation of usable knowledge, and that ORPs are found in five different research practices, namely the reflection, inspiration, planning, execution and societal dissemination practices. Incorporating users’ interests, needs or knowledge into academic research processes contributes to the **usability** of that knowledge, even if the eventual use of that knowledge is determined by circumstances outwith academic control. This provides a mechanism to explore this tension, and ask whether management academics who are undertaking rigorous research are also able to carry out their research practices in an open way.

Research goal

Our research goal is to identify the necessary conditions and elements for management researchers to have an open research behaviour.

Methodology

We use an instrumental (Stake, 1995) and explanatory hermeneutic causal-mechanism approach (Gerring, 2010; Hedström & Ylikoski, 2010; Machamer & Craver, 2000) to identify the necessary conditions and elements for researchers to have an ORB. On one hand, an already concluded first exploratory stage consists of both purposive and snowball sampling voice-recorded six 40-to-90-minute formal prospective interviews and five voice-recorded 11-to-28-minute informal conversations with researchers in the field of management. Either oral or written consents have been obtained for recording interviews. On the second hand, a forthcoming stage consists in interviewing researchers

For the purposes of this research, we have defined our case studies or unit of analysis as a research project which has been triggered or initiated within an academic setting by a researchers (PI), and whose results have been transferred to the society in an applied way. We are now in the process of finding the case studies. In order to do it, we have emailed to 58 directors of Departments of Management of both public and private universities between 15 January and 1 April 2019. So, far 42 directors have confirmed us that they have forwarded our recruiting message to their research staff in their department.

We have designed our analysis based on the “open behaviour” conceptual framework (Olmos-Peñuela et al., 2015, 2016). Both causal and descriptive codes (Gläser & Laudel, 2013; Miles, 2014; Miles & Huberman, 1996) will be created in NVivo 11 Plus to conduct both the inductively and deductively hermeneutic analyses of the interviews of the case studies.

Preliminary findings

This research is currently ongoing, and we have preliminary findings. The recurrent finding is that researchers, despite believing that research results should be transferred to the society, they find challenges to do it, which some of them clash with the Spanish reward system of science, which only rewards publications and not knowledge transfer. We therefore find that.

Conclusion and discussion

The analysis of this research is at a very early stage, thus, conclusions and discussions are now speculative. However, we dare to anticipate very cautiously that; first, there are few cases, which fit with the case-study boundaries that we have set. This means that ORB hardly happens. Second, changes in the reward system of science may be necessary to motivate academic research, which is societally relevant with outcomes that can be transferred to the society (private or public organisations), in order to solve current problems. Thus, the current research evaluation in Spain may seek and accomplish the quality of research, but we cast doubt on the fact that improves the relevance of research for the whole society.

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Steering effects of research evaluation on SSH early career researchers

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Introduction and Background

There is an increasing interest in academic and policy communities on the societal impact of research in order to maximise the social benefits created by public investments in science (Muhonen et al., 2019). As part of that, it is becoming increasingly evaluated in an attempt to create the right incentives for scientists to steer academics to deliver this improved efficiency (Sivertsen, 2017). But those evaluation processes have raced ahead of the understandings of the way that research creates impact (Donovan, 2017). Bonaccorsi (2018) points out that this risks making a fairly fundamental epistemic error that fails to capture a diversity of working practices in different scientific disciplines that do not correspond to these common sense evaluation models used in policy and practice, such as in the social sciences and humanities (SSH) (see also Benneworth et al., 2016). This raises a *prima facie* case that societal impact evaluation of research might be producing adverse effects in the academy, that these problems might be being disproportionately borne by SSH: it is this problematic that we address in this paper.

To conceptualise the effects of evaluation and academic steering, we consider evaluation as one of a set of practices that lead to coordination within communities by researchers (Kitcher, 2001). Scientists individually take choices within institutional structures that produce collective judgements about what constitutes ‘good science’ (Gläser, 2012; Laudan, 1978); i.e., that is, science that makes a contribution to progress and forms the basis for other scientists to do their work. There is a positive feedback between ‘good science’ and credibility, with ‘good science’ building individuals’ credibility, and that credibility then providing access to the facilities necessary to pursue ‘good science’ (Latour & Woolgar, 1979). These institutional structures mediate a shared understanding of what that goodness is, and scientists take their own decisions in order to perform ‘good research’. There is therefore a cycle of steering in which scientists take decisions, and these are subjected to various kinds of evaluation.

Those evaluations may determine what is accepted as ‘good science’ by the field (such as in evaluating research proposals or journal articles for publication), providing retrospective steering. At the same time, scientists also take decisions in anticipation of their subsequent judgement by their scientific peers. This can be the ongoing attuning of scientific activities on the basis of interim feedback (such as presenting conference papers, issuing working papers or informal communications). Scientists also prepare their scientific activities, their research questions, and plans, in order that they are eventually judged to be ‘good science’ in their wider peer communities.

These activities are held together by individuals who perform multiple roles in this system: a scientist reviewing a paper both exercises a judgement over what is ‘good science’ as well as giving them an insight into the standards they have to achieve to do ‘good science’. These activities provide an aggregate steering effect by creating activities that function as enduring coordination mechanisms; and additionally, there is also a career effect. There are scientific epistemic communities that come together in various constellations in organisations such as learned societies, conferences, and standing commissions/groups, and a community subset conducts conversations that exert influence over other communities’ members (Becher & Trowler, 2001; Bonaccorsi, 2018). There are also scientific artefacts that play a coordinating role, such as academic journals which, as well as the sifting review role, form a collective memory for the epistemic community.

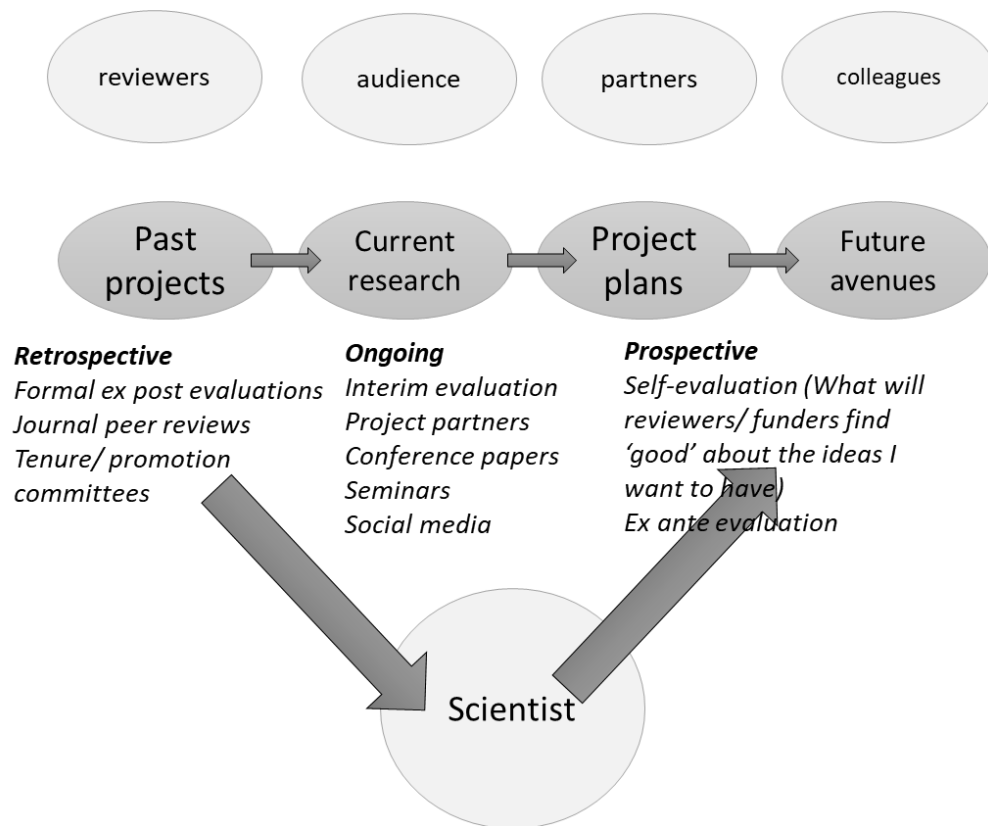


Figure 1. Scientific decision-making and steering in a well-functioning science system (source: authors' own design after Gläser, 2012)

The role of an evaluation system here is in providing reliable and authentic signals of the goodness or otherwise of research. Because of the mediation effect within individuals, poor signals can have a damaging steering effect on scientific communities by allocating resources and scientific effort to things that 'good' (in terms of making a contribution or serving as the foundation for future research). We therefore ask the question of what are the effects of the evaluation of societal impact of research on SSH researchers at the early stage of their career.

Methodology

We address this question by reporting findings from a pan-European study of early career researchers (ECR) in the SSH (i.e., researchers whose (anticipated) Ph.D. date is after 2008). A survey instrument was developed to capture data on the importance of impact, motivations, barriers and tensions, as well as providing space for free text answers in which they explained why they had reported those particular values. The survey was distributed on line through the ENRESSH network which in turn also distribute it to SSH ERC. We receive 111 valid surveys from 30 European countries.

Preliminary findings

This paper presents some preliminary descriptive statistics from the survey to understand the effects of impact evaluation processes as respondents took prospective and contemporary research decisions in the hope that that research would be regarded as 'good'. The research had two main findings.

The first finding was that impact is a consideration for SSH ECR: most were aware of the idea of impact, and understood its significance for their own research activities. This awareness was relatively evenly distributed across European countries; whilst previous research criticized eastern European countries for failing to demonstrate ‘sophisticated’ approaches to impact creation (De Jong & Muhonen, 2019), our results showed that wherever any putative problem lay in impact creation in these countries, it was not with researchers.

Secondly, there were three mismatches in the effects of impact evaluation on SSH ECR. Although researchers tended to feel that creating impact was important for science, they did not feel that they had been successful in creating impacts. Secondly, although the motivation to deliver impact was high, the level of training they had received to deliver that impact was low. Finally, there was very little opposition in principle to creating impact, but there were opportunistic barriers, and critically a shortage of time, necessary to create impact.

This research has implications for the study, the policy and the practice of research evaluation. In conceptual terms, we provide a model for placing evaluation into scientific context, and understanding evaluation more explicitly in terms of the community steering effects rather than the ranking and allocative effects (*cf*, Molas-Gallart, 2015). In policy terms, there is a need to ensure that ECR receive positive steering signals from evaluations at the earliest stages of their career to set them out onto impactful research trajectories, and not reifying societal impact as something extraordinary (*cf*, Sivertsen, 2019). There is also a need for much better training of researchers on the delivery of scientific impact, and supporting them to create that impact, to complement this improved signalling effect, if evaluation is going to help to contribute to maximising the societal impact of scientific research.

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SESSION 1.2

> **Research Cultures**

> **Chair** · Jack Spaapen

How reporting requirements can shape research activities · *Agnė Girkontaitė and Michael Ochsner*

Evaluation games as the resistance: Towards a framework for research evaluation studies · *Emanuel Kulczycki*

Towards Ethical Principles of Research Evaluation in SSH · *Aldis Gedutis and Maria Teresa Biagetti*

How reporting requirements can shape research activities

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Introduction

Research indicators have become more important in the management of universities and research institutions. The use of such bibliometric indicators favours some forms of scientific production more than others. The social sciences and humanities (SSH) suffer from this development because their traditions of publishing, co-authorship and citing are different than in the STEM fields, which is why bibliometricians advise against basing evaluation of SSH research on bibliometric indicators (Nederdof 2006; Hicks 2004; Hammarfelt 2016).

The importance of bibliometric research indicators comes with several issues, two of which we would like to point out: The first concerns the scope of scientific work. A focus on bibliometric indicators leads to a limited understanding of what SSH researchers do and what is important in their scientific endeavour. Currently, research quality is defined by the data and indicators available instead of the other way round: deriving indicators from what is actually to be measured (Donovan, 2007). This data-driven research evaluation is shown to not correspond with the criteria considered as important by SSH researchers themselves (Ochsner et al. 2016).

The second issue is the phenomenon that Campbell called Corrupting Effect of Quantitative Indicators: „The more any quantitative social indicator is used for social decision-making, [...] the more apt it will be to distort and corrupt the social processes it is intended to monitor“ (Campbell, 2011 [1976]: 49). Researchers tend to adapt by changing their behaviour and production patterns to meet changing evaluation criteria, thus changing the notion of research itself.

Our research studies the interaction of these two processes, linking reporting from the institutional as well as from the researcher’s perspective with research processes. We shed light on how reporting shapes researchers’ perceptions of what they have to deliver and how this affects their research practices and also on what parts of the research process remain unseen and risk to be neglected.

Methodology

Using a mixed methods approach, we analyse quantitatively and qualitatively the bibliometric information on the scientific production of two institutions in the years 2012 to 2016 using three sources: the annual reports of the institutions themselves, the institutional repositories and Web of Science. Furthermore, we complement this data by qualitative semi-structured interviews with employees of the two institutes.

We chose two institutions for our research – FORS, the Centre of Expertise for the Social Sciences in Lausanne, Switzerland, [further: FORS] and the Institute of Sociology and Social Work at Vilnius University, Lithuania [further: ISSW]. The two institutions were chosen according to three criteria: (1) similarity of size and research field (2) international comparison (3) combination of the perspectives of insider and outsider of the two authors. The last point is important because finding invisible (or less visible) structures and publications, which is central for the research question, requires insider knowledge while outsider knowledge helps identifying institution-inherent structures that seem obvious or irrelevant to the insider.

Results

Obviously, not all scientific production is „visible“: researchers and institutes themselves often choose to report only part of what they produce. Yet, our results show that what becomes visible differs between the two institutions. The most interesting result, however, is what is not visible and why.

At the first glance, the amount of research production differs a lot between the two institutes. While staff size is quite similar through all the years, FORS produces 1,5 times more outputs than the ISSW. The reason for this lies not so much in a „real“ difference of production, nor in different amounts of particular output types, but rather in different reporting patterns.

Interestingly, researchers at FORS report less than the institute reports in its annual report, while it is the other way around at ISSW. There is a strong selection in the reporting of ISSW, concentrating mainly on such outputs as books and journal articles. Also, differences appear because of double affiliations of researchers.

But not only institutes are selective in their reporting, the researchers also do not give a full coverage of their productivity. For example, when asked whether they report presentations, ISSW researchers wonder: „Do I need to report these too?“. Rather, in both institutions, researchers firstly report publications and interpret ‘publications’ as peer-reviewed publications even if peer reviewed journal articles are not as frequent an output as others. The reasons for this reporting behaviour vary from „it is required“ to „show my work to other researchers“. However, when asked what is an important output of their work according to their own perception, the answers are much more diverse and the peer reviewed article becomes less important. Some of the researchers mentioned the meaninglessness of scientific publications in terms of readership, others say that they would find more satisfaction in having their own blog for communication. So, the notion of importance is twofold: importance for the institution and importance for the researcher.

Our findings show that researchers work and live in certain social contexts that form their behavioural patterns. Using our materials of interviews and reporting patterns, we identified three “ideal types” of researchers and how they interact with their institutional and disciplinary context: (a) the „real“ researcher (fluent adaptation to the academic requirements, „I want to communicate with my peers and I succeed in doing it“); (b) the troubled researcher (trying to adapt, but not always succeeding, „Am I a researcher if I do not publish enough?“); (c) the double identity (researcher on the one hand and lecturer, social policy researcher or data producer on the other hand, „it is important for me to be in this other role“).

Conclusion

Bibliometric indicator-based research evaluation limits the understanding of the work of a researcher, ignores the variety of personalities needed within universities and disregards activities that remain invisible but are important for the functioning of research. An incomplete reporting comes with the risk of compromising SSH research's function in society and tends to separate activities that should be linked.

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Evaluation games as the resistance: Towards a framework for research evaluation studies

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In my presentation, I define the resistance of researchers caused by the research evaluation systems as *evaluation games*. This approach might help us to investigate the (un)intended effects of designing and implementing national research evaluation systems. I have been working on a theoretical framework by which a fruitful link across the three following perspectives would be possible: (1) researchers who work in academia and are subject to evaluation, (2) researchers who study research evaluation systems yet are subject to evaluation, and (3) policymakers who design research evaluation systems and evaluate researchers and research institutions. This presentation is a first attempt to discuss the main theoretical assumptions, limitations, and usefulness of this framework.

Intended effects can be understood as accomplished goals and successful public interventions. However, investigating the unintended effects cannot be reduced to tracking and reporting the unforeseen or unpredicted side effects of designed interventions. This is due to the fact that unintended effects are produced not only by social interventions themselves but also—among others—by the context in which such policies are implemented (e.g. unstable conditions of academic labor or publication-oriented scholarly communication).

Exploring dysfunctional consequences of performance measurement has a long tradition in administrative and organizational theories. During the first half of the 20th century, side effects and impact of performance measurements were analyzed in numerous areas, ranging from American and Soviet industries to public policies. Already then, the studies showed that the use of a single measure is not adequate and it should be replaced by using the composites, that is multiple and weighted criteria. This knowledge and experience were utilized within the group of ideas known as the New Public Management which transformed the performance measurement substantially into outcomes-based performance.

In my presentation, I undertake three tasks to put the theoretical framework forward and use it to explore the transformations of scholarly communication caused by measuring and evaluating science.

Firstly, I present a concept of the evaluative power of the state as a ground for developing the framework in which the effects of national research evaluation systems can be investigated.

Secondly, I present a concept of evaluation games by which the resistance caused by the evaluative power manifests itself. The evaluative games and their consequences are (un)intended effects of designing and using national research evaluation systems.

Thirdly, I rethink a history of the measurement of science and argue that a better understanding of the consequences of national research evaluation systems requires to add the omitted part of this history. In other words: I show that performance measurement in science sector is not only a hallmark of Western science but, actually, it was first implemented at the national level in the Soviet Union and the Eastern Bloc countries. Bringing back this heritage to the reflection is a necessary step to understand why in countries with similar research evaluation systems —like Australia and Poland—the resistance against the systems manifests

by diverse evaluation games and why researchers perceive the same elements of those systems (like using bibliometric indicators or peer review) in substantially different ways.

Finally, using the results of these three tasks, I examine how research evaluation systems transform scholarly communication in contemporary academia and how various evaluation games can be used as a tool for understanding these changes.

Towards Ethical Principles of Research Evaluation in SSH

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This paper is an interdisciplinary attempt to map rather unexamined ethical subfield in the broader scientific field of Research Evaluation. Some needs in the area of Research Evaluation are based on qualitative criteria. For this reason it is important to employ assessment criteria based on ethical principles and to have available shared guidelines to research evaluation ethics.

Evaluative Bibliometrics uses quantitative criteria (the count of publications and citation analysis) to assess the works of scholars to have rewards, and it produces rankings of institutions for distributing resources. It is, thus, worthwhile to consider that the Evaluative Bibliometrics also requires to employ ethical principles (Furner, 2014). According to Furner, needs of ethical principles in Evaluative Bibliometrics may concern the following: (1) identification of the *values* held by the members of subgroups that are responsible for actions taken in the course of bibliometric evaluations; (2) identification of the *principles* for which the members of each subgroup advocate; (3) *transparency* about the statistical methodologies used and clear description of the results. Moreover, the evaluation process should be based on verified evidence and be unbiased, therefore, statisticians should present results based only on observed phenomena.

In the field of Sociology of science, Richard Whitley emphasized that the systems of research evaluation (RES) affect the organization and governance of knowledge production. Strong research evaluation systems – with high standardization, rules and procedures formally established for evaluation and publication of results – influence the research strategies of universities and research institutes, with differences between various scientific fields (Whitley, 2007). Among consequences of strong retrospective assessment systems there is the restriction on universities' independence in pursuing unorthodox methodologies, in developing innovative theories, and the dissuasion to establish new fields of research in disagreement with dominant disciplinary ideals. The impact of RES is more evident on sciences that present a high level of research objectives coordination, a high level of mutual dependence between scientists to maintain scientific reliability and a high cohesion of scientific elites. In contrast, it is lower in Social Sciences and Humanities (SSH), which present a significantly lower level of scientific production organization, a higher level of disciplinary fragmentation, a higher grade of uncertainty about scientific objectives and a lower level of mutual dependence on disciplinary elites (Whitley, 1984: 87-95; 159-160).

Holding in high regard Whitley's deep analysis, we assume that Research Evaluation plays a fundamental role both in the development of disciplines and in the career advancements of researchers. It is expected to impact on the development of scientific fields, as it may limit novelty and inventiveness of emerging researchers, which must conform to the dominant elites to achieve academic consensus (Whitley, Gläser and Laudel, 2018). This is the reason why ethical principles to support the assessing procedures and shared guidelines for ethical behaviour are highly required.

In the field of Evaluation Ethics, the most part of researches are devoted to the evaluation of social projects, to highlight ethical involvements from the point of view of evaluators (Morris, 2008; Schwandt, 2015) and to investigate ethical dilemmas in professional behaviour and in program evaluation, stressing on the problems that arise from the relationships between evaluators and stakeholders and clients (Newman and Brown, 1996).

The purpose of this work is not to address issues of Evaluation Ethics from the point of view of evaluators of projects and the ethical challenges that arise in different professions, but to examine the core of Evaluation ethics in connection to Research Ethics, and to assume from the available guidelines for the Research Ethics suggestions and indications for providing guidelines for Research Evaluation in SSH.

There are different research evaluation situations in SSH: *ex ante research evaluation*: attribution of competitive research funding (national or international); *ex post research evaluation*: reviews after call for papers, articles to be published in scientific journals or in proceedings of scientific conferences; institutional evaluations by Ministries of Education, or national habilitation procedures, but also attribution of funding based on the evaluation of careers and scientific production.

Both *ex ante* and *ex post* evaluations are involved in funding allocation. In both cases ethical issues are relevant: in *ex ante* evaluation it is required to verify the feasibility of the research project, involving the stakeholders that should collaborate; in *ex post* evaluation are involved judgements on careers of researchers.

Thus, analysing different contexts, which might be applicable to the Research evaluation ethics, we faced a series of difficulties. *First*, the field is underdeveloped: majority of researchers do participate in various research evaluation procedures on different levels, but nobody bothers to provide the clear and intelligible set of ethical rules and/or recommendations. *Second*, there are loads of the issue related material, which is mostly irrelevant as it is scattered between the not-inter-related fields and as a rule is too general and abstract for the ethical research evaluation guidelines. *Third*, this to-be-established field of the Research evaluation ethics neighbours with two disconnected albeit important fields: (1) Research ethics, which covers mostly natural sciences and psychology and do not think of another SSH, especially, humanities; (2) Evaluation ethics, which mainly aims at evaluation of different social programmes, not concentrating on research. *Fourth*, the above-mentioned ethical attempts lack sufficient theoretical background in ethical theories as it is by no means clear what is expected from an evaluator as a moral agent.

In order to tackle these shortcomings and to provide tentative principles in Research evaluation ethics, available materials and data in the fields of Research ethics and Evaluation ethics should be analysed, compared and combined with those of ethical theories.

The most relevant Research ethics sources: ALLEA *The European Code of Conduct for Research Integrity* (2017), ESRC *Framework for Research Ethics* (2015), DFID *Review of Ethics Principles and Guidance in Evaluation and Research* (2015), ESF *Peer Review Guide* (2011), The Norwegian National Committees for Research Ethics etc., as well as works by researchers such as Robert Merton (1973), David R. Resnik (1998), Michael Morris (2008), Thomas Schwandt (2015), Henrikka Mustajoki and Arto Mustajoki (2017) etc. Data for Evaluation ethics is provided by UNEG *Ethical Guidelines for Evaluation* (2008), as well as by guidelines found in the documents of American Evaluation Association, Australasian Evaluation Society, Canadian Evaluation Society,

Czech Evaluation Society, (German) Evaluation Society, Japan Evaluation Society, Swiss Evaluation Society etc.

Both Research ethics and Evaluation ethics provide certain moral principles to deal with proper conduct in their ethics-related situations. In Research ethics the most frequent principles and/or values are the following: rigour, reliability, respect, responsibility, honesty, value-free etc. Accordingly, Evaluation ethics is meant to be grounded in autonomy, nonmaleficence, beneficence, responsibility, justice, fidelity etc. These principles are classified and reinterpreted with the help of toolboxes provided by relevant ethical theories. For our purposes three types of ethical theories are relevant and should be taken into consideration:

Deontological ethics: *What are moral agent's duties to perform? Who or what justifies moral duties? What are rules of research evaluation?*

Utilitarian ethics: *What consequences can be achieved by the action of moral agent? Will they increase common good? What evaluation strategies provide best moral consequences (for society in general, for evaluators and the evaluated)?*

Virtue ethics: *What is moral phronesis? What are the virtues and moral character of a moral person? What are moral characteristics of evaluators?*

We consider the five ethical principles for evaluation (suggested by Karen S. Kitchener in 1984 for psychological field, and again presented by Newman and Brown 1996, also represented by Resnik 1998, Mustajoki and Mustajoki 2017): Respect for autonomy; Non maleficence (do not harm, do not cause injury); Beneficence (to do good); Justice: procedural (decisions that impact on scholars) and distributive (resources allocation); Fidelity (honesty, integrity). Non maleficence and procedural and distributive Justice are the topics most relevant for our purposes.

With the aim of developing and constructing a tentative set of minimal moral requirements and guidelines applicable to the Ethics of research evaluation in the contexts of peer review, *ex ante* and *ex post* research evaluations, we try to suggest the following lines to adopt in SSH.

Following suggestions from the most relevant Research ethics aforementioned sources, we identified the concept of *objectivity* (Daston and Galison, 2007), applied to the critical evaluation, as the most relevant for our purposes. Professional ethics of evaluation involves the absence of bias: political, personal, cultural, disciplinary, etc. and an evidence-based evaluation.

A general guideline could be to distinguish three aspects: 1) the identification and analysis of the *object* of a work; 2) the subjective judgement; 3) the possible stakeholders.

The aim of our work is to suggest guidelines for Research Evaluation in SSH grounded on the specific characteristics of the sciences that must be evaluated. A characteristic of History, for instance, is the use of historical sources. A historical monograph based on unknown, or never used, important sources, such as archival documentation, must be, of course, recognized as a work that brings about an important contribution to the field. In this case, an ethical principle should be the *identification* of the *objective* relevance of the work. On the other hand, the subjective judgement could highlight methods and procedures in using the sources (archival documentation), how well the author has analysed the documents, or what are the borders of the subjective opinion etc. Finally, what benefits of the research at hand give to possible stakeholders (professional community or wider public)?

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SESSION 2.1

- > **Special session** · Careers and Research Evaluation Systems for societal impact (2)
- > **Chair** · Paul Benneworth

Professional factors affecting career and engagement success for Early Career Researchers · *Julia Olmos-Peñuela and Paul Benneworth*

Early Career Researchers and Societal Impact: Motivations and Structural Barriers · *Corina Balaban, Marta Wróblewska and Paul Benneworth*

Diversity in impact conceptualization and engagement: accounting for social, epistemic and local contexts within the social sciences and humanities · *Marc Vanholsbeeck, Karolina Lendák-Kabók and Alexis Dewaele*

Professional factors affecting career and engagement success for Early Career Researchers

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Introduction

There has been in the last two decades a surge of public investment into scientific activities, primarily driven by a belief in the wider social benefits that such investments can bring (Muhonen *et al.*, 2019). This massification of public resources has stimulated a shift in the way that scientists are expected to account for themselves and their behaviours in return for these rewards. There is a growing emphasis placed on evaluation through the research process, from the awarding of funding to excellent proposals, ongoing reviews of research centres and departments, and of individuals progressing through their careers. This evaluation helps to ensure that academics continually attune themselves to societal expectations and therefore are ultimately accountable for the public resources they receive.

But there is a growing body of literature suggesting that this evaluation culture is having a negative effect on academics but also on the productivity of the overall science system (Martin, 2011). One often cited example here is the United Kingdom's Research Excellence Framework, the REF, which in its 2014 iteration was estimated to have cost around £250m when the opportunity cost of participants' time was included (Farla & Simmons, 2015). But there is also a concern on the effects that this evaluation has on the strength of the academic workforce through the segmentation of the academic labour force. Certain evaluation practices serve to magnify the well-known distortion in scientific evaluation where success breeds success, what Merton termed the Matthew effect, where early success in accessing resources shapes future later success (Bol *et al.*, 2018).

If evaluations allocating resources for future activities take account of past track records, then it becomes hard for junior researchers (or early career researchers, ECR) to access those resources, which hinders them from themselves developing their track records. In the absence of these resources, junior academics have to be highly selective and instrumental in deciding which activities to prioritise, selecting only those activities which contribute to building their track records (Fanelli *et al.*, 2015). And with the current emphasis on allocating resources on the basis of research excellence, this can create a situation where, despite a lip-service being paid to creating impact from research and working with societal partners, the real emphasis is placed by researchers in producing articles (Watermeyer, 2015).

The risk for science systems is that this then has a long-term effect on researcher behaviour because of path-impregnation, where researchers' Ph.D. experiences shape their attitudes to research (Knorr-Cetina, 1981) and their future research practices. This situation is intensified in the case of social sciences and humanities (SSH), where evaluation processes typically follow procedures that have been developed for other fields, most notably science, technology, engineering and maths (STEM) (Benneworth *et al.*, 2016). We therefore argue that if there are tensions emerging for research evaluation and societal impact, these would be most evident in SSH. In this paper, we address the issue of the effects of increasingly intense research evaluation systems on early career SSH researchers' willingness to engage with societal partners. To do this we ask the specific operational research question of which are the professional factors leading to ECR's engagement success?

Methodology

Research approach

To address this question, we construct a model for early career researcher willingness to engage with societal partners as being shaped by the following conditions, namely, the training they have had in engagement, the institutional environments in which they are

operating (university environment) the extent to which being involved in engagement practices creates problems for them. We also contend that their engagement will be affected by the quality of the environment, and in particular the generalised demand for their knowledge coming from society.

Data

Data was gathered from a pan-European study of SSH ERC, whose (anticipated) Ph.D. date is after 2008, within the framework of the ENRESSH European Cost Action. Specifically, we draw on a survey of SSH ECR drawn from across Europe (30 countries, 111 respondents) in which they provide qualitative and quantitative responses to the effects that research evaluation and demands to create impact have on their career development. Data analysed in this study comes from the quantitative responses, even if eventually the qualitative information has been used to better interpret the findings. We analysed a final sample of 100 valid surveys, i.e., without missing data in all over key conditions (variables) for the study. Additional information was gathered from secondary data, the democracy index, that was used to split the sample between ERC from full democracy countries (N=40) and ERC from flawed or hybrid (not-fully) democracy countries (N=60) (Economist Intelligence Unit, 2019).

Analytical approach

We performed two fuzzy-set qualitative comparative analysis (fsQCA), one for each group of countries (encouraging (high-demand) and discouraging (low-demand) national environmental contexts) according to the Democracy Index. A QCA is a “comparative case-oriented research approach and collection of techniques based on set theory and Boolean algebra, which aims to combine some of the strengths of qualitative and quantitative research methods” (Marx et al., 2014, p. 115). This type of analysis allows to analyse the necessary and sufficient conditions for the existents of a particular outcome (such as success in creating societal impact). A condition is necessary when it is always present for the existence a particular outcome. Conversely, a sufficient condition is a combination of conditions that generate a particular outcome although the outcome can be achieved through other combinations of conditions (principle of equifinality). Using the fsQCA version 3.0, and following the recommendations proposed in the literature for this techniques (Eng and Woodside, 2012; Giménez-Espert & Prado-Gascó, 2018; Ragin, 2008), we explore the necessary and sufficient conditions of SSH ECR success/not success in creating research impact, and we perform this analysis for the two subsamples: ERC working within encouraging (high-demand) and discouraging (low-demand) national environmental contexts.

Preliminary results and implications

In terms of the factors associated with success, we found that in both kinds of environment, being in a dynamic environment, with training and encountering no problems was associated with success. In encouraging environments with supportive universities, then training or “dynamism, no problems” were associated with success; in discouraging environments with universities and training, then either no problems or dynamism were associated with success. In terms of the factors associated with the absence of success, three combinations were found in encouraging environments (“no dynamism & no university support”, “no university support & problems”, and “no dynamism & no training & no problem”). In discouraging environments, the absence of training coupled with either university support or “no dynamism & no problems”, was associated with the absence of success.

Reflecting on these findings, we are able to contend that insufficient is currently known about the effects of evaluation systems on SSH ECRs’ academic formation processes, and that this

represents a serious problem in transforming science systems to be more open and attuned to user interests and needs. We identify a number of key tensions and bottlenecks for impact generation that emerge for early career researchers when confronted by the demands of impact. We argue that improving openness of science and the inclusion of users in scientific practices needs better resources, particularly better training and recognition for early career researchers that successfully engage with users. We likewise contend that it is also necessary to temper some of the pressure that intense research evaluation creates for early career researchers' capacities to create societal added value.

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Early Career Researchers and Societal Impact: Motivations and Structural Barriers

Overview

This study shows that many early career researchers (ECRs) are highly motivated to do research that has a positive impact on society. However, there are many structural barriers that prevent them from doing so: they are employed on short-term contracts; they relocate frequently; and they have their junior academic status to take into account. This paper explains what these structural barriers are and reflects on how they might be addressed. First, we briefly outline the background for this project; second, we explained how we conducted our study; third, we discuss the key findings regarding motivations of ECRs to do ‘impactful’ research and the barriers that they encounter; and lastly, we argue that good impact requires SSH researchers to develop stable identities as engaged researchers.

Background

There is an increased encouragement of academics to engage in research that creates societal impact (Muhonnen et al., 2019). Early career researchers are no exception when it comes to making sure that their research is relevant and valued beyond academia (DeJong & Muhonen, 2018). However, ECRs are also subject to pressures to publish and establish themselves as academics as quickly as possible in order to stand a bigger chance of securing their next, most likely temporary, research contract (Ylijoki et al., 2011; Fanelli et al. 2015). The pressures to engage in more ‘traditional’ academic pursuits may therefore undermine their ability to value societal impact, prioritise it over other tasks, or indeed, secure the time to engage in public discussions (Teelken, 2015).

In a preliminary analysis that we have conducted in Vienna (2018), we found that many tensions emerged between motivations of ECRs to engage in curiosity-driven research on the one hand, and what was considered ‘impactful’ research, on the other hand. Among their motivations to achieve impact were: duty, changing society, empowering communities, and improving lives. However, these motivations did not always fully align with institutional understandings of impact, which often led to the construction of impact as an ‘add-on’ rather than something embedded in what ECRs did.

It is for these reasons that we consider ECRs to be a special group with very particular characteristics in terms of career positioning, the pressures they face, and how they think of themselves and their work. In order to better understand the situation of ECRs, it is important to critically reflect on how structural requirements shape their ability to engage in impactful research, but also understand what motivates ECRs to do research that is socially valuable.

Study Design/ Methodology

This paper is based on research conducted as part of the CARES project, Careers and Research Evaluation Systems for societal impact, part of the European Network for Research Evaluation in the SSH (Benneworth & Olmos-Penuela, 2019). The CARES focus lies upon how early career researchers (ECRs) are dealing with increasing demands upon them to create more societal impact with their research. We consider ECRs to be individuals who finished their PhDs within the last eight years. CARES ultimately aims to identify new pathways to

improve societal impact among ECRs in the social sciences and humanities (SSH) during the first years of their academic careers.

In CARES, we developed a short questionnaire to be distributed to early career researchers in the SSH, focusing on their beliefs, activities, perceptions, motivations and discouragements they face when seeking to create impact with their research. In total 100 questionnaires were completed by ECRs in the SSH from 29 countries across Europe.

Findings

What motivates ECRs to engage?

The vast majority of respondents thought societal impact of research to be important. Their responses articulated a sense of it being their public responsibility to engage and give something back to the community; this was especially the case with those who were funded with public money and thought it was their moral duty to do so.

Most respondents wanted to achieve positive change through their research, whether this was improving people's lives in a more direct way (such as empowering marginalised groups), or simply contributing to general societal wellbeing. One of the other key motivations to engage was to sustain democracy by informing public debate, as well as creating awareness around certain issues (such as countering fake news).

What are the barriers that ECRs encounter?

Despite being highly motivated to engage, many respondents reported structural barriers that prevented them from being effective with that engagement. The most common de-motivator was seen to be the academic career and incentive structure. Many ECRs felt pressured to prioritise academic publications over other engagements in order to advance on the academic ladder, or, in most cases, to secure the next short-term employment contract. A number reported that so-called 'popular' research was often perceived as 'not serious' enough by the academic community.

The frequent relocation that some of these temporary jobs entailed also meant that that it was hard to develop and maintain networks of local stakeholders. Geographical mobility also meant that ECRs sometimes did not have the language skills or expertise to participate in local/ national debates.

Another challenge was that stakeholders were often not very responsive to the research that ECRs were doing. Some respondents maintained that, as junior researchers, they were not given enough credibility, and that they were, to quote one ECR, 'just PhD student[s] in the eyes of decision-makers'. Linked to the junior status was also a lack of confidence to go public with their own research results.

Finally, social impact was considered by many to be an 'add-on' to the real business of research that required extra time, as well as additional training, support and incentives.

Conclusion/ Policy Implications

Our research highlighted the fact that there was a link between motivation and identity for creating impact; those researchers that reported being motivated to create impact had stable academic identities where impact played a constructive role (Ylijoki & Ursin, 2013).

These academics were comfortable with being part of change, and comfortable with the responsibility of creating change; they were critical of society, whilst comfortable with society being critical of research; and often enjoyed doing societal engagement whilst expecting recognition for creating that impact.

We therefore recommend that alongside more short-term action in providing training and time for researchers to create impact, there are long-term actions to encourage early career researchers to develop stable engaged identities, and they receive positive peer signals regarding what constitutes 'good impact'.

Evaluation systems such as the UK's Research Excellence Framework or Norway's Impact case studies can play an important role in this by helping to provide these stimuli (Sivertsen, 2017), as long as the evaluation approaches focus on acknowledging the range and diversity of value signals that demonstrate that impact matters to both economic and societal partners.

Acknowledgements

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Diversity in impact conceptualization and engagement: accounting for social, epistemic and local contexts within the social sciences and humanities

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Impact as a boundary object

In Star and Griesemer's perspective, boundary objects are "objects which are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. [...] They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation" (Star and Griesemer 1989: 393). Boundary objects share thus elements of definition across social worlds – permitting working relationships between them -, while also involving community-specific conceptualizations and framings.

Applying the concept to research policies, Moore argued that Open Access can be conceived as a boundary object and should therefore beneficially be "considered and enforced as a community-led initiative" (Moore 2017: 1). In this paper we contend that the notion of research impact can also be conceived as a boundary object and would similarly benefit from being considered as such.

Method

A cross-European questionnaire has been administered in 29 European countries within the COST ENRESSH network. The research was named CARES (Careers and Research Evaluation Systems for societal impact) and seeks to investigate the perceptions and attitudes of early career investigators (ECIs) towards research impact. A total of 105 questionnaires were filled in by ECIs across Europe, who were either still doing or had completed in the last 8 years their PhD in the fields of social sciences and humanities (SSH). The questionnaire consisted of 14 open-ended and 14 closed-ended questions, focusing on the definitions of impact, pathways to impact and creation of impact, the difficulties during the creation of impact and the motivation for creating impact.

Preliminary results

Preliminary results, based on a sample of 30 questionnaires, confirm that impact can be conceived as a boundary object. There are indeed significant communalities in the ways respondents conceptualize and frame impact and engage into impact related activities, while different meanings about impact and engagement can be related to a diversity of – not only social, but also epistemic and local – intersecting communities within the SSH.

Commonalities in framing

Most respondents view impact positively as a way to translate research to non-academics, even if impact engages the researcher's responsibility, is highly time consuming and is therefore often perceived as being in tension with other academic duties (research in particular). Impact is also generally framed as a complex notion, irreducible to one definition, being not only economic, but political (impact on national regulations and policy makers), cultural (producing cultural changes) and social (contributing to community building and social well-being). Nobody disagrees either that creating impact involves other actors than the researchers.

The specificities of some SSH pathways to impact are generally acknowledged, such as in particular the transformation of research into policies or education as a pathway to impact. SSH research on researchers is deemed as fostering their critical reflexivity and as such contributing to make them more open to new paradigms, and potentially more engaged into impact driven activities.

Furthermore framing impact operates mostly by dissociation. Respondents distinguish between impact from SSH and from STEM, impact from basic research and from applied research, direct and short-term impact and indirect and long term impact, impact at collective and individual level.

There are also strong commonalities in how respondents perceive and experiment engagement in impact. Most consider that such engagement is inseparable from any meaningful research, whatever its type – fundamental, applied or strategic -, since researchers are accountable to society, being funded by public money. There is also a common recognition of the contrast between the generally high motivation of ECIs to engage into impact and the perceived lack of local support, training, funding and dedicated time, as well as the absence of career incentives, since rewards tend to focus on the publication of articles in international top journals.

Diversity of meanings

Respondents perceive a “generation gap” between more “entrepreneurial” ECIs and older researchers who would tend to favour theoretical innovation over impact. Conflicting definitions of scientific excellence – including or excluding impact - between these two social worlds are interpreted by some respondents as being motivated by the willingness of some senior academics to maintain dominance in the discipline.

The stage of the (early) career constitutes another social context that affects the engagement into impact related activities. PhD candidates may feel illegitimate because of their inexperience, while postdocs’ focus on publications and geographical mobility make it difficult to build local networks of stakeholders. Tenured professors on the contrary take less risk in engaging into impact and can choose more freely their research topics.

On an epistemic level, some research objects are perceived as more attractive to a broader audience, while “desk paper writing” and theory-laden types of research engage less into impact creation than methodologies through which research is co-created together with external stakeholders. Hence two main epistemic worlds emerge, in relation to two ways of conceptualizing the relationship between research and impact: some consider impact as a potential outcome of research – although research questions are sometimes regarded as “limited” compared to the broad issues that society and policy makers raise – while others frame impact and research as belonging to the same continuum, impact being integrated in the research process as research material or as main « inspiration ». In regard to motivation, respondents are similarly divided between those who are motivated by academic inquiry first – even if considering impact as one of its potential outcomes -, and those who are firstly motivated by impact and see research merely as a tool to create it.

Finally, differences in possibilities of funding, training and support, and the existence of related policies at national or institutional level (e.g. impact required for getting the PhD) affect the definitions of impact and the modes of engagement into it, within the different local SSH communities.

Discussion

Conceiving impact as a boundary object challenges the often too general and “one size fits all” approaches towards impact in research policy making. It engages to implement the so-called “impact agenda”, at European and national level, at a more granular level and take into

account the specificities – in ways of conceptualizing and framing, as well as in modes of engagement – of the various social, epistemic and local worlds that intersect within the SSH.

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SESSION 2.2

> **Diversity in publishing**

> **Chair** · Janne Pölönen

Dominant language of researchers across fields · *Przemyslaw Korytkowski and Emanuel Kulczycki*

Boosting Open Access books in Spanish &, contributing to the multilingualism in the Open Access space · *Elea Giménez-Toledo and Jorge Mañana-Rodríguez*

Gender differences in journal publishing in the social sciences and humanities · *Raf Guns, Emanuel Kulczycki, Alesia Zuccala, Kasper Bruun, Tim Engels, Olli Eskola, Andreja Istenič Starčič, Michal Petr, Janne Pölönen and Gunnar Sivertsen*

Dominant language of researchers across fields

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Introduction

The aim of this presentation is to investigate publication language patterns in terms of the dominant languages used by researchers. In this study, we understand dominant language as the language in which a researcher published the largest number of publications in a given period. In the case a researcher published the same number of publications in two or more languages in the analysed four-year period, we marked that person as balanced.

Research evaluation regimes across Europe treat publishing in English as a measure of internationalization and as a gold standard in research quality. However, researchers across the various fields publish in many languages, and this practice can be observed not only in the Social sciences and Humanities.

The choice of language of a scientific publication depends on internal factors such as the level of knowledge of the foreign language, and external factors such as the addressed audience, research topic or publication patterns. In this study we analyze, on the case of Polish researchers, publication practices in terms of the number of languages in which researchers communicate their results and the frequency of use of particular languages.

We use bibliographical records of publications from the Polish Scholarly Bibliography, a part of the Polish current research information system POL-on, published for the years 2013–2016. We analyse data on 67,413 Polish researchers who: (1) were academic staff members in the higher education institutions or research institutes; (2) published at least one publication of any type in the 2013–2016 period according to the POL-on data, and (3) obtained a PhD degree before 2013. In the data set were 1,031,141 publications, including journal articles and conference proceedings, as well as scholarly publications. The POL-on data is originally aggregated at the researcher level, meaning that whole counting is used, and every co-author is credited for a whole publication. The researchers were grouped into six OECD major field classifications (OECD 2007), i.e. Natural Sciences, Engineering and Technology, Medical and Health Sciences, Agricultural Sciences, Social sciences, and Humanities.

Results

Individual Polish researchers published in as many as eight languages (in History and archaeology, Law, Literature and languages). Among all researchers, 24,688 published in only one language, 38,875 in two, 3,218 in three and 632 in four or more. There are almost equal shares of those who published mostly in Polish and those who published mostly in English, and a small share of those who published in other languages, 31,875 vs. 31,344 vs. 1,117. There were 3,077 researchers whose publication language patterns were balanced, i.e. published exactly the same number of publications in two or more languages.

Analysis by fields allowed us to find interesting observations. Firstly, the dominant language in STEM fields is English, and in SSH fields is the local language, in this case – Polish. This regularity can be observed regardless of the number of languages in which the researcher publishes. The share of balanced researchers in terms of language is practically independent of the represented field. The number of researchers for whom the dominant language is neither Polish nor English in STEM is negligible. For example, in Natural Sciences there are only 23 such researchers while in the Humanities there are 924 such researchers, which is 10.7% of the total number of researchers in this field.

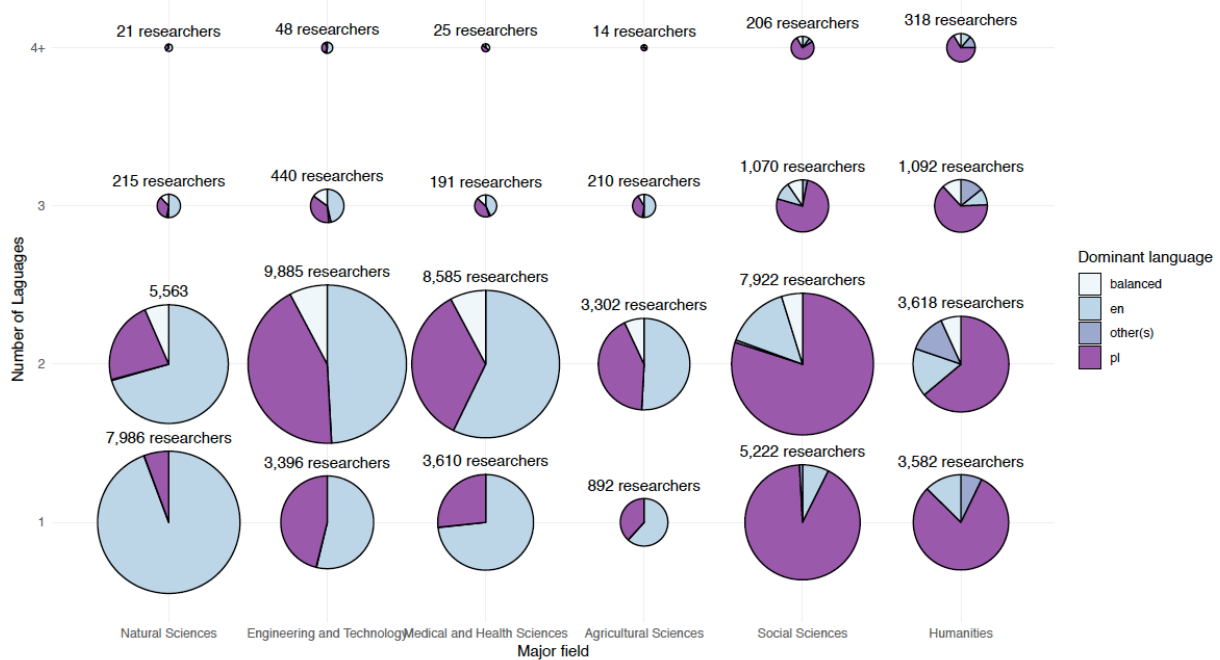


Figure 1. Dominant language across OECD major fields

Our findings show that not only researchers from the SSH but also from the STEM fields publish in local languages. Thus, internationalization practices should take into account these patterns. In this way, our presentation provides the evidence that multilingualism is vital regardless of the field of science.

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Boosting Open Access books in Spanish &, contributing to the multilingualism in the Open Access space

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Introduction

Transition towards open access has recently gained speed and strength. From a political perspective, the impulse received by *Plan S* so that by 2020 all publicly funded research is published in scientific, open access journals and the launch of the *Global Alliance of Open Access Scholarly Communication Platforms* (GLOALL) by UNESCO¹ show the clear support to promote open access to knowledge. Although open access monographs are usually the second step of those plans –due to their intrinsic complexity-, there is no doubt that a very important takeoff is taking place. This is evidenced not only by the growing number of open access titles but also with regards to the diversity of funding models, technological infrastructures for the hosting of contents or metadata of monographs, or the centrality of the topic in debates, courses and conferences on scholarly publishing (Puuska, Guns et al., 2018).

In this context of effervescency one of the topics rising concern among the associations promoting open access (OASPA or AAUP, in example)² is the plurality of contents online and the diversity of languages, topics and approaches. While the contents in English from Europe, USA and Canada are growing due to public policies as well as innovation in the publishing and scholarly sector, books in open access from other countries are not so many, are not so visible or are not discoverable.

A recent study (Giménez-Toledo and Córdoba-Restrepo) regarding open access books in Latin America shows that, opposite to what happens in the case of scientific journals in the region, there are no collective strategies boosting open access books, at least in university presses. Despite the fact that some institutions are firmly supporting the publication in open access and that there are mandates promoting open access, there is a lack of specific measures, research funds for the publication in open access, specific training for publishing professionals in issues such as intellectual property and infrastructures facilitating the dissemination and recovery of open access books. That

¹ <https://en.unesco.org/news/launch-global-alliance-open-access-scholarly-communication-platforms-democratize-knowledge>

²10th Conference on Open Access Scholarly Publishing / OASPA Principles of Transparency and Best Practice in Scholarly Publishing) or AUPRESSES Annual Meeting 2019
<http://www.aupresses.org/events-a-conferences/annual-meeting/aupresses-2019/program>

makes it difficult to count with a global vision of the publication of open access books in Spanish in the international framework, with the corresponding lack of presence of contents in Spanish online. This invisibility represents a lack of plurality in the contents, approaches and cultural contexts which are highly relevant for the research carried out in the Humanities and the Social Sciences. For this reason and, in line with the *Helsinki Initiative about Multilingualism in Scholarly Communication*³ it is very relevant not only to favor the transition towards open access of book publishers in Spanish but also to develop strategies in order to make that output visible.

Objectives and methodology

This work intends to show, on the one hand, the degree of presence of scholarly books in Spanish in large international platforms and, on the other, to identify the reasons of the publishers for not publishing open access books. There is, therefore, a quantitative (descriptive) approach and a qualitative one.

This work has the following main objectives:

- To analyze the presence of scholarly books in Spanish and Ibero-American publishers in the main international platforms: Directory of Open Access Books (DOAB), AmeliCA, OAPEN, Open Edition, Scielo Books, JSTOR and UNEBOOK, comparing them with the number of books in other languages. A map will be presented including what scholarly books in Spanish represent globally.
- To analyze the profile of Ibero-American publishers (University Presses and commercial publishers) which publish and make visible their scholarly books in open access, as well as their country of origin as an additional variable in the analysis as well as an interesting information for the promotion of open access.
- To identify conditioning factors in the research and publication systems of Spain and Colombia, as case studies, which could contribute to the explanation of the aforementioned data.
- For those countries, identify the reasons for not publishing in open access or the difficulties for doing so, through interviews (10-15) with University Presses and commercial publishers which are being carried out in the framework of a current research project⁴.

From those results, it is intended to sketch some further steps for Ibero-American publishers with regards to their transition to open access, considering their own context and considering non euro-centric solutions.

Preliminary results

³ <https://www.helsinki-initiative.org/es>

⁴ CSO2015-63693-P. *Las prensas universitarias iberoamericanas y el libro científico en español*. Ministerio de Ciencia, Innovación y Universidades / FEDER.

According to the first analysis in international platforms of open access books (April, 2019) the coverage of books in Spanish is very low, particularly taking into account the huge output of scholarly books in Spanish-Speaking countries such as Spain (17% of the titles produced annually) or Colombia (around 20%). Some preliminary data are the following:

Table 1. Total number of titles, titles in Spanish and % of titles in Spanish in some of the main international platforms of open access books.

	Nº titles	Nº titles in Spanish	% titles in Spanish
DOAB	15041	491	3,26
Open Edition	6975	445	6,38
Scielo books	1103	10	0,91
JSTOR	5198	583	11,22
OAPEN	8821	59	0,67

Source: own elaboration from cited sources. April 2019

Such distance between publishing output and production of open access books is given by different reasons, initially identified in the interviews and conversations with publishers. Open access, as a global phenomenon is known, but open access books are understood as a type of output that can only be developed by large international publishers. The most innovative funding formulas are unknown, together with the international projects for hosting scholarly monographs and technical issues concerning the management of metadata or Creative Commons licenses. On the other hand, there is a limited availability of funds for research which represents an obstacle for the funding of open access books. Apart from that reason, which affects several Ibero-American countries there is a lack of reflection and collective strategy for the dissemination of open access contents in Spanish, which suggest the necessity of a dialogue between funding agencies, publishers, university libraries and book-related institutions in order to boost this type of publication and, therefore, show a fraction of the research developed in Spanish in the Humanities and the Social Sciences.

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Gender differences in journal publishing in the social sciences and humanities

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Introduction

Most research on the role of gender in relation to authors' publishing behaviour has focussed on gender differences in productivity (Abramo, D'Angelo, & Caprasecca, 2009; Arensbergen, Weijden, & Besselaar, 2012; Mayer & Rathmann, 2018) and impact (Larivière, Ni, Gingras, Cronin, & Sugimoto, 2013). Overall, studies find that research output in most countries and fields is dominated by men. Moreover, female-led research tends to appear in less prominent publication channels (Nielsen, 2017; Teele & Thelen, 2017) and to be cited less (Larivière et al., 2013). These gender differences may be due in part to the fact that women engage less in collaborations (Nielsen, 2017; Teele & Thelen, 2017). In addition, factors like age and academic position play a role (Larivière et al., 2013; Puuska, 2010; Rørstad & Aksnes, 2015).

While some of these studies have relied on international databases like Web of Science, others use more comprehensive data sources like national bibliographic databases (Nielsen, 2017; Sīle et al., 2018). This distinction is especially relevant for the social sciences and humanities (SSH), where non-English and locally oriented journals and book publications often play an important role. Since international databases mostly focus on covering international journals, one needs

to use national databases to provide a complete picture of scholarly communication in the SSH (Kulczycki et al., 2018). The disadvantage of local sources is that they have limited geographical coverage.

In this paper, we study the relationship between gender and publication productivity using a unique dataset that combines data from national bibliographic databases of seven European countries. Following Arensbergen et al. (2012), the term ‘productivity’ is used to refer to the amount of research output produced. We consider the following questions:

1. What is the number and share of male and female researchers per country and discipline?
2. How productive are male and female researchers per country and discipline using whole counting (i.e., each contributing author is assigned a score of 1) and fractional counting (i.e., each contributing author to a publication with n authors is assigned a score of $1/n$)?
3. What is the number and share of publications in English, the local language, and other languages for female and male researchers per country and discipline?

Data

The dataset encompasses information on all 164,218 peer-reviewed journal articles published in these countries during the period 2013–2015, as well as the authors of these publications and their gender and discipline. This dataset was compiled from national databases that comprehensively cover the peer-reviewed journal literature in the respective countries.

Preliminary results

In this section, we present a few preliminary results. First, we look into the number of active researchers per country and discipline. At the aggregate field level (humanities and social sciences), the number of male researchers exceeds the number of female ones in every country, with the exception of Finland (54.4% women in humanities and 55.7% in social sciences) and Poland (50.4% in social sciences). The lowest share of female researchers occurs in the social sciences in Denmark (39.9%).

There are, however, large differences between disciplines. While most disciplines are dominated by men, others have a majority of female researchers (Figure 1).

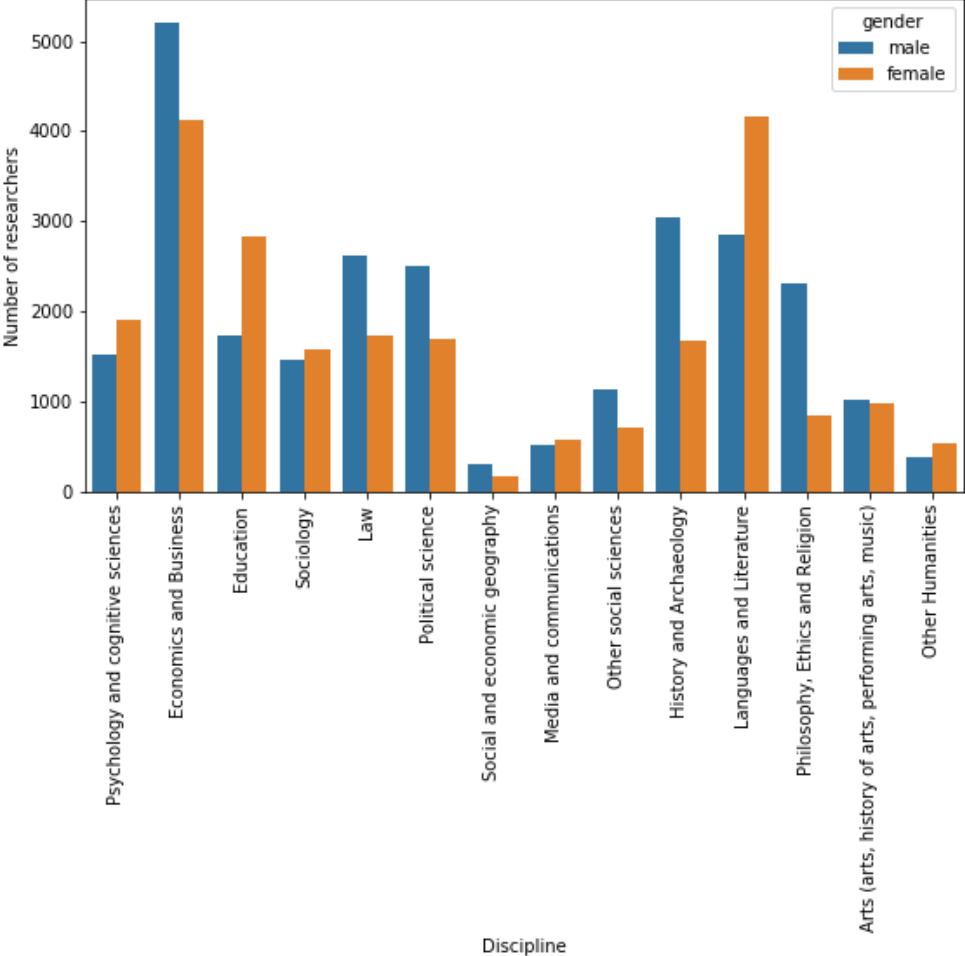


Figure 1. Number of male and female researchers per SSH discipline in the dataset (all countries)

In terms of productivity, we find that in each country female authors tend to publish fewer articles than male ones. The average difference between men and women is small, however, and in general differences between countries are larger than gender differences within one country. Figure 2 shows the distribution by country using a letter-value plot (Hofmann, Wickham, & Kafadar, 2017). There are no substantial qualitative differences between the results for whole and fractional counting, indicating that, overall, women in our dataset collaborate at a similar rate to men.

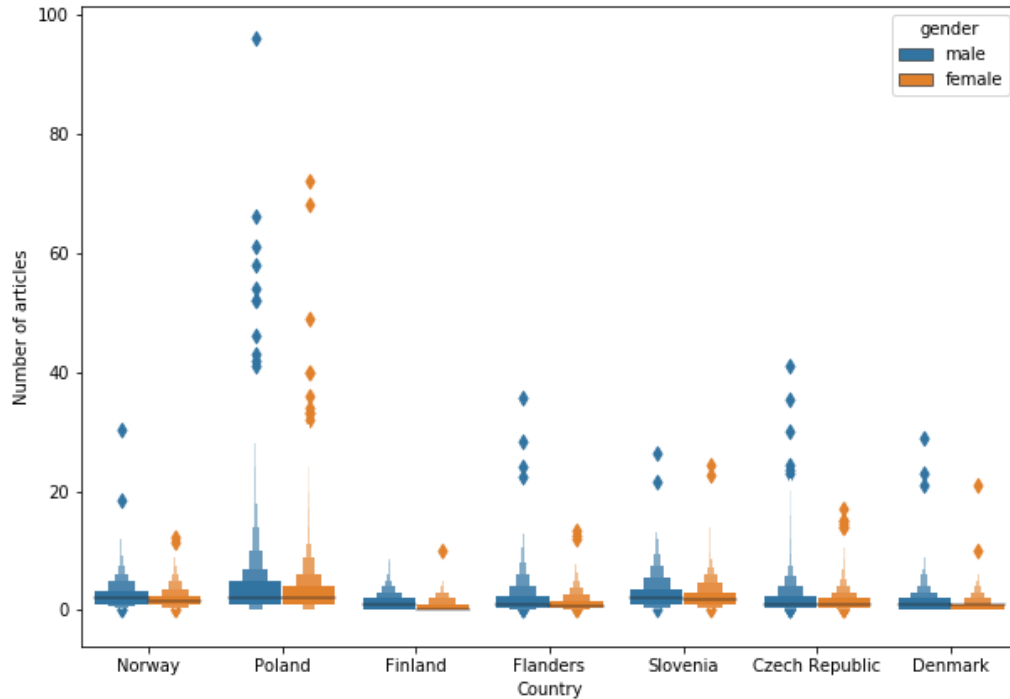


Figure 2. Distribution of number of articles by male and female researchers (fractional counting)

Finally, we consider language differences between male and female researchers. Our results indicate that in five countries, the average female author is more likely to publish in the local language than their male counterpart. The differences are, however, small (Figure 3).

At the conference presentation, the answers to the research questions will be further elaborated and their interpretation and implications will be discussed.

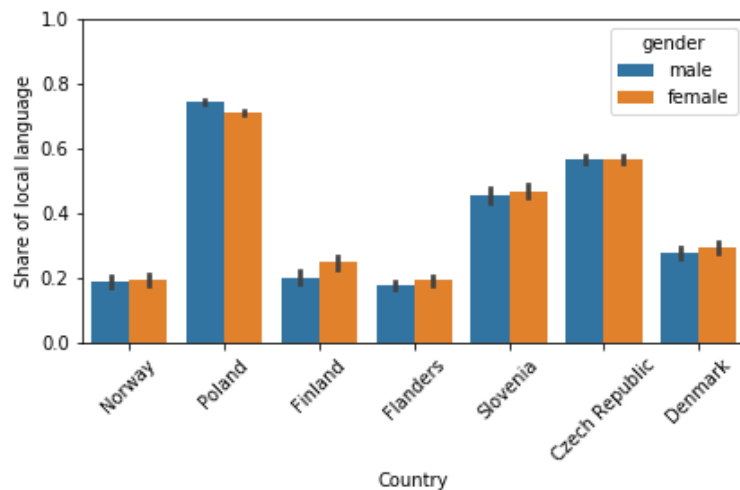


Figure 3. Average share of articles in local language

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SESSION 3.1

> **Societal impact. Science and society**

> **Chair** · Jordi Molas

A cartography of philosophy's engagement with society · *Diana Hicks and Britt Holbrook*

Exploring Notions of Impact in the Humanities · *Lai Ma*

Does impact have gender? Gendered definitions and framings of impact in social sciences and humanities · *Karolina Lendák - Kabók, Marc Vanholsbeeck and Alexis Dewaele*

Evaluating academic research at the crossroads of academic and societal demands · *Nelleke Van den Broek Honingh, Ad Prins and Jack Spaapen*

How evaluation can contribute producing social impact in social science research · *Emanuela Reale*

A cartography of philosophy's engagement with society

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Introduction

Should philosophy help address the problems of non-philosophers or should it be something isolated both from other disciplines and from the lay public? This question became more than academic for philosophers working in UK universities with the introduction of societal impact assessment in the national research evaluation exercise, the REF. Every university department put together a submission describing its broader impact in case narratives, and these were graded. Philosophers were required to participate. The resulting narratives are publicly available and provide a unique resource permitting a more comprehensive, empirically based consideration of philosophy's influence outside the academy than has hitherto been possible. This paper takes advantage of this data to develop a cartography of the ways in which philosophers engage society in their work.

Method

Our analysis is based on a reading of the philosophy cases submitted to the REF. In our first reading we looked for common themes in similarities between cases. We set up a preliminary list of categories in mind mapping software to help organize the cases under headings that captured our sense of similarities in approach as well as differences between groups of cases. After this we iterated between the mind map and the cases to refine the categories seeking to condense them into a small number while devising labels that accurately captured the essence of similarities within groups and differences between groups. The result is a grouping of cases into what we identified as the most natural types, identifying five main strategies each with at least two or three cases.

Theoretical Framework

Robert Frodeman and Adam Briggie in *Socrates Tenured* (2016) delineated the characteristics of a field philosopher, or one who is engaged with societal concerns. We interrogated the REF cases looking for evidence of activity along five of the six dimensions of field philosophy put forth by Frodeman and Briggie: goal, approach, audience, institutional placement and method. The sixth dimension, evaluation, we exclude because each case was put forward for evaluation by non-scholarly criteria in the REF. Therefore, every case meets this criterion of field philosophy by definition.

Results

Philosophy's engagement with society is interesting because it is a "hard case" in the sense used in sociology of science of a setting in which it is particularly difficult to envisage academics complying with increasing pressure for societal engagement. Nevertheless, our analysis identified five approaches philosophers can use to engage society: dissemination, engagement, provocations, living philosophy, and philosophy of X. We compare these along the six dimensions proposed by Frodeman and Briggle to characterize the ideal field philosopher. We conclude that there are multiple ways of being a field philosopher, which vary in their emphasis. This pluralism bodes well for the expansion of philosophy's societal influence, since there are routes available to suit different preferences.

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Exploring Notions of Impact in the Humanities

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Introduction and Background

“There is a particular form of indignation, familiar within discussions of the value of the humanities, which produces or accompanies an outright refusal to engage with comparisons between incommensurables.” – Helen Small, *The Value of the Humanities*

What do humanities scholars think about impact? How do they describe impact? Using semi-structured interviews, this study explores these questions with humanities scholars in Ireland with the objectives of mapping the relevance of their work in impact assessment/framework, as well as articulating their engagement with business, cultural, and public sectors.

There is an increasing pressure for the humanities to demonstrate their value to society. The reasons are both economic and social. Many have indicated that the New Public Management regime has brought vocabularies such as accountability, value for money, and return on investment in universities and research administration and management; others have discussed a perceived ‘uselessness’ of the humanities because their work is not usually tangible or for utilitarian purposes. The quality of scholarship in the humanities is difficult to be represented in measures and indicators, and their usefulness or value to society is seemingly impossible to trace.

The necessity of demonstrating economic and societal impact is particularly highlighted when resources become scarce, and when competition for resources becomes intense. In Ireland, the financial crisis in 2008 has steered research funding to priority areas with tangible deliverables, while funding for research in the humanities and the social sciences was substantially cut. The trend continues in the Report of Research Priority Areas 2018-2023, which has a direct effect on funding allocation for research, highlighting six areas (namely, ICT, Health and Wellbeing, Food, Energy, Climate Action and Sustainability, Manufacturing and Materials, and Innovation in Services and Business Processes)—none of which is directly related to the humanities. Most recently, the Impact Assessment of Irish Universities Report published in April 2019 shows a wide range of monetary value of university education with only a brief mention of the social and cultural impacts of Irish universities.

There is a pressing need to reverse the trend of discounting the value and relevance of the humanities in society at large, as well as to develop appropriate methodologies and tools to record and trace their public engagement, influences, and impact of the humanities (see also HEA, 2010; Gibson & Hazelkorn, 2017). Recently, the Irish Humanities Alliance has promoted the importance of impact through workshop (for example, IHA, 2015) and their website. Impact case studies are also promoted in some universities, including University College Dublin (UCD) and University College Cork (UCC).

Previous studies have suggested ‘productive interactions’ with society (Spaapen & van Drooge, 2011) and model of research valorisation to convey societal benefits (Benneworth,

2015). The narrative meta-analysis of impact case studies show that pathways of impact are diverse and non-linear (Muhonen, Benneworth & Olmos-Peñuela, 2019). Yet, some have concerns about the impact case studies methods (Sivertsen, 2017). Questions as to how to best articulate, trace, and record the influences and relevance of the humanities remain open for exploration.

The Study This study aims to understand the notions of impact from the Humanities perspectives. I am conducting semi-structured interviews with scholars and researchers in the Humanities to discuss the contributions of their work, their relevance to society, and their understanding of research impact. At the time of this submission, a total of four interviews have been conducted/scheduled. It is envisioned that 15-20 interviews will be conducted between May and August 2019. The UCD Humanities Institute has also agreed to host a lunchtime seminar about the study later this year. I will present preliminary findings at the RESSH conference.

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Does impact have gender?

Gendered definitions and framings of impact in social sciences and humanities

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Conceptualization of impact

Research has various outputs, some of which can be considered as impact or any effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia (REF, 2014:6). Impact is not easy to create and to communicate to the larger public, it needs a sequence of activities in order to achieve it. The processes/activities that lead towards impact are commonly referred to as ‘pathways’ (Research Councils UK, 2014) although generating impact has also been linked to concepts such as knowledge transfer (Finne et al., 2011), knowledge utilization (effects) and knowledge exploitation (revenues) (Leiden protocol for research assessments, 2015), valorization or valuation, and productive interactions (Morton, 2015; Spaapen & Van Drooge, 2011; Wilson, Lavis, Travers, & Rourke, 2010). Impact has to be inevitably linked to the notion of accountability, as society is expecting from those who are engaged in scientific practice are indeed “doing science” in terms of an accepted model (Room, 2001:18). In addition, all accounts of the world reflect the social, ethnic, gendered, etc. position of the people who produced them (Hammersley & Gomm, 1997). Gender differences are continuously emerging in research, differentiating male and female researchers in different ways: through the segregation in scientific fields (Petó, 2018), fewer female PhD holders (Fassa, 2015), differences in academic hierarchical positions (Benschop & Brouns, 2003) etc. In the Advisory Group for Gender’s report states that there is a need for research which will have genuine impact in reducing discrimination, both explicit and implicit; improving societal cohesion; and creating opportunities for all European citizens (European Commission Advisory Group for Gender, 2016). Considering the above-mentioned, impact should not be gender blind and has to justify the usage of societies resources.

Method

This article is based on the Careers and Research Evaluation Systems for Societal Impact (CARES) survey, which was distributed in 29 European countries. It focused on investigating the attitudes of Early Career Investigators (ECI) toward societal impact. One hundred and six questionnaires were filled in by ECI’s across Europe who were either still preparing or already completed their PhD’s in the field of social sciences and humanities (SSH). The questionnaire consisted of 14 close-ended and 14 open-ended questions, which aimed to make sense of the complex environment within which ECIs are doing their research and creating societal impact. The questions were focusing on the following topics: definition of impact, pathways to impact, creation of impact, difficulties during the creation of impact and motivation for creating impact. For this study we focused on two specific topics: gendered difference between the definition of impact among ECIs’ and their attitude towards impact. The preliminary results are based on the sample of 30 analysed questionnaires.

Preliminary findings

Respondents of the pilot phase of the CARES study define and frame the notion of SSH impact in various ways, notably in relation to the policy, epistemic and local contexts in which they are doing research. Gender differences emerged in the statements of female and male respondents, when defining the notion of impact. Female respondents linked impact with positive changes, e.g. raise awareness about various inequalities, dismantling stereotypes and, as well as responding to societal challenges. Female ECI’s referred more to the social justice which, in their statements, impact can achieve. Therefore, they were connecting impact’s power to contribute to a more equal society, gender equality, but also as a research “product” which can induce behavioural changes and raise critical awareness. Male respondents defined in their statements impact as a connection between research and society. Men made a

correlation between impact and pure academic research, as a “justification” for the research to be done or making sense of research. Impact was defined as an advancement of knowledge and a trust in co-creation of research, but also it meant helping solving problems and creating opportunities. When it comes to ECI’s attitudes towards impact, female and male respondents shared a common concern about the focus on impact creating tensions between the invested time and valorization. We identified a gender difference when it comes to what should be their primary focus in their academic career, instead of creating societal impact within their research and non-research activities. Statements of women emphasised the importance of publishing, while acknowledging that through impactful SSH studies social equality could be achieved (this aspect of their academic career they value intensely). Whereas men were very determined when it came to why impact should have an important role in research cycle: it is their obligation towards society and its citizens who are funding it. Men in their statements consider, that through societal impact creation they are reciprocating for public funding, but also setting role models for future researchers.

Discussion

The preliminary findings accounted for a binary division between ECI men and women regarding definition and attitudes towards impact. While women were in their statements defining impact as a “tool” for achieving social justice, men were connecting impact mainly to academic research. In their attitudes towards impact, men and women agreed on how creating impact means a great investment of time, which should be spent on building up their academic careers (i.e. writing publications). When it comes to gender differences in attitudes: women were emphasising the importance of social equality, while men were giving importance to the notion of accountability, as researchers have to act responsibly towards society. Our result urges us to further explore gendered aspects in the framing/definition of “impact”, as gender will remain to be in focus in the next big funding period Horizon Europe (2021-2027) and in order to engage in societal impact creation efficiently, we need to understand how it is gendered.

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Evaluating academic research at the crossroads of academic and societal demands

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Conducting academic research in the 21st century is both demanding and exciting. Demanding because a broad variety of stakeholders (from policy, industry, and the wider society) is penetrating university life with rising expectations. And exciting because the questions that are put forward by this complex societal context can only be addressed in a productive way by collaboration between academic disciplines (interdisciplinarity) and or even wider collaborations between academics and actors outside academia. This means that academics have to rethink their research in terms of its relevance for those stakeholders. It also means that funding organisations (governments, institutions, research councils) have to rethink their research policies and their evaluation models, since traditionally these policies and models mainly focused on academic knowledge production and communication channels. In this article, we will review the national evaluation system that has been developed in the Netherlands against this widening context in which academics have to perform nowadays.

The Dutch evaluation system

In 2003 the Dutch Government introduced the Standard Evaluation Protocol (SEP) as the national evaluation protocol for publicly funded research at universities and research institutes. The SEP aimed at combining the evaluation of the quality and societal relevance into one comprehensive system of research evaluation. Arguably, the Netherlands was the first country to do this. Through the SEP all academic research was to be evaluated every six years, and after each six year cycle, the SEP would be reviewed by the main participants (universities, Royal Netherlands Academy of Arts and Sciences, Netherlands Organisation for Scientific Research) and adapted if necessary. Currently, the third version of the SEP is running. (VSNU, KNAW, NWO, 2014)

While the SEP has become part and parcel of the Dutch Academic system, for an important part thanks to the fact that SEP is operated by the institutions themselves, in an autonomous way independent of the government, some scientific areas criticized the system for being not flexible enough for their particular ways of producing knowledge and communicating about it with a variety of stakeholders, most notably the humanities (but also the social sciences and the engineering fields). (Van der Hoeven et al., 2010; Bensing et al., 2013; Algra et al 2013)

One of the results is the development of QRiH, a system for the assessment of Quality and Relevance in the Humanities. (Prins et al, 2019)

QRiH: combining societal and academic contexts

The deans of the humanities faculties decided to design an evaluation protocol that was based on the SEP, but at the same time catered more specifically to the knowledge production system of the humanities. This variant of the SEP was called Quality and Relevance in the Humanities (QRiH) and was published by the end of 2017 on a dedicated website, <https://www.qrih.nl/en>. While QRiH maintained the main SEP distinction of scientific quality and societal relevance as main evaluation domains, two changes are rather critical.

The first is that QRiH takes the narrative as the main structure of the self-evaluation. While in the SEP the narrative is reserved solely for societal relevance, QRiH asks researchers to review their work in a comprehensive narrative paying attention to both the scientific and the societal context. Second, for QRiH a wide range of indicators has been developed and made available on the website. Indicators are both qualitative and quantitative, and regard scientific quality and societal relevance, including hybrid indicators for knowledge products and outcomes that addresses academic and non-academic audiences at the same time. QRiH also reviews a range of outcomes that are specifically characteristic for research in the humanities, such as catalogues, films, exhibitions etc.

One of the indicators exemplifies the comprehensive characteristic of the narrative, in its attempt to combine the scientific with the societal context of research outcomes. “Hybrid publications” in the sense of QRiH – other than referring to an open access characteristic – gives the opportunity to enlist output addressing general as well as scholarly audiences. Examples of this type of output are well written books, or other scholarly output aiming to address broad audiences with intellectual interests. The effects of this type can be demonstrated as well, with the Contextual Response Analysis, a method to trace the reception of academic output via various sources, such as dedicated databases, Google Scholar and via internet searches. (Prins and Spaapen, 2017)

Given the wide variety in humanities research, not only in terms of disciplines or fields but also in the way relevance is expressed, QRiH has been developed bottom up, via panels of researchers operating in 17 different humanities domains. Initial questionnaires for domain panels intended to chart the diverse features of publication cultures of each of the humanities domains, paying ample attention to diversity also with regard to specialized, disciplinary and multidisciplinary characteristics. One of the tasks of these domain panels was to produce limited lists of journals and publishers that represent certain quality standards and are deemed important in their specific domains. The panels were also asked to come forward with examples of hybrid publications and to provide information about research outcomes in other forms than publications in terms of papers in journals or scholarly books. Subsequently, various meetings were staged with panels and representatives in the various humanities fields, involving the cooperation of over 200 scholars.

Although the bottom up procedure in developing QRiH ensures a rich system that is well grounded in humanities research practices, and leads also to increasing approval among researchers, the proof of such a system is in its actual use. A first opportunity to review the experiences of users occurred at the end of 2018.

First experiences in using QRiH

Most humanities research units in the Netherlands have been evaluated in or around the year 2018. While the use of QRiH was not mandatory, we were curious to see whether and how humanities research units made use of QRiH writing a self-evaluation. To determine whether QRiH was used when writing the self-evaluations and to determine whether QRiH was perceived as helpful, we decided to evaluate the use of QRiH via a short questionnaire. The goal of the evaluation was threefold. The first goal was to determine whether (parts of) QRiH were used when writing a self-evaluation. Secondly, we wanted to know if QRiH was perceived by users as helpful when writing a self-evaluation. The third goal was to determine which topics presented in QRiH were perceived as helpful and, if not, how this could be improved.

As a first step we developed a questionnaire which was broadly discussed during the development. The survey included questions like:

- Did you use (a part of) QRiH when writing the self-evaluation? If yes, which parts? If not, why not?
- To what extent was QRiH helpful when writing the self-evaluation?

Furthermore, we asked the respondents to explain their answer.

We also included questions about specific parts of QRiH. For example: we asked whether the set of indicators for measuring research quality and relevance to society was helpful when writing a self-evaluation report. For every part of QRiH we asked the respondents to choose between: (i) this part was helpful, (ii) this part was not helpful and (iii) I don't know. We also asked them to explain their answer and suggest proposals for improvement.

The questionnaire for the survey was ready for use in the summer of 2018 and was distributed from this moment on until January 2019: the month when the last humanities research units in the Netherlands finished writing their self-evaluation. We sent the questionnaire to humanities research units shortly after they were finished writing their self-evaluation so that their experiences were still fresh in mind. The questionnaire was sent to 27 directors and policy advisors of the humanities research units, because they are usually closely involved in the process of writing and coordinating the self-evaluation. Some of them forwarded the questionnaire to people more closely involved with the self-evaluation. We received back a total of 21 questionnaires. There was a great variation in the way the questionnaires were completed. Some were filled out poorly, others extensively.

In order to get a better understanding of the experiences with QRiH, seven in-depth interviews were additionally held. The interviews were mainly held at faculties where the questionnaires did not provide a (good) coverage of the experiences with QRiH. The interviews were held with directors and policy advisors of humanities research units.

Finally, 16 self-evaluation reports of humanities research units were collected to study whether and how QRiH was used. In twelve of the sixteen self-evaluation reports QRiH had been used.

Preliminary results of the evaluation

In this paragraph we will first discuss the general results of the evaluation. Following we will address the results of three specific aspects of QRiH, namely the narrative, indicators and lists. A more detailed report of the evaluation will be presented later on.

General results

In general, we experienced a very high willingness to participate in the evaluation and also that most people were familiar with QRiH.

By far most respondents of the questionnaire think QRiH is very (5) or somewhat (12) helpful as an evaluation instrument. Many indicate that they are happy that QRiH has been developed specifically for the humanities. Besides this large group who believe QRiH is very or somewhat helpful, we also received a few neutral (2) as well as negative responses (1). The people who responded neutral mainly indicate that SEP works for them just fine and that therefore there is no need to use QRiH. We received one questionnaire of someone who is quite negative about QRiH. When sending out the questionnaire we received some negative responses, all from the same domain, philosophy. The main argument for them is that they already have a body to discuss quality indicators for their domain, and therefore don't need QRiH.

The narrative

The core of QRiH is that the entire self-evaluation is set up as a narrative. Almost all respondents indicate that they have used the narrative in their self-evaluation(s). Furthermore, the narrative appears to be the one component that people are most satisfied with. A number of the respondents indicate that the narrative (sometimes in combination with indicators) has helped them in finding the identity of the research unit (who are we?, who do we want to be?, how do we differ from other research units?).

The idea of using a narrative for writing a self-evaluation, in which the scientific and societal goals are described in mutual coherence, appeared to work quite well and is supported broadly. The evaluation also showed a few things of QRiH that could be improved. From the responses to the questionnaire and during the interviews, we discovered that not everyone had understood the idea of describing the *entire* self-evaluation as a narrative. For instance, some used a narrative only to describe the societal relevance of the research unit, basically following the SEP instructions. Besides this clarification, respondents indicate that the format for the self-evaluation should be adjusted on a few points, to make it more clear and that there is a need to share experiences and to see examples of narratives. All these comments and suggestions are quite practical and it does not alter the fact that most respondents and interviewees are positive about the narrative.

The indicators

The intention of QRiH is that research organizations choose an appropriate set of quantitative and qualitative indicators that provide robust data to support the narrative. QRiH has a wide range of indicators for production, use and recognition and are described in detail on the QRiH website. These indicators are the result of a broad consultation in the humanities field.

In the questionnaire, most people indicated that they found the set of indicators to be helpful. However, some respondents have specific comments on the indicators. Some indicate that there are too many indicators, others make suggestions for adding additional indicators. Some use the indicators of QRiH, others see the indicators primarily as an incentive to develop indicators for their own domain. Various respondents who indicated that they found the indicators to be helpful, explained that they were happy with the different types of indicators that represented the interaction of researchers with stakeholders (for production, use and recognition) and with the freedom to choose indicators that are suitable for them. The bottom up procedure in this respect was highly appreciated. Some also specifically express their appreciation for the indicator "hybrid publications", which stimulated the willingness of researchers to cooperate with the preparation of the self-evaluation. Furthermore, the self-

evaluations we studied show that, as QRiH intends, in many (but by no means all) self-evaluations is indicated why certain indicators have been chosen, i.e. why the chosen indicators are important for the research unit. It was also noticeable that many opted for quantitative social indicators, but a number (also) opted for more qualitative indicators, such as case studies.

The respondents and the interviewees regularly noted the practical problems with collecting data for societal indicators. For the collection of data for scientific indicators such as the number of journal articles or the number of citations, there are several well-known tools. For the collection of data for societal indicators, people are searching. There is a great demand for practical tips, instructions or simple tools for collecting, managing and analyzing data to support indicators of social impact. Furthermore, there seems to be a need to share experiences and tips and tricks. Some interviewees also mention that it is difficult to keep the data up to date over the six year's evaluation period also in view of the limitations of current research information systems. Systems such as METIS or PURE offer few opportunities to enlist the diversity of output allowed for in the QRiH system or to acknowledge the complex or hybrid characteristics of outcomes or the efforts that go with diverse output. Perhaps also as a result, staff may be consumed by other tasks, and collecting data loses priority.

Lists of journals and publishers

To help develop robust indicators, QRiH offers lists of prominent publication channels (publishers and journals). However, while a result of a broad consultation, these lists appeared to be the part of QRiH that the respondents are least satisfied with. The most important comments are:

- Faculties and other research units often cover several domains, while the lists are classified per domain. This is confusing.
- Not everyone agrees on the content of the lists. Some indicate that too little account has been taken of the subdisciplines and / or that not all relevant journals are part of the list. An interviewee indicates that it is impossible to make a good list, because this discipline is so wide and regionally different.
- Scientific domains have their own habits. Interviewees of one domain indicate that the lists are not used, because it is customary for them to look at journals with a high impact factor. For another domain, it is customary to use another list. Furthermore, there are people who indicate that the distinction between peer-reviewed and non-peer-reviewed journals is more important than the lists.
- One of the interviewees indicates that the problem with the lists is that they are seen as limitative, while this is not intended to be so. It can be reasoned (from the mission of the research unit) why publications are published in journals that are not on the lists.
- There was a lack of clarity in the process of the creation of the lists, which diminishes trust in the lists.
- Finally, there were practical problems: it turned out to be complicated for many to compare their own publication list with the QRiH list.

Concluding remarks

While we have not yet done a full analysis, these preliminary results will help us to develop QRiH further. The most important result for us is that there is a general appreciation for this initiative to find a way to evaluate humanities research that is closely related to the work people are doing, and to the kind of interaction they have with researchers in other fields, and

with the wider societal environment. The bottom up approach for indicators, qualitative and quantitative, to support the narrative in a robust way, was highly valued, notwithstanding the fact that for many indicators still work has to be done. Especially the gathering of reliable data for indicators for societal impact is still difficult.

A controversial issue remains in the lists of journals and publishers. While these were meant to select the best or the most used in the field, it turned out to be a battlefield for different interests. The question is whether it is possible to compile a list that is recognized as a qualitatively robust representation of an entire field. Given the many comments on the lists, this requires further analysis and discussion with the field. A meeting for this will be organized in the autumn of 2019.

After that meeting, we will use the results of the survey, interviews and meeting to adapt QRiH for the coming years.

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RESSH 2019

How evaluation can contribute producing social impact in social science research

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Introduction

The paper deals with evaluation of social impact of research projects in social sciences. Social impact is mostly defined as an effect that research could produce beyond the academic context in terms of benefits on societal and institutional challenges, including also impact on the political side (Penfield et al., 2014).

The interest to deepen issues of social impact evaluation in social sciences (SS) derives from the limitations of using traditional approach based on input-output-outcome measurements; SS are characterized by effects that are more difficult to be singled out than those produced in other areas of science, and measurements provide very poor and often biased understanding of the phenomenon (Reale et al., 2017).

The paper wants to demonstrate key determinants of generating impact in the different types of interactions with non-academic actors involved in the projects, discussing what implications this can have on evaluation criteria and methods. Also, the evaluation of factors depriving quality and innovativeness of research produced are discussed.

Theoretical framework

The theoretical approach focuses on research process (Spaapen and van Drooge, 2011) and contribution to the impact generation (Mayne, 2012), instead of attribution of impact to research activities; in this respect it is of crucial importance to shed light about the generating mechanisms that transform knowledge into actionable goods, and the network of actors involved (Joly et al., 2015).

Social impact could be strengthened by participatory involvement of different social actors through productive interactions (Molas-Gallart, 2012; Wiek et al. 2014); the positive effects of these interactions are closely related to the ways in which researchers and stakeholders communicate about research, its goals and societal demand (Molas-Gallart, 2012). Thus, social impact is a consequence of a process in which knowledge and expertise circulates to achieve specific objectives that are relevant for the progress of society (Spapeen and Van Drooge, 2011). A participatory approach could affect deeply the sustainability of research so it must be implemented since the beginning of projects (Talwar et al., 2011).

Under a slightly different conceptualization, social impact is generated through translation of actors involved in the process (Joly et al, 2015), which co-define their interests along the so-called impact pathway (Walker et al., 2008; Joly et al. 2015). In both cases, the role of stakeholders is at the core of impact production, and understanding features affecting their involvement is still a low explored issue.

Method and data

The paper is based on five in depth case studies of projects, funded respectively under the European Programs FP6 and FP7 in social sciences. In three cases a social impact became visible just after the project completion. In two cases impact did not emerge. The case studies selected are developed under the IMPACT-EV EU-Project, which are illustrative examples of modes for stakeholders' involvement in research actions.

Four aspects of actors' involvement have been considered, which are signaled by the literature as important features for generating impact:

- Modalities and communications between actors involved in the projects;
- Timing – timely interactions during the project and after the project completion determining the impact pathway;
- Language – capability to develop mutual understanding between researchers and stakeholders;
- Outcomes – co-creation of results with transformative effects on science and society.

Cases follow a standardized structure, developed through triangulation of information from different sources, namely information from documentary analysis (characteristics of the call under which the project has been funded, reports and deliverables produced, other administrative documents), data and indicator on research outputs (bibliometrics and other web-based resources), interviews with researchers, coordinators, and stakeholders involved in the activities.

Results

Results showed that, for successful cases, theory-based approaches of non-academic actors' involvement, building a common language, in combination with organizational features promoting collaborations, and careful timing of the interactions are all important elements to be considered in ex-ante evaluation -the presence of them in the design of the project should improve the likelihood that an impact might occur.

In the same vein, the mentioned items should be assessed over the project implementation, in order to understand whether the research activities were properly developed to achieve the objective of producing impact.

However, in ex-post assessment the linkages between scientific outputs and impact is an issue that deserves attention in order to avoid a trade-off between pursuing an impact and the quality of the research outputs. Evaluation plays an important role to ascertain the extent to which the claim of less innovativeness of research output can be controlled through empirical evidences and indicators.

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SESSION 3.2

> **Academic publishing · internationalization & metrics**

> **Chair** · Ismael Rafols

International visibility and impact of national journals. A comparative study of Spanish and Italian legal journals · *Rafael Aleixandre Benavet, Ginevra Peruginelli, Daniela de Filippo and Elias Sanz Casado*

Using Google Scholar and LexisNexis to compile citation profiles for South African journals in legal research: An exploratory study · *Nelius Boshoff*

Coverage of journal articles in social sciences and humanities in Web of Science and their distribution in citation indexes · *Michal Petr, Tim C.E. Engels, Emanuel Kulczycki, Marta Dušková, Raf Guns, Monika Sieberová and Gunnar Sivertsen*

Gender publication gap: a case study in Italian legal periodicals · *Ginevra Peruginelli, Tommaso Agnoloni and Sara Conti*

International visibility and impact of national journals. A comparative study of Spanish and Italian legal journals.

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Introduction

The publication of results of research in the social sciences and humanities (SSH) presents differences from publications in other areas. The scope of research (local, national, European, international) (Nederhof, 2006), the documental type (chapters in books, monographs, journal articles) (Hicks, 2004), the language (vernacular) and habits of collaboration (individual or with little institutional collaboration) (Chi, 2014), have their own characteristics and this requires the development of specific methodologies for the analysis and assessment of SSH publications.

When examining the international experiences of the journal evaluation in SSH, one of the first classifications is represented by the European Reference Index for Humanities (ERIH), an initiative launched by the European Science Foundation (ESF) in 2001. In several European countries such as Italy (Ferrara and Bonacorsi, 2016), The Netherlands, Norway, Denmark and Sweden (Ahlgren, Colliander and Persson 2012; Ingwersen and Larsen 2014; Hammarfelt and De Rijcke 2015; Aagaard, Bloch and Schneider 2015) and Spain (Torres-Salinas et al. 2010) other exercises of classification of journals in this field have been carried.

Legal science, being part of SSH, is perhaps one of the not bibliometric fields that mostly is averse to the evaluation practices based on quantitative approach. Research evaluation in legal science is a delicate and complex process due to the fact that there are profound differences between the various branches of law, therefore the tools of communication are very different: an internationalist shares research through international journals while a legal historian relies more on books. In particular, legal scholarship is both the science of law and one of the authoritative and influencing sources of that law. This is why there is a strict relationship between legal science and legal practice.

In recent years, European countries have been involved in an intense debate concerning the evaluation of legal research outputs. The debate tends to focus on a few specific aspects, which are very relevant for the purpose of this paper, which intends to offer a picture of the Spanish and Italian scenarios on legal national journals and citation databases. In Spain, the Comisión Nacional de Acreditación de la Investigación (CNAI) establishes the criteria for granting research awards to university professors who have successfully carried out their research activity (“Sexenios”). The results show that those fields that move away from the

practice of publication in international journals have a lower success rate. This is the case of Philosophy and Law (Ruiz-Perez, 2016). This gap between publication practices in the academic community and evaluation criteria has led CNAI to modify the requirements for researchers in Social Science, Humanities and Law, including books, book chapters and articles in Spanish journals (BOE, 2018).

It is clear that this is a complex issue, so the debate on this line is central.

Main objectives

The aim of the paper is to compare the Italian and Spanish situation of legal journals within the different citation databases available and used by SSH scientists, in order to take into account the state of the art of legal publications within the most popular citation data sources.

Methods

For the Italian side, we have collected all the top ranking legal Italian and Spanish journals. The Italian list is the updated list of Class A scientific journals for the purpose of Abilitazione Scientifica Nazionale (ASN) for applying as tenured associate or full professor positions at state-recognised universities.

For the Spanish side, since 2006, the Spanish Foundation for Science and Technology (FECYT) has been carrying out the ARCE project (FECYT, 2018) with the aim of contributing to the internationalisation of Spanish scientific journals, recognizing them with the Quality Seal. In 2015, FECYT supported a new project in order to develop a methodology for the classification of national journals of SSH (FECYT, 2017). This methodology was developed to categorise journals already recognised with the Quality Seal and to offer a list (ordered according to merit) in each scientific category, especially in SSH. For the purpose of the paper, the methodology implemented by FECYT has been applied.

For the evaluation and classification of journals, the methodology is based on two dimensions: the analysis of journals' impacts and their visibility. The dimensions and indicators are shown in table 1.

Table 1. Dimensions and indicators

<i>Dimension</i>	<i>Indicator</i>	<i>Weight</i>
<i>IMPACT</i>	<i>Citation (last 5 years)</i> <i>SCI, SSCI, A&HCI</i> <i>Scopus</i> <i>ESCI</i>	<i>60%</i>
	<i>h index (last 5 years)</i> <i>WoS (SCI & SSCI)</i> <i>SJR</i> <i>Google S. Metrics</i>	<i>10%</i>
	<i>Quartile (in 2017)</i> <i>WOS (SCI & SSCI)</i> <i>SJR</i>	<i>10%</i>
<i>VISIBILITY</i>	<i>MIAR-ICDS</i>	<i>20%</i>

Final Score

The final score obtained by each journal is the sum of their values in the previous phases: citations + H-index + quartiles + ICDS (the maximum to reach is always 100).

Quartile distribution

Finally, the journals are ranked by quartiles taking into account the total number of journals and the total score obtained by each one of them.

Results

The model was tested in 167 journals in the field of law of both countries; 44 Spanish journals with the FECYT Quality Seal and 123 top ranking Italian legal journals. The results obtained after applying the methodology to calculate and assign values to each dimension show that the number of citations received by the most visible journals (journals in quartile 1) is higher than the rest, with similar proportions in both countries. It has also been observed that most Italian law journals are not present in international databases such as WoS and SCOPUS, none have been indexed in WOS and only 8 (6,5%) of them have been indexed in SCOPUS, 7 (5,7%) of which are located in the Q1. In the case of the Spanish law journals, 2 (4,5%) are included in WoS and 11 (25%) in SCOPUS, all of them reaching positions that place them in quartiles 1 and 2.

With respect to the visibility indicator, the Spanish journals with the highest ICDS are located, in general, in better positions. However, in the case of Italian journals, the distribution is more heterogeneous.

We have merged all Italian and Spanish journals in a single list, sorted by their scores from highest to lowest, and they have been ranked by quartiles. In the first quartile (including 42 journals), the 62% of them (26) are Spanish and 38% (16) are Italian.

Concluding remarks

The methodology for the classification of national journals of SSH used in this study has allowed to compare the characteristics of scientific journals of two countries, the majority of them not included in international databases (WOS or SCOPUS).

We believe that this is, in the field of law, a very important survey as it takes a picture of how legal research coming from two old European countries is represented in international citation databases. The results show that the Spanish journals have more impact and visibility than the Italian ones, in almost all indicators obtained. This can be maybe explained by the fact that Italian language in the legal domain is not so popular and so it is less cited in legal research publications than the Spanish one which includes Latin America publications. Legal sciences are by nature linked to national languages and many areas of research are strictly local: the vehicular language is the national language, and that of the legal system analysed.

The relevance of these issues in the legal academic debate makes it necessary to move forward by including extensive consultations among various legal scientific communities and involve all stakeholders in order to open up a wide-ranging, collective reflection on such a delicate and relevant scenario for the enhancement of scientific legal production across the countries and the maintenance of the qualified role of legal science in global context.

As a matter of fact, there is a lack of a transnational debate about the quality methodology and scientific relevance of legal research (Van Gestel and Lienhard, 2019). Of course, there is a

debate in each national context, underlying that law is different from the other sciences, however the discussion does not explain sufficiently why and in which way law is different. The wish is that legal academics become actively involved in the debate on research evaluation and quality of legal scholarship: in particular, the hope is to focus on the identification of quality indicators and assessment methods. Furthermore, doctrinal legal research has get through important changes due to the Europeanization and globalization: the need of making more explicit the methods, the theories and the approaches of legal scholarship is fundamental also in the prospective of research assessment and funding (Van Gestel and Lienhard, 2019). The survey is located in such a context and witnesses the delicate position of legal scholarship in the research evaluation context.

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Using Google Scholar and LexisNexis to compile citation profiles for South African journals in legal research: An exploratory study

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Brief study overview

The aptness of bibliometric methods for research evaluation in the social sciences and humanities (SSH) has received much attention in the academic literature. A key argument against the use of bibliometrics relates to the insufficient coverage of SSH research outputs in Scopus and Web of Science, the two major citation databases. However, this argument is increasingly weakened by the constant growth of the Google Scholar (GS) web search engine. Despite its comprehensive coverage of publication and citation contents in the SSH, GS remains far from perfect. Not only is GS limited in terms of user functionality but also the quality of some of its data is suspect. Recently, Prins et al. (2016) developed procedures to enhance the quality of data extracted from GS, all of which require manual intervention based on small datasets and lower levels of analysis. The procedures entail the verification, capture and classification of the web addresses of the citing sources of publications in GS.

As not all citations are equal and for that reason require normalization (Ioannidis, Boyack & Wouters, 2016), citations extracted from GS should also be normalized in terms of factors like field, age of publication and document type. Currently the journal normalized citation score (JNCS) seems to be the indicator of choice, simply because it is what the journal publication data in GS allows for at present (Bornmann, 2016; Mingers & Meyer, 2017). However, the JNCS makes sense only when citations are reported for analytical units such as individuals or organisations. When the reporting unit is the journal itself, the mean JNCS for any journal will always equal one. Thus, to compile citation profiles for journals based on normalization in GS, another indicator such as the mean field normalized citation score (MNCS) would need to be reported. This raises the question as to how to demarcate fields in GS, given that GS incorporates no field classification system.

The current study circumvented the challenge of field classification by focusing on one field only, namely that of legal research in South Africa. The study conceptualized legal research as comprising all publications in any of the 30 South African journals in the field of law. As a result, the MNCS for a journal in this study does not indicate whether publications in a journal are cited more or less than the average legal research publication in the world. Instead, the relevant MNCS indicates whether a journal's publications are cited more or less than the average legal research publication in South Africa. In that way the benchmarking of a journal publication is confined to its national setting. This is an important consideration as legal research typically displays a strong national character (De Jong et al., 2011).

Apart from its national orientation, various other peculiarities set legal research apart from other fields of research (Peruginelli, 2015; Schmied, Byland & Lienhard, 2018). Among these is the dual interpretation of 'research'. On the one hand, legal research can be humanities oriented, meaning doctrinal research that focuses on the law and legal concepts and which

rests on an analysis of legal sources (e.g. court cases). On the other hand, legal research can also be social sciences oriented, relying on systematic empirical observations (De Jong et al., 2011). Equally relevant is the fact that research in legal journals can be cited in court judgements (Ambro, 2006), thereby providing an indication of the relevance of legal research to legal decision making. For that reason, the current study also investigated the extent of judicial citing of the 30 South African legal journals. The electronically accessible collection of law reports in LexisNexis South Africa was used for this purpose.

Two broad research question (with sub-questions) guided the study:

- In terms of research evaluation, what can be concluded from a bibliometric analysis of GS citations to South African legal journals? (Sub-questions: How can the issue of GS data quality be clarified? What insights emerge from the normalization of GS citation data in terms of document type and year of publication? How and why do the journals differ as to their GS citation profiles?)
- In terms of research evaluation, what can be concluded from a bibliometric analysis of judicial citations to South African legal journals? (Sub-questions: What is the average time from publication to judicial citation? How and why do the journals differ as to their judicial citation profiles? How do these profiles compare to the GS citation profiles? Is there any value in compiling and reporting on judicial citation profiles?)

Note: The study is still on-going but nearing completion. For the purpose of this conference abstract, findings for only two South African journals are reported – *Comparative and International Law Journal of Southern Africa* (CILSA) and the *Industrial Law Journal* (ILJ).

Methods and first results

Analysis of GS citations


The 30 South African legal journals were established over a period of 129 years, with the oldest being the *South African Law Journal* (established in 1884). The two most recent additions are the *African Disability Rights Yearbook* and the *South African Intellectual Property Law Journal* (both established in 2013). As 2013 is the first year for which publication data is available for all 30 journals, a 3-year window (2013–2015) was chosen as publication period and a 6-year window (2013–2018) as citation period. The relevant details of legal publications were obtained from different digital collections and captured in a Microsoft access database together with an indication of the document type (e.g. article or case note). The titles of publications were systematically searched for in GS. Datasets of citing publications were downloaded through the available GS user functionality. All citing publications that lack a year of publication were excluded as well as citing publications whose publication year predated that of the cited publication. For the two journals concerned, the final dataset comprised 59 articles and 2 case notes from CILSA, and 50 articles and 25 case notes from ILJ (Table 1). By 2018, none of the case notes had received any citations in GS.

Table 1. GS citations (2013–2018) to publications (2013–2015) in two South African legal journals.

<i>Journals</i>	<i>Year</i>	<i>Number of publications</i>	<i>GS citations, 2013–2018</i>				
			<i>Total number of citations</i>	<i>Average number of citations</i>	<i>Standard deviation</i>	<i>Lowest citation</i>	<i>Highest citation</i>
Articles							
CILSA	2013	20	26	1.30	1.30	0	4
CILSA	2014	19	19	1	1	0	3
CILSA	2015	20	13	0.65	0.93	0	3
ILJ	2013	17	17	1	3	0	12
ILJ	2014	18	10	0.56	1.25	0	5
ILJ	2015	15	7	0.47	0.92	0	3
Case notes							
CILSA	2014	2	0	0	0	0	0
ILJ	2013	5	0	0	0	0	0
ILJ	2014	7	0	0	0	0	0
ILJ	2015	13	0	0	0	0	0

Table 2 assumes that the field of legal research in South Africa comprises two journals only (CILSA and ILJ). Articles are the only document type reflected. For instance, in 2013, 37 articles appeared in both journals (Table 1, counts of 20 and 17). The 37 articles generated 43 GS citations (Table 1, counts of 26 and 17). On average, the 37 articles (Table 2) produced 1.16 citations per publication. This average served as the expected value for normalization and for computing a MNCS value. For instance, an article that was published in CILSA in 2013 and which had 2 GS citations at the end of 2018, would get a field-normalized citation score (NCS) of 1.72 (i.e. 2 divided by 1.16). The article received 1.72 times more citations than the average legal research article in South Africa did (assuming that the field of legal research comprises two journals only). If the same calculation is done for all individual CILSA articles in 2013, and similar NCS values created for all CILSA articles in 2014 and for all CILSA articles in 2015, and the mean of all those NCS values computed, the MNCS for CILSA would be 1.18. This value appears in the last column in Table 2. It means that CILSA's articles are cited 18% above the national average (controlling for the year of publication of a specific document type, which is an article). Similarly, the MNCS of 0.79 for ILJ indicates that the journal is cited 21% below the national average. Note that the 'true' MNCS values can only be finalized once all 30 journals are included in the analysis.

Table 2. Mean normalized citation scores calculated for a hypothetical field comprising articles in two legal journals.

<i>Year</i>	<i>Total number of articles in two journals</i>	<i>Total number of GS citations</i>	<i>Average number of GS citations</i>		<i>Journals</i>	<i>Mean normalized citation scores (MNCS)</i>
2013	37	43	1.16		CILSA	1.18
2014	37	29	0.78		ILJ	0.79
2015	35	20	0.57		Both	1.00

In order to assess the quality of citation data in GS, the web addresses (URL) of all 92 citations (Table 1, fourth column) had to be captured manually. Each URL contained information that was assigned to one of five publication sources: academic publishers (e.g.

Springer), non-academic publishers (e.g. Law Society of South Africa), university library repositories (e.g. SUNScholar at Stellenbosch University), non-university repositories and digital collections (e.g. JSTOR) and other sources (e.g. US-China Economic and Security Review Commission). By verifying the URLs of citation sources, information about the publication types (e.g. book chapter or journal article) of the citing material could also be captured.

Table 3 below shows the cross-tabulation between the publication types and publication sources that constitute the 92 GS citations. As can be seen, 39% of the 92 GS citations originated from postgraduate theses in university library repositories. A further 39% were journal articles of mainly two types (those sourced by GS from the journal publisher [15%] and those sourced by GS from non-university repositories and digital collections [24%]).

Table 3. The 92 citations in GS classified in terms of publication types and publication sources.

<i>Publication types</i>	<i>Publication sources</i>				
	<i>Academic publishers</i>	<i>Non-academic publishers</i>	<i>University library repositories</i>	<i>Non-university repositories and digital collections</i>	<i>Other sources</i>
Book	0%	0%	0%	3%	0%
Book chapter	4%	0%	0%	3%	0%
Conference presentation	0%	1%	0%	0%	0%
Conference proceeding/paper	0%	0%	0%	1%	1%
Hearing testimony	0%	0%	0%	0%	1%
Journal article	15%	0%	2%	24%	0%
Occasional/series paper	0%	0%	0%	3%	0%
Research assignment (Honours)	0%	0%	0%	1%	0%
Thesis (Doctoral or Masters)	0%	0%	39%	0%	0%

Analysis of judicial citations

The study extracted from the law reports in LexisNexis all references made to South African legal journals in judicial decisions. The law reports go back as far as 1947. Different spelling variants and acronyms for journal titles were used to extract the relevant information, and the results were captured in Microsoft Excel. Duplicates had to be removed as LexisNexis incorporates law reports from different sources and also because a legal case could serve before more than one South African court. PDF copies of the cited journal publications were sourced from relevant digital collections of journal publications.

In Table 4, the time span of the judicial citations is different for each journal as the time span of the source publications was not restricted to the period 2013–2015. By removing time restrictions, Table 4 brought important insights to light, such as that 51% of judicial citations to publications in CILSA occurred at least 10 years after publication. In the case of ILJ, the time to citation period was found to be much shorter – 61% of judicial citations occurred within the first 5 years after publication. Table 5, on the other hand, does align with the GS analysis by specifying 2013–2015 as the publication period and 2013–2018 as the citation period. The significantly lower shares of judicial citations compared to GS citations are evident.

Table 4. Judicial citations to publications in two South African legal journals, based on data in LexisNexis.

<i>Journals</i>	<i>Time span of cited publications</i>	<i>Time span of judicial citations (legal decisions)</i>	<i>Total number of publications cited in legal decisions by 2018</i>	<i>Total number of judicial citations received by 2018</i>	<i>Average number of judicial citations per publication by 2018</i>	<i>Average time from publication to judicial citation</i>	<i>Minimum time from publication to judicial citation</i>	<i>Maximum time from publication to judicial citation</i>	<i>% of publications cited in legal decisions, ≤5 years after publication</i>	<i>% of publications cited in legal decisions, 10+ years after publication</i>
CILSA	1968 to 2007	1969 to 2018	41	51	1.24	12.5 years	0 years	48 years	29%	51%
ILJ	1983 to 2013	1986 to 2016	23	29	1.26	5.8 years	0 years	16 years	61%	26%

Table 5. Comparison between GS citations (2013–2018) and judicial citations (2013–2018) to articles (2013–2015) in two South African legal journals.

Journals	Total number of articles (2013–2015)	GS citations		Judicial citations	
		Number of articles (2013–2015) cited in the period 2013–2018	% of articles (2013–2015) cited in the period 2013–2018	Number of articles (2013–2015) cited in the period 2013–2018	% of articles (2013–2015) cited in the period 2013–2018
CILSA	59	32	54%	0	0%
ILJ	50	12	24%	2	4%

Concluding comment

The analysis is currently being completed for all 30 South African legal research journals. In order to draw conclusions that could appropriately inform the bibliometric assessment of South African legal research, additional classifications might be needed in the analysis. Examples include specific branches of law, a classification of multidisciplinary versus specialized journals, and a classification of academic versus professional journals based on the addresses of article authors in the period 2013–2015.

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Coverage of journal articles in social sciences and humanities in Web of Science and their distribution in citation indexes

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Introduction

The evaluation systems in the Czech Republic (Good et al. 2015) and in Poland (Korytkowski & Kulczycki 2019) favour journal articles indexed in Web of Science (WoS) and Scopus over books and other types of outputs. However, researchers in social sciences and humanities (SSH) in the Czech Republic commonly are of the opinion that they cannot simply publish in WoS journals, due to many (whether real or perceived) issues, e.g. the study of locally relevant topics, language barriers, and lack of journals in their field (Linková 2014, Šima 2017). Many authors in other Central and Eastern European (CEE) countries probably hold similar opinions.

This paper will deal with two questions: 1) whether publication patterns in SSH have changed in favour of WoS-indexed journals (despite the resistance mentioned) and 2) whether the publication patterns have changed in favour of journals ranked higher in the Journal Citation Reports. We analysed the Czech Republic, Slovakia and Poland representing countries with similar cultural and political heritage and compared the patterns with Flanders and Norway representing Western and Nordic countries.

Methods

We used the data in a timeframe 2013–2016 acquired from the national databases as an essential data sources for SSH (Kulczycki et al. 2018, Sīle et al. 2018). First, we analysed the share of journal articles in the total number of SSH peer-reviewed articles in journals, monographs and edited books, and chapters and conference proceedings in national databases. Second, we analysed the proportion of journal articles indexed in WoS (coverage). Third, we analysed the distribution of WoS-indexed articles in WoS citation indexes according to journal indexation, where applicable, with the distinction of quartiles derived from the ranking of journals by the impact factor (JIF).

Preliminary results

The share of journal articles

Flanders and Norway have a higher share of journal articles in the total count of peer-reviewed articles, books, chapters and proceedings in their national databases than the Czech Republic, Poland and Slovakia in both the Social Sciences and the Humanities. In Social Sciences (Figure 1), the shares are rather stable in each of the countries. Poland is the only country where the share is decreasing. In Humanities (Figure 2), the overall share of journal articles is lower than in Social Sciences. Also, fluctuations in Humanities seem somewhat larger than in Social Sciences, where the share of articles is on the rise in the Czech Republic, Slovakia and Flanders yet is decreasing in Poland and fluctuating in Norway. The overall differences between countries seem less pronounced.

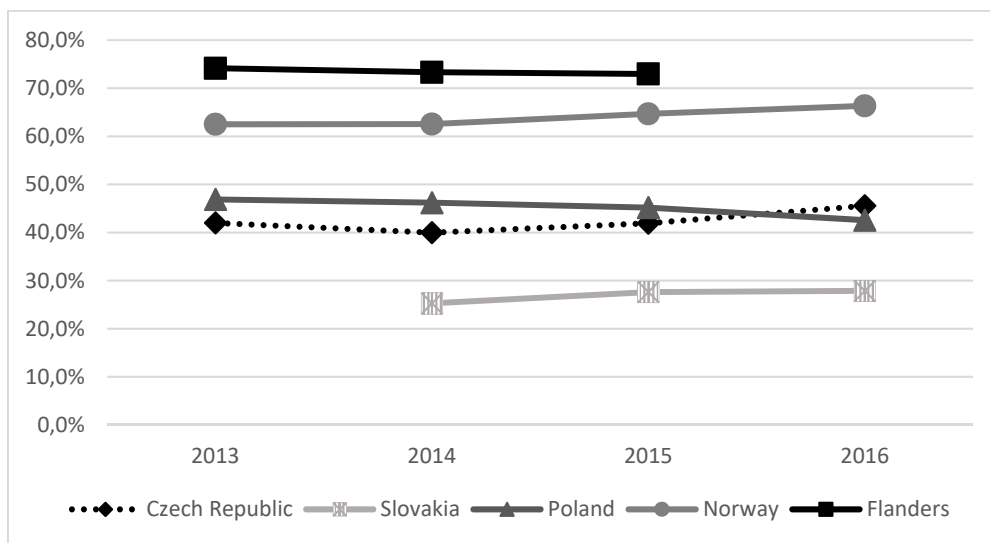


Figure 1. The share of journal articles in Social Sciences.

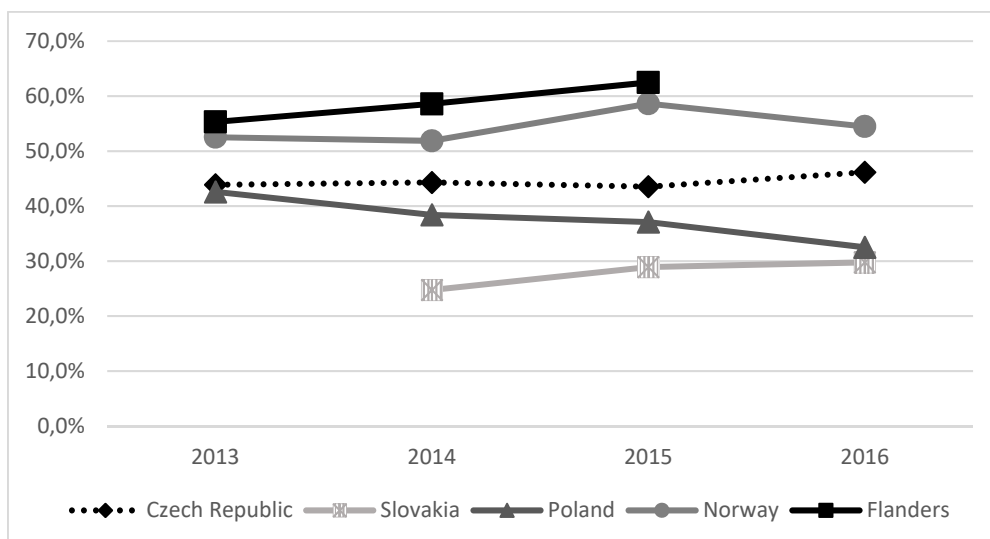


Figure 2. The share of journal articles in Humanities.

The coverage of journal articles in WoS

Tables 1–2 show the number and the percentage of articles in WoS-indexed journals in SSH. In Social Sciences (Table 1), the Czech Republic and Slovakia display high dynamics in increasing the share of articles in WoS-covered journals. In Flanders, the percentage is also increasing but reaches higher orders than in CEE countries. In Humanities (Table 2), the changes are happening slowly. In all SSH, Norway has a stable proportion of articles in WoS-covered journals. The coverage of journal articles from Poland is low and the growth is moderate.

Table 1. Coverage – Social Sciences.

	2013		2014		2015		2016	
	#	%	#	%	#	%	#	%
Czech Republic	775	17.7%	864	20.1%	1066	24.6%	1144	26.0%
Flanders	1632	60.3%	1753	61.3%	1689	64.4%		
Norway	2102	64.1%	2223	64.9%	2374	65.1%	2591	64.9%
Poland	1402	7.2%	1683	8.0%	2070	10.2%	1994	10.8%
Slovakia			302	10.7%	336	11.5%	529	17.9%

Table 2. Coverage – Humanities.

	2013		2014		2015		2016	
	#	%	#	%	#	%	#	%
Czech Republic	465	15.7%	531	16.0%	531	16.7%	554	18.2%
Flanders	639	57.7%	633	54.3%	507	54.1%		
Norway	402	34.0%	405	30.8%	491	34.5%	490	40.7%
Poland	796	8.2%	779	7.7%	856	8.4%	756	9.3%
Slovakia			177	14.7%	188	13.9%	236	18.1%

The distribution of journal articles in citation indexes in WoS

Figures 3–8 show the share of articles in particular WoS citation indexes relative to all WoS-indexed articles. Most articles were assigned to the Science Citation Index and Social Sciences Citation Index (Q1–Q4), Arts & Humanities Citation Index (AHCI) and the Emerging Sources Citation Index (ESCI). Category “other” represents a minority of journal articles included in Book Citation Indexes, Conference Proceedings Citation Indexes and journals without JIF.

In Social Sciences, we find an increasing proportion of ESCI-indexed journals in each country except Poland, but most obviously in Slovakia. A similar trend of a growing proportion of articles in Q1 and Q2 is observed in the Czech Republic and Poland, whereas in Flanders and Norway is rather stable yet the overall percentage is higher.

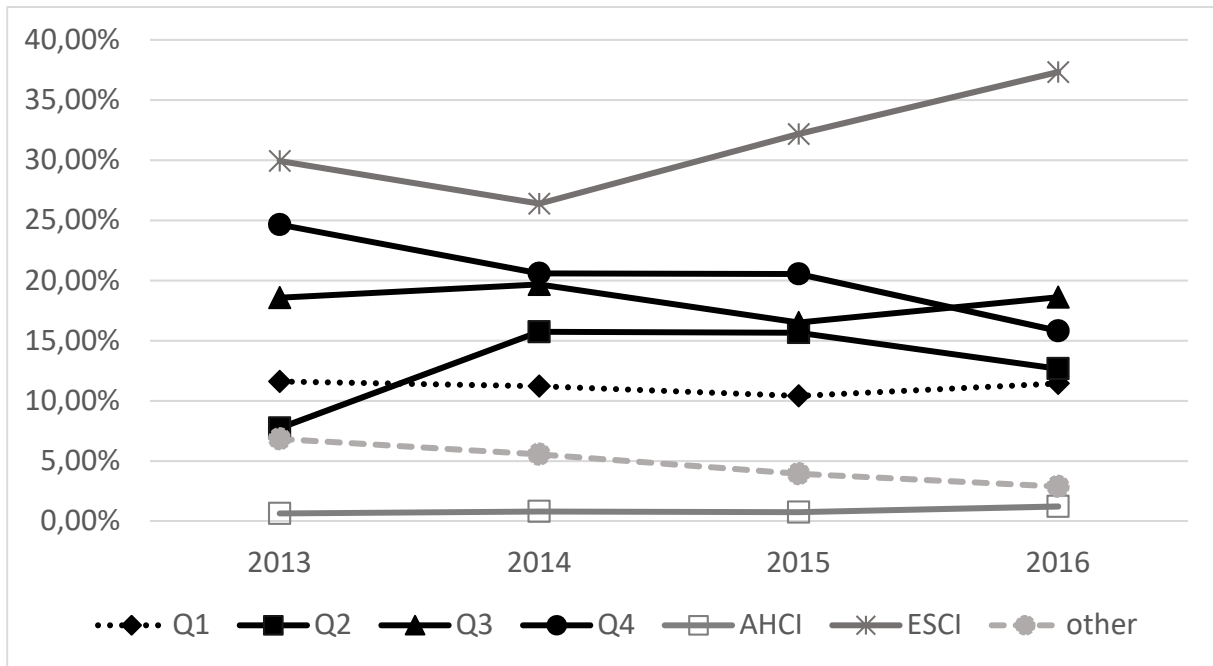


Figure 3. Czech Republic – Social Sciences.

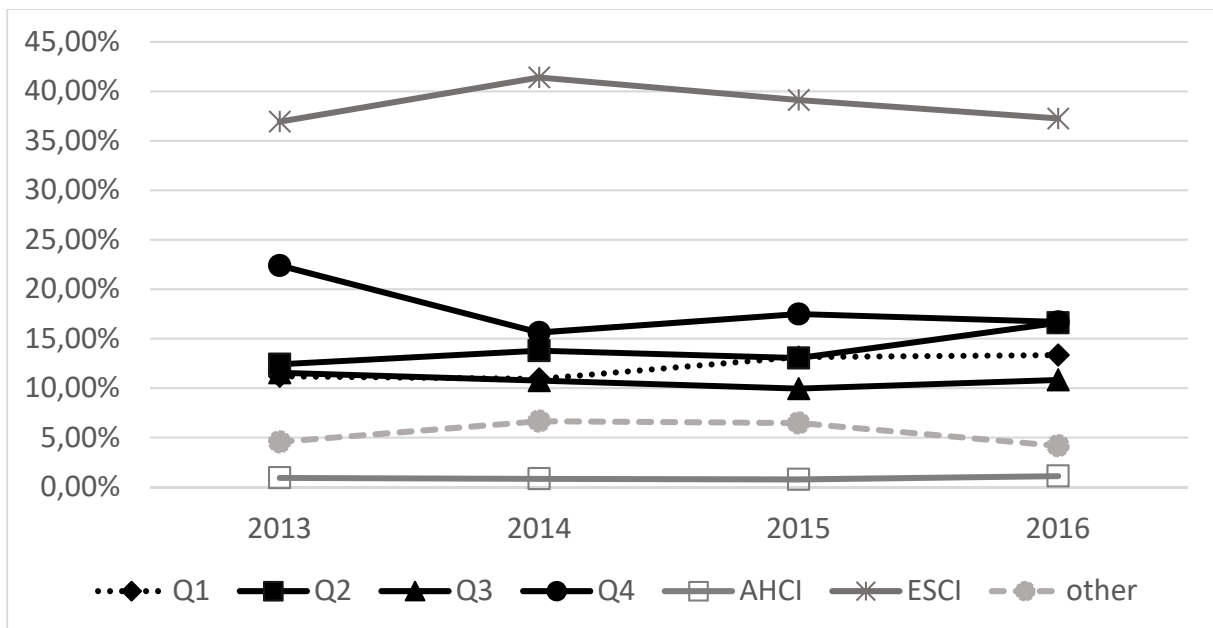


Figure 4. Poland – Social Sciences.

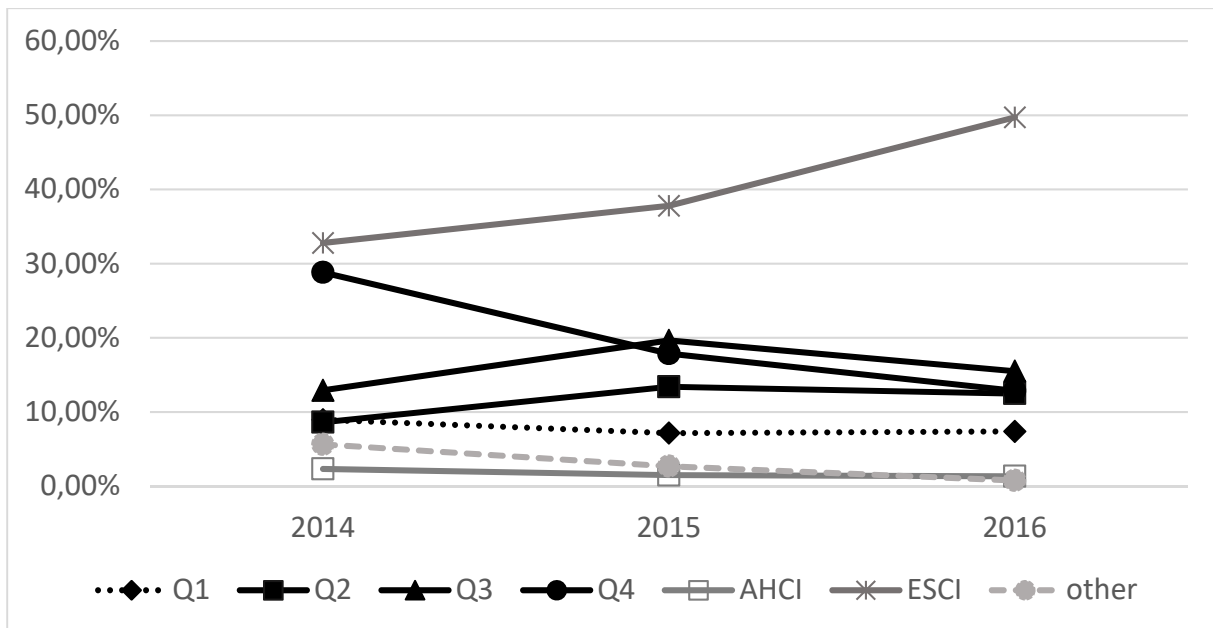


Figure 5. Slovakia – Social Sciences.

In Humanities, country profiles are similar. In all countries, the proportion of ESCI is growing and AHCI is declining in most disciplines. The share of journals with JIF is low and the trend is rather moderate.

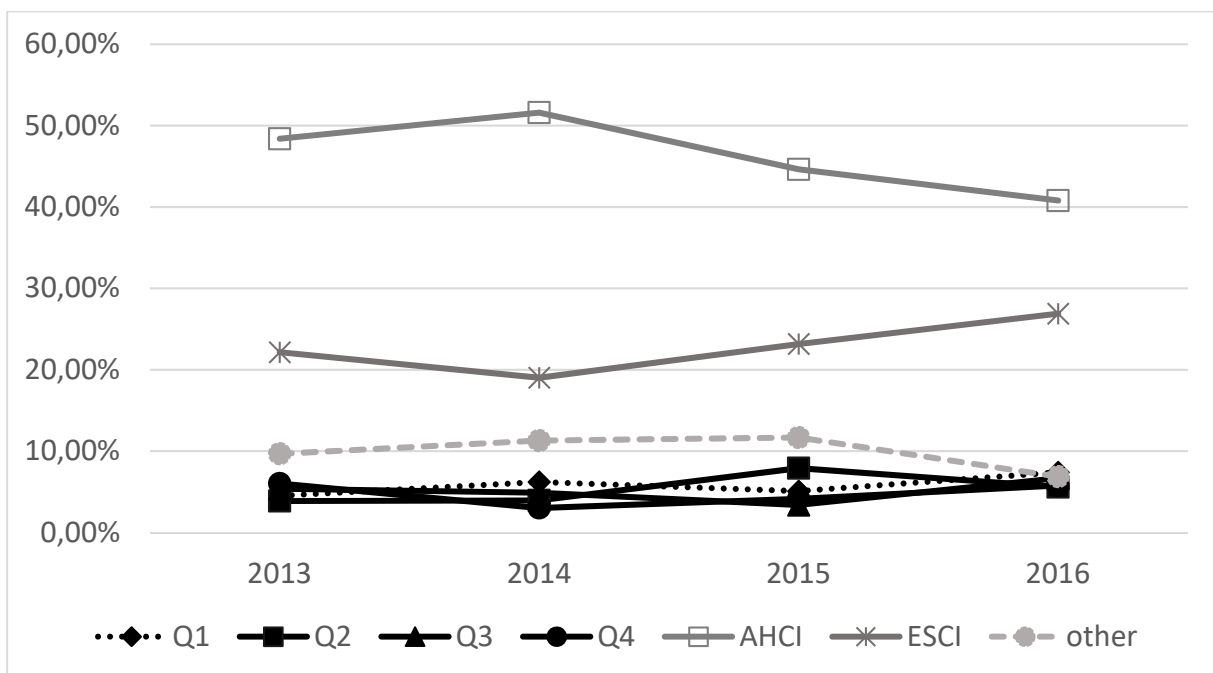


Figure 6. Czech Republic – Humanities.

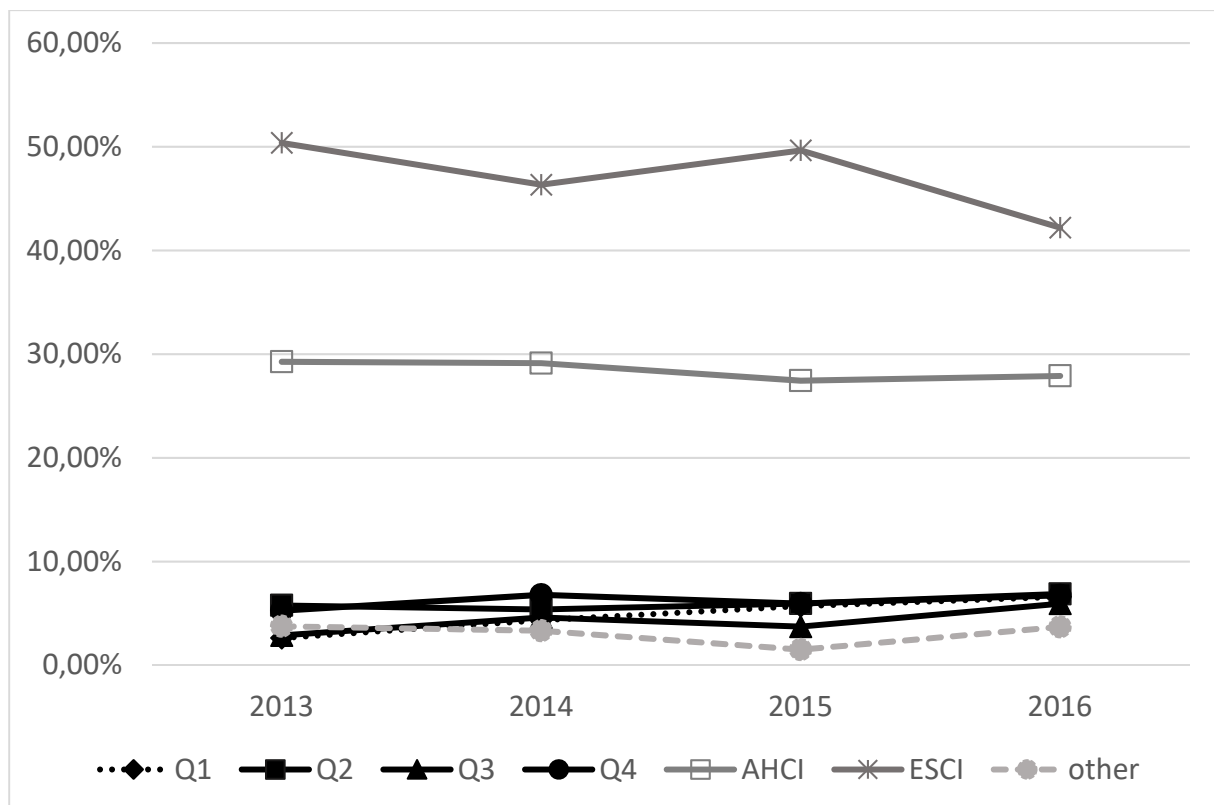


Figure 7. Poland – Humanities.

Preliminary conclusions

Our results show that especially in Social Sciences and in CEE countries publication patterns changed in favour of WoS-indexed journals. Also, the patterns changed towards journals in Q1 and Q2 dynamically in the Czech Republic and Poland. In Humanities, the changes are happening slowly. There are differences between individual disciplines. The finer-grained results will be presented and discussed at the conference.

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Gender productivity gap: a case study in Italian legal periodicals

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Introduction

The analysis of productivity differences between men and women employed in research has always attracted interest among scientists, in particular sociologists, whose studies agree in recognizing a higher performance among men than women.

The present national survey, analyzing the specific sector of legal sciences, confirms the existing literature, but also brings to light differences in the distribution of performance between the sexes.

Objective

The present investigation is placed in the context of a specific non bibliometric area such as law. In legal science, peer review represents the gold standard for assessing the quality of legal scholarship: this is partly due to the low acceptance in this area of a purely metrics-based system. Bibliometric methods are not considered sufficiently capable of measuring research performance in legal scholarship and they are not trusted by the legal community.

This study intends to offer an overview of the productivity of Italian women authors in Italian legal periodicals indexed in the most important Italian bibliographic database (Dogi-Dottrina Giuridica) and in a specific range of time (2010-2019). In particular, we specifically identify:

- the share of women and men as authors of contributions;
- whether there are differences in research productivity between men and women;
- if these differences in productivity present sectorial specificities in the areas of law;
- if these differences are most pronounced for publications in highly rated legal Italian journals.

Context

In Italy, the production of scientific research activity in the field of law is difficult to be quantitatively examined since scientists in this field do not publish in sources indexed by the most popular citation databases such as WoS or Scopus; the majority of legal scientific production is limited and distributed by national channels.

The choice to use legal periodicals for conducting the survey is due to the fact that nowadays the outputs most commonly used to evaluate results of legal research are the scientists' publications in specialized journals. Legal journal articles usually reach a larger professional audience (not only academia, but also lawyers, judges...), they are more widely cited, and as a result are well received in evaluation exercises. It could be claimed that in Italy, legal journals are actually highly representative of real outputs from research activity as they are the main means to spread scientific knowledge and the main measure of research productivity. It should be noted that, in the last national research evaluation exercise (VQR 2011-2014), Italian law faculties have submitted more journal articles (38%) than monographs (26%). Furthermore, in specific areas of law (tax law and labour law), journal publications amounted to more than 40% of the total products submitted (monographs, proceedings, edited book, encyclopaedia entries...).

From the side of distribution of scientists in the Italian legal academia, faculty members (tenured, associated professors, researchers) teaching law in any faculty are distributed as following: 62% are men and 38% are women.

Data sources

The following data sources were used to carry out this survey:

- The DoGi - Dottrina Giuridica database created and managed by the Istituto di Informatica Giuridica e Sistemi Giudiziari (IGSG-CNR). It is a reference database of articles published in Italian legal journals (more than 250 Italian periodicals). For each article, the DoGi record provides bibliographic information enhanced with: abstracts of articles; classification codes based on the DoGi indexing system; a selection of legislative and jurisprudential references quoted in the article; link to the full text when available online. Born in 1969, the database is, in the Italian national context, the most relevant source for online research of legal literature (<http://www.ittig.cnr.it/dogi/>).
- The research personnel database managed by the Ministry of Universities and Research (<http://cercauniversita.cineca.it/php5/docenti/cerca.php>).
- List of Class A scientific journals for the purpose of Abilitazione Scientifica Nazionale (ASN) for applying as associated or full professor positions at state-recognised universities.

Methodology and some encountered difficulties

Based on the DoGi dataset, the set of authors was extracted and cleaned. Enhancement of the authors' dataset was accomplished in terms of: disambiguation of authors, gender attribution, enrichment with additional features, e.g. affiliations and careers by crossing with information taken from the research personnel database.

Normalization and disambiguation of author's names was performed through a semi-automatic procedure by automatic clustering of similar names and manual disambiguation of ambiguous clusters. When possible contextual information provided by external datasets (in particular VIAF – the Virtual International Authority File, and the ORCID dataset) was exploited to feed the clustering algorithm and to associate a unique identifier to each author. Similarly to Soler J.M (2007) and Gurney T. et al (2012) the deployed method takes into account surnames and first-name initials, the words that occur in article headings, and the journals, addresses, references and journal categories eventually indexed in VIAF and ORCID records.

Gender attribution was performed by applying a combination of methods. Attribution of gender based on the last letter of first name covers the majority of authors with common Italian names. The gender attribution activity, in the majority of cases has been accomplished through automated gender inference method, in particular the open-source Python package *gender-guesser*¹. Results have been manually revised and made suited for Italian first names. As regards the value of co-authorship (which is anyway a minority in Italian legal journals papers), social scientists, including legal scientists, tend to order names' authors in alphabetical order (Endersby, 1996). This is also confirmed by the last Italian VQR evaluation exercise that ignored the specific contributions of SSH scholars to the publications that have been the result of a common work: it means that each author was assigned a score based on the product presented for evaluation, regardless of the number of the authors. For these reasons, in this survey, when dealing with co-authored publications, each author gets full recognition.

Some results

In the period under observation (2010-2019) males do demonstrate a higher average productivity in terms of quantitative dimension of outputs compared to women. On average, men produce 4.78 publications while women produce 3.27 (+46%). If we restrict to highly rated journals the results are slightly different: on average, men produce 4.156 publications while women produce 3.14 (+32%). This highlights that the gender productivity gap in highly rated journals is less pronounced compared to the one investigated in the whole corpus of legal journals (highly rated and no rated). Therefore, one conclusion could be that women publish less on average, but focus on higher prestige journals.

Furthermore, while still focusing on highly rated journals, the study highlights that there are sectorial specificities in the differences between the sexes. In tax law for example on average, men produce 2.88 publications while women produce 2.09 (+37,8%). On the other hand, if we consider the area of comparative law, the survey shows that men still publish more articles than women, however the gender productivity gap in this specific filed of law is considerably less pronounced. On average, men produce 1.48 publications while women produce 1.316 (+12,4%). This shows a first picture of gender representation differences among legal subfields, which leads to the larger question of why these differences exist. Actually, this research survey is the first to our knowledge that documents the differences in gender productivity across legal areas.

Considerations

The gender publication gap in research productivity is thus a challenge that policymakers should consider if they intend to address gender inequality in academia.

The results obtained from the survey are naturally based on a quantitative analysis namely on the number of articles published in Italian legal journals indexed in a specific legal database. This does not mean that this reflects the quality of scientific productivity of legal scientists. As a matter of fact even in law, a discipline with a large share of women, female authors publish less journal articles than male authors; as a consequence, they are less visible to the scientific community.

¹ <https://github.com/lead-ratings/gender-guesser>

Finally, future investigations might be aimed at comparing the quantitative analysis with the qualitative one that can be obtained by examining different indicators. The combination of obtained data on the output (paper production) and on gender, with new data on citations, on field of research, on position of the researcher is surely the subject of future works of the authors of this abstract to observe and analyse the trend of legal research activity.

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SESSION 3.3

> **Careers and early career researchers**

> **Chair** · Pedro Marques

Survival strategies of economists and political scientists in contemporary academia · *Dorte Drongstrup*

Information ecosystems in early academic career building: how do researchers in the social sciences and humanities learn the tricks of the trade? ·

Marc Vanholsbeeck, Jolanta Sinkuniene, Karolina Lendák - Kabók and Haris Gekić

Early Career Investigators' Views on Evaluation ·

Michael Ochsner, Karolina Lendák-Kabók and Jolanta Šinkūniene

Any Publicity Good Publicity? The Effect of Satirical Bias on Twitter and the Altmetrics Attention Score ·

Arto Lanamäki, Muhammad Usman Ahmad and Michael Ochsner

Survival strategies of economists and political scientists in contemporary academia

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Introduction

“Publish or Perish” have been the mantra for researchers in decades. The notion of the need to publish is essential in academia for communicating your research. Not just of altruistic Mertonian reasons of building and expanding the world of knowledge, but also of more personal reasons. Thus, publications are crucial for researchers’ careers, since it is instrumental in gaining recognition and building a reputation. This recognition and reputation are then used when applying for funding, promotions or jobs. With the world of metrics, this recognition has been quantified intensively, so assessments often start with a quantitative measurement of this reputation.

Numerous national agencies and governments have implemented national bibliometric performance systems to evaluate their universities performance and allocate funds (Linda Butler, 2007; Krog Lind, 2019; Sivertsen, 2018), which quickly tickles down to the individual researchers (Aagaard, 2015). Thus, several studies demonstrate that the usage of these bibliometric performance systems influence how researchers publish, especially in the social sciences and the humanities (e.g. L. Butler, 2003; Hammarfelt & de Rijcke, 2015; Moed, 2008). These branches typically have a more heterogeneous publishing pattern than the sciences (Hicks, 2005; Ossenblok, Engels, & Sivertsen, 2012). Moreover, social scientists more frequently publish book chapters and books, and often in a national language. Furthermore, studies of the sciences show how the extensive use of performance indicators changes how researchers think about and plan their research (Müller & de Rijcke, 2017; Rushforth & de Rijcke, 2015).

This paper uses a qualitative case study to explore how the great pressure to publishing according to national bibliometric performance system influence Danish economists and political scientists. Thus, the paper focuses on what strategies researchers adapt to “survive” in a publish-or-perish world, especially regarding their collaboration and publishing behavior.

Method:

The qualitative study consists of data from 17 in-depth interviews with nine economists and eight political scientists from the same university in Denmark. The interviews occurred in the period from August to September 2017, except for one pilot interview with a political scientist conducted in June 2017. The participants were eleven male and six female researchers at different stages in their career, who all have co-authored at least one publication. The researchers have between 3-47 years of experience in research. The interviews focus on different aspects of research collaboration, co-authorship and reward systems, and had a duration between 1-3.5 hours. The study uses thematic analysis (Braun & Clarke, 2006; Clarke & Braun, 2017) to identify themes and patterns in the

interviews. This paper focuses on themes related to the impact of publish-or-perish on different aspects of the co-authoring and publishing process.

Co-authorship and publishing

During the interviews and subsequent analysis, it became evident that most of the social scientists experience a pressure to publish, and many referred to the mantra “*Publish or Perish*”. Thus, the career aspects of publishing are always present, especially among the junior researchers and associate professors. They know that to succeed in academia, they must be perpetual in their publishing, and the method is co-authoring, especially, because they experience that the bar for continuing in academia is higher: “*So it is more (articles) than earlier, it is. And it is more, than five years ago*” (Associate Professor, political scientist).

This means that the competition for advancing is becoming exponentially tougher and changing researchers’ motivation to collaborate. As one postdoc stated “*(...) (collaboration) also benefits your career because your research output simply increases. There is also a measure of risk spreading involved, because if you increase the number of articles (...) it does not matter as much when something goes wrong*” (Postdoc, economist). This illustrates how the publish-or-perish mantra dominating all academic fields gives social scientists incentives to collaborate because the success of their career depends on how strong and long their publication lists are. If researchers spread their energy and have stocks in multiple publications and research projects instead of betting on a single publication, they limit the risk of having a zero-publishing period, achieve a longer publication list and receive more exposure. As one associate professor stated: “*you can’t just sit and publish all your articles by yourself, then you will never be on your way*” (Associate Professor, political scientist).

The researchers focus on publish more, and most emphasize a need to publish according to the journal and publishers ranking lists. Especially the younger researchers refer to the different rankings and indicators. The researchers reflected over how the bibliometric performance systems influence their publishing and collaborating behavior “*[The reward for publishing] sends some signals, and it has clearly brought a cultural change in how much people collaborate and how much to publish, and where you publish and etc.....*” (Associate Professor, political scientist). Furthermore, some of the economists’ state that “*books have a low value here*”. The picture is more blurred among the political scientists, but they still focus on the importance of “*having the articles*”.

Conclusion:

The paper shows how social scientists experience a great pressure to publish more and more. The researchers are clearly focused on the possibility of optimizing their productivity by collaborating and by writing articles instead of books, so they prevent the dreaded risk of becoming a “zero-researcher¹”.

¹ someone without a publication productivity for a longer period

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Information ecosystems in early academic career building: how do researchers in the social sciences and humanities learn the tricks of the trade?

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Introduction

In this paper, we analyse “early career building information ecosystems” (ECBIEs) in the social sciences and humanities (SSH). In such information ecosystems – conceived as “complex organizations of dynamic social relationships through which information moves and transforms in flows” (Susman-Peña et al. 2015: 13) - early career investigators (ECIs) in the SSH learn how to build their career, and in particular how to deal with the various evaluation processes that constitute an essential part of their professional development. Universities are indeed “information environments” and “knowledge ecosystems” in which ECIs relate to formal, non-formal and informal resources (texts, humans, tools, cultures and environments), most often in the context of social relationships, to create experiential, personal, technical, disciplinary and interdisciplinary knowledge (Miller 2015).

Our analysis of ECBIEs is based on the eight “crucial dimensions” constitutive of the information ecosystem model conceptualized by Susman-Peña et al. (2015), considering the information contents as well as the context in which information flows and the perception and experience of the information users. Central to the model is the analysis of the production and movement of information. Hence specific attention will be brought to the diverse “communication channels” on which ECBIEs rely, which we define as all types of channel (human and non-human) through which information relating to early career building and evaluation processes is communicated to ECIs.

Methodology

In 2017 and 2018, 53 semi-structured interviews were conducted with ECIs (PhD + 8) from diverse SSH disciplinary fields in 14 countries around Europe (Belgium, Bosnia and Herzegovina, Croatia, Cyprus, Finland, Latvia, Lithuania, Malta, Montenegro, Poland, Portugal, Serbia, Slovakia and Slovenia) about their experience of the first stage of the academic career including the PhD period. Interviews were then content analysed through two complementary grids. The first takes the information channel as recording unit, focusing on the analysis of the types of information channels, the contents of the channelled information and the evaluation processes to which each channel relates. The other focuses on the individual researcher as recording unit and investigates ECIs’ perception of the research labour market and its level of transparency.

Preliminary results

Information needs

ECIs need information of an epistemic nature in regard to their PhD thesis completion. They also require information about how to publish successfully, in particular in the context of the first publication (article or monograph). Informed learning about grants, open positions and recruitment opportunities is deemed crucial too. There is a general perception that ECIs, whatever the country, are in need of more institutionalized professional training and career accompaniment possibilities.

Information landscape

Some national academic labour markets are perceived as being more under the influence of performance indicators and open to international competition, while others are viewed as still dominated by practices of local recruitment and inbreeding. The national academic

recruitment landscape and its history shape the information ecosystems as well (for ex. some countries having only one university, or a tradition of nepotism in academia).

Production and Movement

In regard to institutionalized and formal communication channels, the PhD director is perceived by many respondents as not providing satisfying information, regarding epistemic matters as well as the networks to incorporate. Evaluation processes themselves and review reports of articles and grants are viewed as valid communication channels, as long as they are transparent and constructive, while national regulations (including lists of qualifying journals) are sometimes seen as ever-changing and/or not properly translated by institutions. Performance indicators are perceived – in particular by ECIs from non-Western countries - as potential improvements in comparison to less transparent national labour markets, contributing to objectify professional requirements. Other respondents do not consider them as systematic guarantors of more transparency though, since they are easy to manipulate. Informal channels of communication, such as the support of “likeminded colleagues” or more generally national and international networks of peers, appear to play a crucial role in the informed learning of ECIs, in particular in the context of the first publication.

Dynamic of access

A double centre/periphery logic affects ECIs’ informed learning. On the one hand, access to communication channels depends on the status under which the PhD studies were pursued, the family status and the teaching and research work balance. On the other hand, the institution's position in relation to the Western research centres affects the possibilities for ECIs to learn in an informed way about international job requirements. Other relevant factors are the availability of funds to get abroad (and to network internationally), as well as the accessibility of epistemic information through bibliographic databases.

Use of information

Communication channels relate to different evaluation situations (PhD defence, post PhD recruitment, career evaluation, peer review of publication or project). The information that ECIs receive is mostly used to seek for positions in the local, national and international labour market; to improve their publication practices, including the proper understanding of the peer reviewing system and the definition - largely grounded in perceptual knowledge - of what makes a quality publication at institutional, national and international level, both in regard to epistemic contents and choice of journal; to get involved in academic activities and conferences; to seek for available grants and funding; to improve the thesis; to learn about the networks and interpersonal relationships to be built.

Impact of information

Accessible and relevant information on evaluation criteria has a positive impact on career development of ECIs, while the lack of information on evaluation procedures mainly results in a shrinking sense of security.

Social trust and Influencers

Many respondents trust non-formal networks of likeminded peers, both at local, national and international level, while some report lack of confidence in nepotistic labour markets, or in the false transparency of performance indicators being used in support of non-merit based evaluation processes.

Discussion

ECBIEs are viewed by our respondents as fragmented, relying (too) much on non-formal or informal communication channels, while perceptual knowledge plays an important role. ECBIEs can also be unfair to those at the periphery of the geographical and/or institutional centres of knowledge production. Hence, we argue that a better understanding of ECBIEs should make it possible to promote evidence-based changes in the information provided to ECIs and empower them to engage more efficiently in career development and related evaluation processes.

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Any Publicity Good Publicity? The Effect of Satirical Bias on Twitter and the Altmetrics Attention Score

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Introduction

Altmetrics emerges from three important trends regarding the relation between society and academia: the rise of social media in society, business, and academia (Caers et al., 2013; Manca & Ranieri, 2017), the importance of societal impact of research (Bornmann, 2013; Miettinen, Tuunainen, & Esko, 2015), and the increased indicator-based quantification of research outputs (Smith, 2012; Tourish & Willmott, 2015; Waltman, 2016). Although altmetric measures, especially the Altmetrics Attention Score, have become the most prominent metric for the impact of research on the internet, researchers failed to provide evidence on what altmetric scores actually measure (see, e.g., Bornmann, 2016; Ke, Ahn & Sugimoto, 2017). Hence the call for more in-depth and content-based analyses regarding altmetric indicators (Bornmann, 2016). Surprisingly, scholars have conducted very little research on the social activities behind the altmetrics scores so far. Altmetrics are inherently linked to the communication process of the social media platforms. Are altmetrics scores rather a result of marginal activist groups or individuals, or are they a reflection of a larger societal impact of research?

We address this research gap with an empirical study of how a single Twitter account may contribute to two important altmetric indicators, Twitter and the Altmetric Attention Score. We particularly focus on the Twitter account “New Real Peer Review (@RealPeerReview)”, an account that constantly picks up research articles, mostly concerning gender studies. The account questions not only the research results in its posts, but also uses satire to undermine the whole premise of such research.

We address the following research questions: (1) Can a single social media account influence significantly altmetric measures? And (2) can satire rather than serious research uptake be a driver of altmetric scores?

Data and Methods

The two research questions we address in this paper are closely related. The first question, whether a single Twitter account can significantly influence the altmetric scores of an article it tweets, is of descriptive nature. We simply investigate how dependent altmetrics scores for articles can be on the activity of a single account. The second question is content-related. It reflects about reasons for altmetric activity and how non-scientific content can influence altmetrics scores.

We use a data set containing all tweets from February 2016 until November 2017 linked to the Twitter account @RealPeerReview (@RPR) for our analysis. The data was delivered by Altmetrics.com upon request and was fetched in early 2018. The data contains several variables on the article level, i.e. mention type, twitter source, altmetrics attention score, type of publication, publication title, the publication's doi, tweet date etc. It contains 2353 tweets on publications related to the @RPR account. After cleaning for duplicate publications by retaining only the first mention of an article by @RPR, the data contained 1879 publications. This set was further reduced to 1694 articles by retaining only items of publication type "article". We then randomly selected 99 articles from this set for which we manually fetched the data we need to address our research questions from both Twitter and altmetrics.com: The total numbers of tweets and the total number of @RPR-related tweets fetched by Twitter, as well as the Altmetrics Attention Score, total number of tweets and total number of @RPR-related tweets fetched by Altmetrics. Furthermore, we also fetched the number of tweets an article received before it was first mentioned by @RPR.

To address our first research question, i.e. whether a single social media account can influence significantly altmetric measures, we calculate several indicators, such as the percentage of @RPR-related Tweets of total Tweets, the variance of Tweets explained by @RPR-related Tweets or the number of Tweets an article received before @RPR intervention.

To address our second research question, i.e. whether satire rather than research uptake can drive the altmetrics indicators, we identify four groups of articles based on the number of Tweets before and after @RPR intervention and investigate how the @RPR account can influence the AAS using the context data provided by altmetrics.com, i.e. in which percentile the article falls regarding the attention score.

Preliminary results

While this is a work-in-progress paper, we can already present first results. Our Twitter analysis shows that articles having "enjoyed" an @RPR intervention receive quite some Twitter attention and have relatively high AAS scores. Regarding the question whether this is due to the fact that @RPR picks up articles already highly discussed on Twitter or whether Twitter attention rather kickstarts after @RPR intervention, we identify four categories of papers: 1) Papers for which @RealPeerReview is solely responsible for its AAS (20%), 2) Papers for which the @RPR constitutes to a significant portion of its AAS (40%), 3) Papers whose attention has been amplified by @RPR (20%), and 4) Papers that have received attention regardless of @RPR (20%).

Discussion

Analysing the effect of a single Twitter account (@RPR) on the Twitter and the Altmetrics Attention Score (AAS) of a randomized sample of 99 papers mentioned on the Twitter feed of this account, reveals that a single account can significantly bias Twitter scores and the AAS. It also shows that purely satirical content can push articles from zero attention to extremely high AAS scores (5th percentile). This suggests that the AAS is portrayed as an indicator of impact, but not necessarily impact in any meaningful variation of the word.

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SESSION 4.1

> **Societal impact · Science and Society**

> **Chair** · Stefan de Jong

SSH knowledge transfer activities included in the Technological and Social Development Projects (PDTs) of Argentina. Is changing researcher's evaluation enough to improve knowledge transference? · *Mauro Alonso*

Does knowledge transfer occur in action research? · *Joaquín M. Azagra-Caro and Alejandra Boni*

Use me when you need me: firms' co-creation output with universities and the economic cycle · *Ana M. Gómez-Aguayo and Joaquín M. Azagra-Caro*

SSH knowledge transfer activities included in the Technological and Social Development Projects (PDTS) of Argentina. Is changing researcher's evaluation enough to improve knowledge transference?

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Paper abstract

In 2012, Argentina's Science, Technology and Innovation Ministry (MINCTIP) created the *National Advisory Commission for Science and Technology Human Resources Assessment* as an intent to review existing research assessment criteria with special focus on researchers involved in knowledge transfer activities. As a result of the Commission's work, Argentina's MINCTIP established a new S&T project denomination (Technological and Social Development Projects –PDTS-) for research activities that focused on knowledge transference and appropriation by specific societal users. Researcher's participation in this Projects granted the researchers involved in them access to a different performance evaluation carried out by an *ad-hoc* assessment committee instead of their traditional disciplinary commissions. The MINCTIP goal was to promote knowledge transfer activities by offering a differential performance assessment mechanism to those researchers involved in such research and, as well, to attract –in line with a political intension to “make knowledge a resource for the country's development”¹- more researchers to this endeavor. The official Documents that established PDTS projects defined them as it reads from the *National Advisory Commission Document Number 1*:

- 1) a Project that *effectively uses* S&T knowledge from one or more disciplines
- 2) has as its final objective *solving a specific problem or practical need*, not only justified by scientific curiosity or disciplinary knowledge advancement
- 3) its general objective must be in line with a national, regional or local interest
- 4) their results must not only solve a specific problem by applying existing knowledge but the project has to *develop cognitive innovations or create new knowledge*
- 5) must identify a *knowledge user* in the project (public or private organizations) that has *the capability of adopting* the results²

The PDTS projects are available to every discipline and S&T institution and since 2013 the MINCTIP created a National Bank of PDTS projects (BNPDTS) in which each institution could submit their projects to go through an accreditation process conducted by PDTS accreditation committees to be included in the BNPDTs. Since, the BNPDTs has accepted

¹ Argentina's Science Minister Dr. Barañao editorial. Available in: <http://www.vocesenelfenix.com/content/un-nuevo-rol-para-la-producci%C3%B3n-del-conocimiento-en-la-argentina>.

² *Official National Advisory Commission's First Document. Available in:* <http://www.mincyt.gob.ar/adjuntos/archivos/000/031/0000031881.pdf>

over 300 projects from multiple disciplines and institutions. In this context, this paper's goal is to focus on the SSH projects included in the BNPDTs guided by the following questions: what kind of SSH research projects were included in the BNPDTs? How do SSH researchers involved in PDTs projects understand and define knowledge transfer activities? Who are the users of their knowledge? What type of SSH knowledge has been transferred to users? How was their performance assessment during their involvement in PDTs projects? Was offering a differential research evaluation mechanism enough to promote knowledge transfer activities?

In order to address these questions I have conducted a qualitative exploratory work strategy based on over 20 in depth interviews with both science policy makers MINCTIP and researchers of SSH PDTs projects included in the BNPDTs.

The analysis presented in the paper revisits Castro-Martínez & Olmos-Peñuela (2014) SSH transfer activities conceptual framework and Vaccarezza & Zabala (2002) concept of *strategy* to observe in which ways researchers establish connections with users in order to seek ways to make their knowledge usable. Finally, the paper will present the first findings regarding the research evaluation process that took place in the *ad-hoc assessment committee* for SSH to discuss its reach based on interviews to committee members and PDTs researchers.

This paper presents preliminary findings of the author's in progress doctoral research.

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Does knowledge transfer occur in action research?

ABSTRACT

Knowledge transfer studies analyse channels that carry knowledge from university to industry and society. In parallel, action research has become a popular method to produce and transfer scientific knowledge at the same time. However, knowledge transfer studies rarely employ action research, and action research rarely has addressed the topic of knowledge transfer. Hence, there have been few opportunities to reflect upon the boundaries between the object of knowledge transfer studies and the knowledge transfer embodied in action research. We present a first theoretical attempt to fill this gap, which is useful to clarify the concepts at stake and draw lessons for knowledge transfer studies about the two dimensions along which knowledge transfer occurs in the communicative space, a space generated during action research.

Keywords: knowledge transfer, action research, knowledge co-creation, communicative space

1. Introduction

Knowledge transfer studies analyse channels that carry knowledge from university to industry and society. In parallel, action research has become a popular method to engage into research that involves an element of university-society knowledge transfer. However, knowledge transfer studies rarely employ action research, and action research rarely has addressed the topic of knowledge transfer. Hence, there have been few opportunities to reflect upon the boundaries between the object of knowledge transfer studies and the knowledge transfer element embodied in action research. We present a first conceptual attempt to fill this gap.¹ To this end, we briefly review the definitions and explanations of our target concepts (section 2), then we describe the overlap between both (section 3), illustrate it with examples based on an actual action research (section 4), and then conclude (section 5).

2. Back to basics

2.1. *What is knowledge transfer?*²

The concept of knowledge transfer was originally applied in the analysis of the business sector. It evokes that if one organizational unit generates knowledge, and another unit within the company gets access and uses that knowledge, knowledge transfer takes place (Tsai

¹ Unless otherwise specified, this paper focuses on *university-society* knowledge transfer rather than intra-organisational knowledge transfer or knowledge transfer between research performance sectors that do not involve universities. Notice also that we talk about *university-society* rather than *university-industry* knowledge transfer, despite the latter term being more long-standing, because the former is more comprehensive and reflects current trends to encompass university impact on firms within the wider spectrum of societal impact. However, we believe our framework applies to the case of *university-industry* knowledge transfer.

² For the sake of brevity, we skip here the delimitation of concepts related to knowledge transfer, such as knowledge spillovers/flows/diffusion/dissemination/exchange/interactions/collaboration/cooperation/sharing, access to the knowledge base, etc., and the distinction between technology and knowledge.

2001). Definitions revolve around that notion, e.g. ‘knowledge transfer in organizations is the process through which one unit (e.g., group, department, or division) is affected by the experience of another’ (Argote and Ingram 2000: 151). Knowledge transfer can also be external, i.e. between companies (Argote and Ingram 2000), so it is straightforward that the concept also applies to intersectoral relationships, covering from the whole spectrum of actors of the innovation system (Wehn and Montalvo 2018) to particular sectors, like universities and industry (Agrawal 2001). In the latter case, knowledge transfer is regarded as ‘the mechanisms by which university science moves to the economy’ (op. cit.: 285). In this sense, the label ‘knowledge transfer’ transcends academic use and has been applied in university management to name university-industry knowledge transfer offices (Pinto and Fernández-Esquinas 2018).

Although the abovementioned definition of knowledge transfer is very wide, many studies about university-industry links implicitly restrict its use to the knowledge transfer *of research results*. This way, they put the focus on the process that follows a research project and its final results, and not the process that takes place during the life of the project and its intermediate results. We will see now that action research accepts that the generation of research results and their transfer can occur at different stages of the research process, including both intermediate and final results. Hence, action research adheres to the original, wide definition of knowledge transfer.

2.2. *What is action research?*

Action research is an emergent and developmental methodology. It concerns practical issues and human flourishing, working with participants and towards knowledge in action (Bradbury 2015: 7).³

As O’Leary (2014: 168-170) points out, action research has some key elements that differentiate it from other research traditions: 1) It is grounded in real problems and real life situations and it seeks to understand these problems and implement solutions within the context. 2) It pursues action and knowledge, as enacting change is seen not as the end product of knowledge, but valued as a source of knowledge in itself. Nevertheless, knowledge production is understood as a disciplined process, ensuring credibility and rigour. 3) Action research calls for collaboration between researchers, practitioners and any other interested stakeholders. Without key stakeholders as part of the research process, outsiders are limited in their ability to build rich and subtle understanding, or implement sustainable change. 4) Action research is understood as a cyclical process that takes shape as knowledge emerges and works through a series of continuous improvements in cycles that, generally, involve some variation in observation, reflection, planning and action.

According to Kemmis and McTaggar (2005), this cyclic process can be visualized as spirals with self-reflective cycles actions such:

- Plan a change
- Act and observe the process and consequences of change
- Reflect on the processes and consequences

³ Despite the use of the word ‘participative’, AR can be participatory (PAR) or not. Engagement of individuals in the solution of a problem is enough for research to qualify as AR, but only if these individuals choose democratically a consensus solution, it becomes PAR.

Notice also that research can be participatory without being AR, e.g. if the methodology involves humans, but they are subjects of observation and not supposed to solve the possible problem that motivated the research. This occurs in many experiments, focus groups or much participant observation.

- Replan
- Act and observe the changes
- Reflect again

See Fig. 1 for a visual representation.

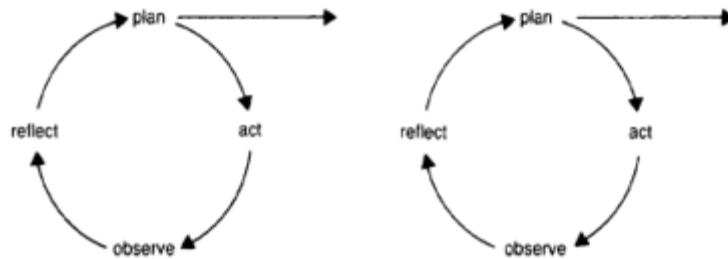


Fig. 1. Cycles of reflection and action based in McNiff and Whitehead, 2002, p. 41

Through these cycles of planning, action and reflection communicative spaces are created. ‘Communicative spaces’ are understood here as ‘social arenas for constructive dialogue and creative problem-solving among stakeholders on issues of common concern’ (Bodorkos and Pataki 2009: 314). Fig. 2 represents the idea of communicative spaces that are created through the cycles, which are taking place during AR.

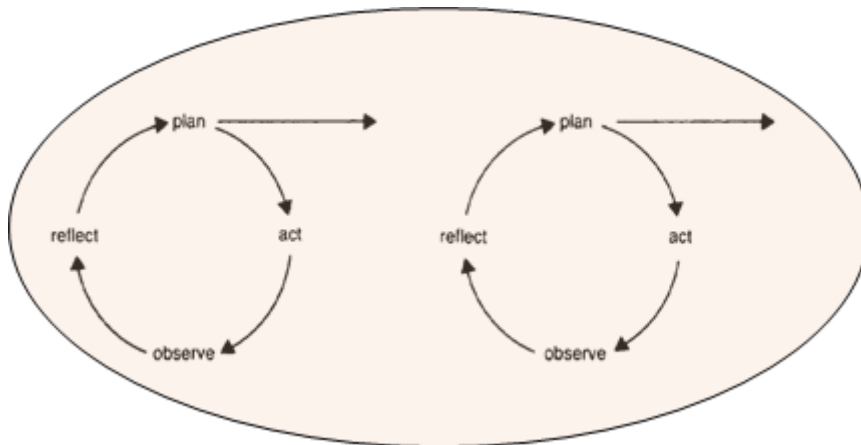


Fig. 2. Communicative spaces that are created through cycles of reflection and action

2.3. The paradigms behind knowledge transfer studies and action research

The attachment to different scientific paradigms may explain the disconnection between knowledge transfer studies and action research. Knowledge transfer studies normally rely on positivism and postpositivism, and action research on a participatory paradigm. Table 1 summarises the opposite characteristics of the items that define each set of concepts, adapted from Lincoln et al. (2011).

Table 1 Basic beliefs and paradigm positions on selected practical issues of alternative inquiry paradigms

Item	Positivism and postpositivism	Participatory
Ontology	Realism –“real” reality but apprehendable, at least only imperfectly and probabilistically apprehendable	Participative reality –subjective-objective reality, co-created by mind and given cosmos
Methodology	Experimental/manipulative; verification or falsification of hypotheses; chiefly quantitative methods, may include qualitative methods	Political participation in collaborative action inquiry; primacy of the practical; use of language grounded in shared experiential context
Knowledge accumulation	Accretion- “building blocks” adding to “edifice of knowledge”; generalizations and cause-effect linkages	In communities of inquiry embedded in communities of practice
Goodness or quality criteria	Conventional benchmarks of “rigor”: internal and external validity, reliability, and objectivity	Congruence of experiential, presentational, propositional, and practical knowing; leads to action to transform the world in the service of human flourishing
Values	Excluded –Influence denied	Included –Formative
Inquirer posture	“Disinterested scientist” as informer of decision makers, policy makers, and change agents	Primary voice manifest through aware self-reflective action; secondary voices in illuminating theory, narrative, movement, song, dance, and other presentational forms
Training	Technical and quantitative; substantive theories	Co-researchers are initiated into the inquiry process by facilitator/researcher and learn through active engagement in the process; facilitator/researcher requires emotional competence, democratic personality and skills
Action	Not the responsibility of the researcher; viewed as “advocacy” or subjectivity, and therefore a threat to validity and objectivity	Intertwined with validity; inquiry often incomplete without action on the part of participants
Control	Resides solely in researcher	Shared to varying degrees

Source: adapted from Lincoln et al. (2011).

In this sense, knowledge transfer studies usually operate under the idea that reality is beyond perception, but at least understandable through theories, and the observable phenomena may provide empirical evidence to support them. The emotionally and ethically farther the researcher stays from the studied phenomena, the greater the objectivity and rigour in the analysis. On the contrary, action research considers that reality is socially constructed, so that the definition between researchers and other social agents of the questions and the answers builds useful theoretical and practical knowledge. The incorporation of emotional and ethical aspects accepts that results depend on the context and facilitate their interpretation.

Positivist and postpositivist research is mainstream, so it is older and has more followers than action research. Some positivist and postpositivist researchers still question whether action research is scientific, in part for superficial reasons like it being new and different, in part for substantial reasons like the predominance of anecdotal evidence over literature review to build theory, the looseness of causal relationships and the scarce quantitative measurement of impact. However, under the participatory paradigm, these aspects are not so important to legitimize science as the definition of relevance with non-academic actors, the enhanced explanatory power of theories that are able to problematize and deal with complexity, and the multi-level conception of impact –aspects in which action research overcomes positivist and postpositivist research. Both the participatory paradigm and action research have built a strong scientific reputation with established academic communities and indexed scientific journals.

3. The overlap between knowledge transfer and action research

In this section we describe three possible overlaps between knowledge transfer (KT) and action research (AR), which will be illustrated with examples in section 4.

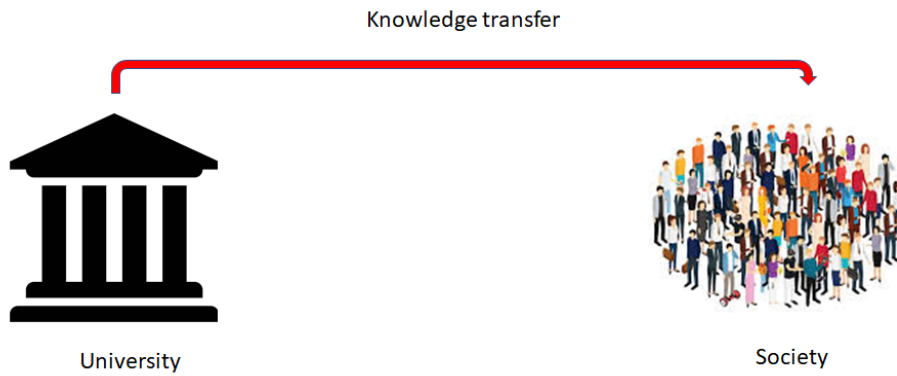


Fig. 3. AR without communicative spaces and cycles but with KT

In Fig. 3, we describe a knowledge transfer (between university and society) that happens before the AR cycles of reflection and action have started. Here, KT is unidirectional from university to society.

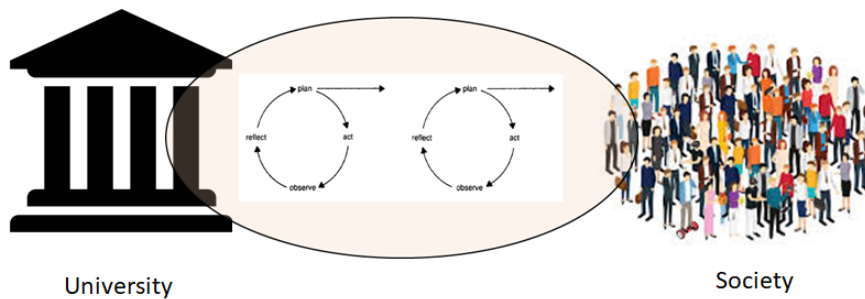


Fig. 4. AR without KT

In Fig. 4 we describe an AR in which its cycles of reflection and action, thus producing a communicative space, but not KT.

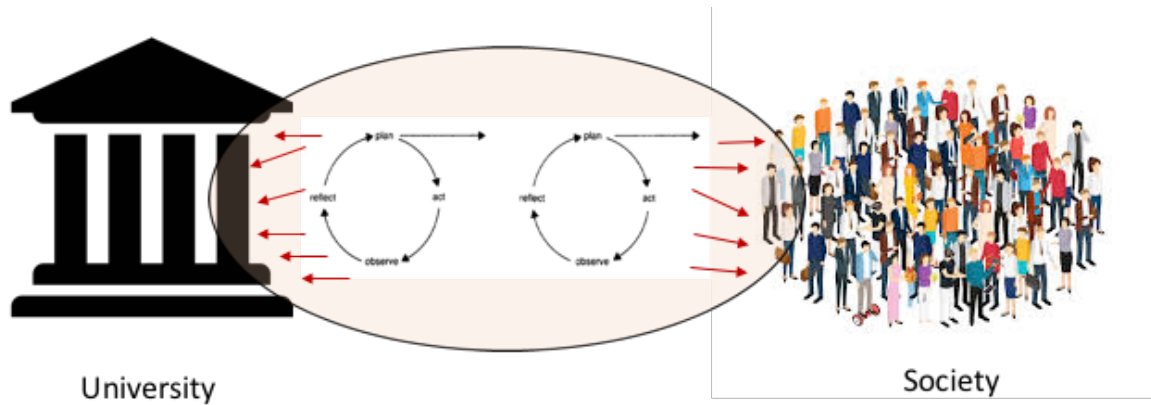


Fig. 5. AR with KT

Finally, in Fig. 5 a complete KT is happening through cycles of reflection and action. This interaction produces new knowledge both for university and society actors.

4. An illustration of the overlap

A process of AR carried out in Valencia from February 2010 to March 2011 could illustrate the different overlaps. In this process, 4 teachers of primary and secondary school, 2 university lecturers and 5 practitioners of non governmental organizations, investigated collaboratively in order to solve these two research questions: 1) What kind of educational practices and experiences contribute to the creation of global citizenship and how can be improved through collaborative spaces between different social agents? 2) How can we redefine (unpack, deconstruct, reflect) global citizenship? (Aristizábal et al. 2012).

This AR was accompanied by an external expert that came from an American university and by a local facilitator and two note keepers who helped in different participatory moments. Specifically, the AR was based in the Cooperative Inquiry methodology: it is a fully participatory process in which people engage together in cycles of action and reflection. In doing so they have an opportunity to develop their critical awareness of the theories and ideas they bring to their action in the world, and the extent to which their behaviour and experience

are congruent with these theories. Thus in the process of inquiry, both theory and practice are developed (Heron and Reason, 2006).

The model of co-operative inquiry was originally based on an extended epistemology including three kinds of knowledge: a) *experiential knowledge* is gained through direct encounter face-to-face with persons, places, or things; b) *practical knowledge* means knowing 'how to' do something, demonstrated in a skill or competence; c) *propositional knowledge* is knowledge 'about' something, expressed in statements and theories and d) *presentational knowledge* by which we first order our tacit experiential knowledge of the world into spatiotemporal patterns of imagery, and then symbolize our sense of their meaning in movement, sound, colour, shape, line, poetry. The development of presentational knowledge is an important, and often neglected, bridge between experiential knowledge and propositional knowledge (Heron and Reason, 2006).

The AR started in February 2010 and lasted until March 2011; during these 13 months, five cycles of planning-action-reflection-planning took place as shown in Table 1.

Table 1. Timeline of the AR initiative.

Month(s) and year	Phase
February 2010	1st meeting
February-April 2010	Action 1
April 2010	2nd meeting
April 2010-July 2010	Action 2
July 2010	3rd meeting
July 2010-October 2010	Action 3
October 2010	4th meeting
October 2010-November 2010	Action 4
November 2010	5th meeting
Action Research paused by decision of participants	
February 2011	6th meeting
February 2011-March 2011	Action 5
March 2011	6th meeting

Source: Sow et al. (2011).

This AR experience could be considered lengthy, but every AR is unique and depends on the availability, interest and dynamics between participants. However, at the end of the process, there were a common feeling that keeping the energy and commitment to the process during 13 months was too demanding. Although as we will see in section 4.4 different kinds of knowledge were produced.

4.1. AR without communicative spaces and cycles but with KT

An example of this exchange was the first explanation given by the American expert who presented, in a lecturing conceptual and methodological issue related with the AR. This happened previously to define and implement actions.

4.2. AR without KT

An example of this relation occurred when participants carried our actions individually. For instance reflexive writing on their own identity and its links with global citizenship; or reading texts and books on different visions of citizenship and global identities.

4.3. AR with KT

The majority of the activities performed during the AR can be considered AR with KT. We can include all the exchanges and interactions produced between participants in the “reflexive” moment of the different cycles. In those moments, participants came together to reflect on the previous action like reflexive writing and readings mentioned above. Also, AR with KT can be considered the actions with external actors: interviews conducted by researchers where teachers from Latin America gave their perspectives on the idea of global

citizenship; or conversations between participants and other teachers of a primary school cooperative. In these examples both researchers and other actors produced KT.

Because of all those interactions, this AR produced different kind of results. A group of them could be catalogued as “propositional knowledge”. A redefinition of global citizenship was agreed as follows: *Citizenships (common and multiple) are processes of construction (susceptible to being educated) of people (with their principles, values, desires, reflections, emotions). These people collectively and cooperatively share local and / or global actions in favour of achieving rights to themselves, to others and to the earth; they also want to achieve the dynamic transformation of reality, and this transformation channels new processes. These processes are cyclic, repeated* (Sow et al., 2011; Aristizábal et al, 2012).

Moreover, this AR highlighted 1) the need to position oneself in an attitude of demand and incidence, to generate active changes based on the rights and obligations of people and 2) The importance of practices, reflection and work with diverse networks.

Another important insight was the understanding of the approaches on education for human rights, gender, environmental etc. they are not a complementary part of the global citizenship definition, but they are intrinsic manifestation of education for global citizenship.

Finally, we agreed that global citizenship must be present throughout the educational space (classroom, faculty, families, in emotional education) but it also should transcend more areas of society.

Examples of *experiential knowledge* (gained through direct encounter face-to-face with persons, places, or things) are insights about the importance of attitudes (open mind, respectful, curious) to be part of an AR and about power dynamics that are always present in this kind of participatory processes. Other experiential insights originate realizing the kind of prejudices towards University or towards Non Governmental Organizations that some of primary and secondary teachers showed during the process. Another example of experiential

knowledge was produced during one of the encounters between university and primary school students. It was remarkable observing how primary school students express themselves using images, poetry and songs, while inasmuch as we progress in the educational ladder, these different forms of expression are gradually disappearing.

With regard to *practical knowledge*, the AR gave to the participants insights on how to deal with conflicts or with power imbalances during the process.

Lastly, this AR generated different example of *presentational knowledge* as figure 6 shows. Those drawings were produced during the different encounters which finalised every circle and prepared for the next action. As Heron and Reason say, presentational knowledge is a bridge between experiential and propositional knowledge (Heron and Reason, 2006).

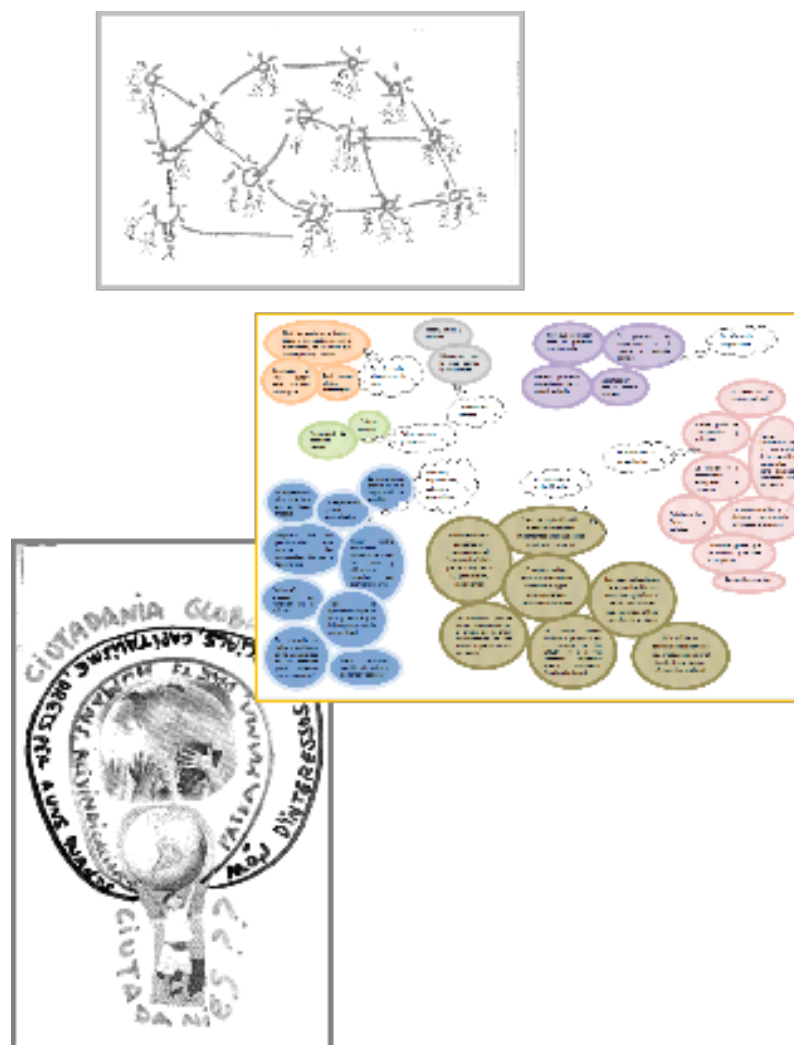


Fig. 6. Examples of presentational knowledge. Source: Sow et al. (2011).

5. Conclusion

Social researchers increasingly use the methodology of action research. This involves the creation of a space in common for university and non-university actors, where they develop knowledge in common, through bilateral knowledge transfer between them. Hence, are knowledge transfer and action research the same? A trivial answer is ‘No’, because the former is an activity and the latter is a methodology. However, the overlap is so large that we could wonder whether the difference is merely formal, because, intuitively, one hardly occurs without the other. In this paper, we have tried to deepen into the differences between both, and establish conceptual categories to delineate their borders. We hope this way we have clarified their deeper meaning.

Our research opens the floor for discussion of other conceptual questions, e.g. is participatory action research a knowledge transfer mechanism? I.e. should the typical study on knowledge transfer mechanism list participatory action research among joint research, R&D contracts, spin-off companies, patent licensing, etc.? We do not think so, because participatory action research is transversal to many of those mechanisms, but a more precise conceptualisation could follow.

At an epistemological level, let us recall that use of participatory action research is mostly a natural consequence of researchers engaging into a participatory research paradigm. This might be why analysts of knowledge transfer, who predominantly follow other, more orthodox, paradigms, have not used participatory action research. Going one step further, we could ask, what if knowledge transfer studies embraced participatory action research? Researchers in the field would generate knowledge transfer at the same time that they reflect upon it. This would increase coherence between the subject and the object of the study –a non-existing opportunity in other fields, which professionals could consider.

Finally, our approach emphasises that knowledge transfer during action research is mainly bilateral, rendering the term ‘transfer’ inappropriate for its reductionism. ‘Knowledge exchange’ could better depict the interactions at stake. This may be true of many other interactions even without action research.

From the other side, knowledge transfer studies can be useful for action research in order to be more rigorous when analyzing the different exchanges of knowledge produced and their relevance. As described above, the type of knowledge generated during action research can be propositional, practical, experiential and presentational. The first two can be considered a more conventional way of knowledge production. But both experiential and propositional knowledge belong to a different and novel category of knowledge which is confined to the realm of action research.

Moreover, knowledge transfer studies could be useful observing the production of presentational and experiential knowledge through interaction between different actors. They could also analyze the relationships between the production of different types of knowledge and the type of interactions that occur. For example, referring to the example of AR presented in this paper, we can know in what spaces a presentational knowledge has been produced in the form of images (see figure 6). But we do not know how and when this presentational knowledge becomes propositional and what kind of interactions and between who are key to it.

The second contribution of knowledge transfer studies to action research could be in relation to the criteria of training, action and control that characterize action research as it is presented in table 1. Knowledge transfer studies could be more precise and clarify when and how, through knowledge transfer, there is a better engagement in action research and what competences and skills are key to that. Also, it could examine what type of interactions and

production of knowledge are more related to the action and the degree of control that the participants may have.

We hope that everything described above could illustrate the potentialities that the intersection between knowledge transfer and action research communities can produce, both theoretically and practically. Undoubtedly, a rich avenue for future developments.

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SESSION 4.2

> Peer review

> Chair · Emanuel Kulczyk

Decolonising the social sciences and humanities through peer review ·

Tony Ross-Hellauer and Gemma Derrick

Innovating the peer review process: A publisher's ethnography ·

Serge Horbach and Willem Halfman

Criteria for Peer Review of Manuscripts and Grant Proposals: a systematic literature review · *Sven E. Hug, Marek Holowicki, Lai Ma and Michael Ochsner*

Decolonising the social sciences and humanities through peer review

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Introduction

Peer review faces recurrent accusations that it facilitates bias (Haffar, Bazerbachi, & Murad, 2019; Lee, Sugimoto, Zhang, & Cronin, 2013; Mahoney, 1977); causes unnecessary delay to scholarly communication (Björk & Solomon, 2013; Pautasso & Schäfer, 2010); and is generally unreliable (Ceci & Peters, 1982; Cicchetti, 1991; van Rooyen, Black, & Godlee, 1999). Yet it remains a central pillar of academic self-governance in all scholarly communities. In addition, peer review's centrality in the academic reward system also means that its outcomes directly feed into the development of metrics, and inter-personal impressions of quality, esteem, impact and value. Recently there have been calls to alter the nature of peer review to one that is universal, transparent, decentralised and open. Despite peer review's centrality to how the academy and broader society value and assess research quality, its history in the regulation of scholarly SSH research is unclear, and its relevance to SSH endeavours tacitly assumed rather than rigorously explored. The majority of history surrounding peer review focuses on its adoption in STEM journals and its emergence during the 17th century at the Royal Society in London (Moxham & Fyfe, 2018). In this context, peer review's purpose was to guarantee the validity of facts and to ensure that analytical techniques and approaches were applied appropriately (Shapin & Schaffer, 1985). However, for the SSH, peer review's role as a guarantor of facts and validity is, arguably, less relevant.

This paper explores the suitability of current peer review, and demands on peer review, for SSH disciplines. It conceptualises peer review as an act of boundary-work found necessary to demarcate scientific knowledge, which required the formalisation of a reviewer function, acting as an expert. However, it also conceptualises the STEM-SSH divide, not as a categorical distinction, but as a fluid spectrum that runs parallel to a scale of the object of study expressed by Flyvbjerg's (2001) distinction between objects to humanistic foci of study. This spectrum allows for the existence of peripheral overlaps between fields of study and therefore a mechanism by which regulatory advice through peer reviewers required as part of the peer review system acts instil forms of expertise that are not central to the missions and values of SSH research. In fact, we argue that this sharing different forms of expertise within this spectrum, due to the growth of knowledge production (Yan, 2016), interdisciplinary research (van Noorden, 2015) and the unsustainable nature of peer review (Ross-Hellauer et al, 2017), constitutes a form of gradual colonisation of SSH by STEM values and notions of quality. Left unchecked, the black box nature of peer review catalyses the colonisation of SSH, resulting in a systematic devaluation that forces SSH researchers to submit to, and adopt rather than consciously and openly assess notions of excellence offered by reviewers as part of the scholarly peer review process. In this way, the existing peer review system is feeding a *Teufelskreis/vicious cycle* that alters how SSH can self-govern and regulate notions of quality and value independent of STEM via the peer review process.

As an alternative, this article explores the conceptualisation of peer review for SSH research as a formative process rather than as a summative achievement designed to act as an audit tool. As a quality-control mechanism, peer review in its current form may be suitable for STEM, but we question its relevance to SSH and explore how it acts as a regulatory tool to promote what qualifies as excellence in SSH research. Specifically, we argue that since SSH tends towards interpretations rather than discoveries, its reliance on a peer review system that favours an operationalisation of audit, rather than knowledge construction, is misguided. This, in turn, questions how the recent replication drive for SSH research, promotion of metrics to assess research quality, moves towards interdisciplinary and greater SSH research impact, are relevant and beneficial to the future of SSH research that assumes an inherent value, rather than a value in comparison with its STEM cousins. As a result, this paper questions a STEM-size-fits-all approach to scholarly peer review, and provides options of how peer review practice can be operationalised to value and promote the inherent nature and value, and therefore share a future for a fourth wave (Tarman, 2017) of SSH research.

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Innovating the peer review process: A publisher's ethnography

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Introduction

The academic peer review system plays a crucial role in many of the core processes of science, including grant and career reviews, but especially also the assessment of whether research reports deserve publication in research journals. The journal peer review system and the editorial process are the gatekeeper in the dissemination of research findings, act as a self-regulating mechanism, and, by acting as a selection mechanism, play a key role in the academic reward system (Fyfe et al., 2017; Guston, 2007).

Following a series of scandals and controversies, several changes and alternative ways of organising the process have been proposed. A host of enthusiastic innovators have experimented with new procedures and technologies, each envisioned to address its own specific concerns (Horbach & Halffman, 2018). These include the introduction of various software tools, such as similarity or statistics scanners; procedures of blinding or disclosing actor's identities; and new criteria for accepting manuscripts.

Despite all suggestions for how to potentially improve the system, wider adoption of these new initiatives seems rather slow (Horbach & Halffman, submitted). On a global scale, review procedures are rather stable and traditional ways of doing review still prevail. Implementation of novel review models seems to be restricted to specific niches, with the exception of text similarity scanners.

This raises questions about the conditions under which review procedures may change and the considerations that go into decisions about such transformations. Many of the newly suggested procedures aim to improve the quality of the scientific record or the fairness of the review process, but the factors that influence the successful implementation of such initiatives in actual review practices currently remain unknown. The proponents of these innovations mainly use substantive, content-related arguments, such as claims that novel review formats improve quality, transparency or scrutiny, ultimately benefiting science in its endeavour to produce and disseminate validated knowledge. These advocates assume that these features will carry a transformation forward. However, other considerations, such as publishers' motives or other stakeholders' perspectives, also affect developments in the editorial process. Hitherto, these have largely remained invisible in the literature on peer review innovations.

While current studies of the peer review system mainly focus on the biomedical science, we take a more inclusive approach, studying review practices in a wide spectrum of academic disciplines, including the social sciences and humanities. We set out to study what the editorial process looks like in practice and how this practice might be prone to innovation and development. Specifically, we were interested in understanding processes of transformation,

guided by questions such as: what does the process of transformation look like? Who makes decisions about such changes? And based on what reasons are transformations made?

Method

Detailed information on peer review procedures used by journals is surprisingly hard to find. While some journals' 'instructions for authors' provide some information, most journals do not explain the details of their peer review procedures. We therefore studied the actual practices comprising the editorial process during multi-day visits to the editorial offices of large, commercial academic publishers. The publishers hold a large portfolio of journals, ranging over all academic disciplines and organising their review process in multiple ways. Performing ethnographic research and doing extensive interviews with actors at the offices allowed us to get acquainted with the editorial process and its particularities, as well as analyse what might trigger transformations to the system.

Results and conclusions

Our study suggests that, while the current academic debate about new initiatives to develop or improve the editorial system or peer review system is usually centred on academic arguments, other considerations are at least as important in bringing about or hindering change. These notably include the hierarchical structure of the editorial process as well as commercial incentives related to the publisher's business model.

First, we note that the editorial process is structured very hierarchically, with distinct tasks for distinct layers of the process and a highly differentiated division of labour between these layers. Extensive training for in-house editors and elaborate guidelines and manuals maintain a highly standardised and routinized process. This process clearly shows the complexity and inter-relatedness of editorial practices, as a combination of many mundane, simple practices distributed over various carriers and places (Shove, Pantzar, & Watson, 2012).

Analysing how editorial practices may be transformed, we conclude that projects tend to be typically implemented only on a relatively small scale. For larger projects, managerial approval has to be obtained, showing casing the publisher's hierarchical structure. Analysing the convincing arguments for management to make changes in editorial practices we observe several recurring themes.

A major factor in innovations is the publisher's commercial interest, which should not come as a surprise. However, the concrete consequences of a commercial interest depend on how this interest is understood in the publisher's business model. Our study suggests that the publishers' interest is understood as an urge to uphold reputation, to shorten the editorial process and turnaround times, and to increase the willingness of authors and reviewers to cooperate with the publisher. Considerations about improved scrutiny or academic quality seem to be predominant only in a specific niche of the publisher's editorial staff. For others, the meaning of editorial practices is more closely tied to the publisher's business model, with an aim to monetise the publication process and increase its efficiency. Because the latter meaning is more common among managerial layers of the company's hierarchy, this meaning tends to prevail in decisions on large scale innovation projects. Also, in this drive towards efficiency, standardisation is pursued in order to create economy-of-scale benefits. This potentially threatens diversity in review formats, steering procedures towards those already implemented by the largest set of journals. Arguably, this particularly affects review models

in the social sciences and humanities. Last, factors commonly impeding rapid or large-scale changes are often related to infrastructural aspects such as the electronic editorial system or habits of authors, reviewers and editors.

We show that, apart from academic and content-related considerations, the editorial process is also connected to commercial practices of creating business value, monetising and increasing efficiency. In our talk we will illustrate these connections, building on our ethnographic data. This might provide valuable insights for future endeavours to innovate and develop the academic peer review system, ultimately contributing to improved research evaluation.

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Criteria for Peer Review of Manuscripts and Grant Proposals: a systematic literature review

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Introduction

While it is widely acknowledged that criteria are an essential component of any procedure for judging merit, literature reviews on peer review discuss criteria briefly or do not mention them at all. We therefore conducted a systematic review of peer review criteria for the SSH. The research question guiding our paper is simply: what criteria are employed in the assessment of SSH research output or proposals? We restrict our review to the two most common forms of peer review: manuscript peer review and grant proposals. Also, we are interested in criteria that are developed from within the disciplines and therefore are not considering top-down induced criteria in general guidelines. The objective of the review was (a) to identify studies that develop or derive criteria inductively, (b) to determine how many of these studies focus on the social sciences and humanities, and (c) to provide a taxonomy of criteria. In the following, we will report preliminary findings on objectives (a) and (b), while at the conference we will present our findings regarding (c).

First results

Applying a systematic literature search, we have identified 12 studies on peer review criteria for grant proposals and 24 studies on manuscript peer review criteria. Remarkably, the first study investigating criteria for manuscript peer review dates back to the 1970s (i.e., Bonjean & Hullum, 1978), while the first studies on criteria for grant proposals emerged only in the 1990s (i.e. Hartmann, 1990). Obviously, these dates fall together with the emergence of modern peer review of journal articles in the 1970s (see Baldwin, 2017; 2018; Moxham & Fyfe, 2018) and the growing importance of competitive research funding in the late 1980s (Lepori et al, 2007).

Most studies investigated criteria for the medical and health sciences as well as the social sciences. Studies on other fields are scarce and no studies on manuscript criteria for the natural sciences and engineering /technology. A possible interpretation might be that all studies on manuscript criteria were conducted by scholars examining criteria applied in a journal of their own field. Since qualitative-inductive approaches are not part of the standard methods in the natural sciences and engineering/technology, it is unlikely that scholars study peer review criteria inductively. An interesting difference between the studies regarding

manuscript peer review and peer review of grant proposals concerns the methods used to identify the criteria: Manuscript criteria are mainly studied using actual reviews and comments from the review process; criteria for grant proposals are examined using interviews, surveys and the Delphi method just as often as using reviews.

On average, studies on manuscript peer review report more criteria than studies on grant proposals (44 and 26, respectively). In fact, six studies on manuscript criteria list more criteria than the study that reports most criteria for the assessment of grant proposals. We suggest that this difference might be linked to the fact that the manuscript peer review process aims at improving the manuscript under review. However, this doesn't seem to apply to all studies: if the studies with most criteria are excluded, the number of criteria is similar: 50% of the studies regarding manuscript and grant criteria report 8 to 19 and 7 to 21 criteria, respectively. We are currently elaborating a taxonomy of criteria used in peer review for manuscripts and grant proposals in the SSH

Preliminary conclusions

Even though criteria are an essential component of any evaluation process and although there are tens of thousands of publications on peer review (see Batagelj, Ferligoj, & Squazzoni, 2017), there are only very few studies that inductively examine criteria for reviewing journal manuscripts and grant proposals. Most studies examine criteria for the medical and health sciences and for the social sciences. These studies mainly focus on criteria used in the review process of a specific journal. We therefore conclude that more inductive studies on peer review criteria are needed, in particular regarding the humanities. We also identified a lack of comparative analyses of peer review criteria across journals or disciplines. Presenting a taxonomy of criteria for peer review, we will create the grounds for comparing the criteria applied in different disciplines. Thus, we will contribute to improving the understanding of the commonalities and differences of evaluation cultures in different fields.

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SESSION 5.1

> **Societal impact. Science and society**

> **Chair** · Gemma Derrick

From interactions to conditions: Toward evaluating university impact strategies · *Stefan de Jong*

Fiction lagging behind or non-fiction defending the indefensible? University-industry (et al.) interaction in science fiction · *Joaquín M. Azagra-Caro, Laura González-Salmerón and Pedro Marques*

How can higher education institutions foster societal relevance for development? · *Andiswa Mfengu*

The Sustainable Development Goals, Capabilities and the Societal Impact of the Humanities · *Eiríkur Smári Sigurðarson*

From interactions to conditions: Toward evaluating university impact strategies

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Introduction

This paper introduces a model and framework to facilitate the evaluation of societal impact strategies of universities.

Over the past two decades, a large number of impact evaluation methods have been introduced. They usually focus on the programme or project level. Examples of such methodologies are the SIAMPI methodology (Spaapen & van Drooge, 2011) and the Payback framework (Donovan & Hanney, 2011). Both focus on interactions between academics and other societal actors as precursors to impact.

Being research sites and employers of academics, universities provide conditions that influence such interactions. By evaluating conditions rather than the sum of achievements of individual projects or academics (e.g. the total number of patents, professional publications or media appearances) we can evaluate universities in terms of their responsibility as organizations concerning the societal impact of academic research.

Despite efforts to characterize university strategies (Loi & Di Guardo, 2015) as well as the analysis of aspects of impact support (e.g. Belitski, Aginskaja, & Marozau, 2019; Marcinkowski, Kohring, Fürst, & Friedrichsmeier, 2014) a comprehensive framework for evaluating the conditions that universities provide for impact does not exist yet.

A model for characterizing university strategies for societal impact

Impact dimension

Impact can be conceptualized as a continuum that runs from ‘impact as a process’ to ‘impact as a result’, as a brief discussion of policies and academic studies shows.

The UK probably is leading the impact agenda and its dominant conceptualization of impact is provided by the Research Excellence Framework. It defines impact as including ‘*an effect on, change or benefit...*’ (Higher Funding Council of England, n.d., p. 68), or in other words, as a result. The Netherlands is an example of a country that conceptualizes impact as a process. The Dutch government refers to impact as valorization and explicitly includes ‘process’ in its definition: ‘*The process of creating value from knowledge [...]*’ (Nederland Ondernemend Innovatieland, 2009, p. 8).’

Scholars interested in impact practices and impact evaluation have conceptualized impact as a process (e.g. Salter, Molas-Gallart, Patel, Scott, & Duran, 2002; Van Vught & Ziegele, 2011) or result (e.g. van der Meulen & Rip, 2000) as well.

Strategy dimension

The strategy dimension ranges from emergent to deliberate. The conceptualisation of this dimension is based on seminal works from the fields of management and organization studies.

A review of the definitions posed by Chandler (1962), Lampel, Mintzberg, Quinn & Gooshal (2013) and Porter (1980) shows that a strategy describes 1) goals 2) behaviour to achieve these goals and 3) the environment. Strategies may be deliberately planned or emerging along the way. Although this suggests a dichotomy between deliberate and emergent strategies, it is common for strategies to contain elements of both, which explains why the strategy dimension is a continuum (Mintzberg, Ahlstrand, & Lampel, 2005).

Plotting impact on the x-axis and strategy on the y-axis results in the model visualized in figure 1. The model distinguishes four ideal type strategies: the enabling strategy, the guiding strategy, the collecting strategy and the facilitating strategy.



Figure 1: Model for characterizing university impact strategies

Towards evaluating conditions

The impact environment

The environment influences the selection of goals and behaviour by voicing expectations or even requirements and setting boundaries for what is possible. The impact agenda as advocated by governments influences the allocation of research funding. Next to national government policies, universities may also experience pressures from other stakeholders including companies, regional governments and society at large (Benneworth & Jongbloed, 2010). However, universities may also aim to actively shape their impact environment (Gavetti, Helfat, & Marengo, 2017). For instance, by aiming for governments or funders to adopt their views on the importance, definition and priorities for impact.

The more a university is aware of impact policies and the impact expectations voiced by other relevant stakeholders in society and the more it aims to influence its environment, the closer it will be positioned to the ‘deliberate’ end of the strategy dimension.

Impact goals

By analysing the impact goals a university formulated, we can unpack what it signals to its academics to be of importance concerning impact. The first type of impact goals is result oriented. An example of a generic result is ‘impact on society’, whereas an example of a more specific goal may mention a target area, such inequality, or a geographical area or window of time in which the impact should occur. The second type is process orientated.

These goals focus on creating conditions that facilitate the generation of impacts, without predetermining what these impacts should be. Examples of such goals are the number of academics with stakeholder collaborations or the number of academics that completed impact related training. However, as Etzioni (1964) indicates for organizations in general and as Reale & Seeber (2011) specify for universities, original goals can be replaced by goals focusing on the organization. Examples of such goals may relate to reputation (e.g. in terms of media attention) or resources (e.g. in terms of third stream funding)

The higher the degree to which goals are being made explicit in documents and speech and the more coherent the goals are, the more deliberate the impact strategy is.

Impact behaviour

The behaviour of a university related to impact signals what it actually deems to be important. We can analyse this behaviour by mapping the allocation of resources to impact. Thus, we should investigate whether HR policies (e.g recruiting criteria and promotion criteria) signal that impact is a task that should be pursued and whether support structures are present (e.g. technology transfer offices and press offices). When looking into these policies and structures, we also need to establish whether there are specific priority areas.

The more the allocation of resources is in line with the impact goals of a university (Horner, Jayawarna, Giordano, & Jones, 2019), the more it would be positioned towards the ‘deliberate’ end of the strategy dimension. The less impact resources are directed to specific impact areas, the more process oriented a strategy is.

A framework for developing indicators

Based on the model and the discussion of the elements of university impact strategies, we can construct a framework that provides a starting point for developing indicators for the assessment of the conditions universities provide for impact (table 1).

Table 1: A framework for developing indicators

Environment	Goals	Behaviour
Interaction with policy context <ul style="list-style-type: none"> • Awareness of policies • Interpretation of policies • Lobbying activities 	Society oriented goals <ul style="list-style-type: none"> • Types of impact • Types of stakeholders • Types of interactions • Types of knowledge • Geographical scale 	Inclusion of impact in human resource policies <ul style="list-style-type: none"> • Hiring criteria • Task description • Annual job reviews • Promotion criteria • Formal and informal training • Rewards • Awards
Interaction with broader society <ul style="list-style-type: none"> • Awareness of expectations • Interpretation of expectations 	Organization oriented goals <ul style="list-style-type: none"> • Reputation <ul style="list-style-type: none"> ○ Through evaluations ○ Through rankings ○ Through media attention • Resources <ul style="list-style-type: none"> ○ Through competitive public funding ○ Through third stream funding 	Provision of practical support for impact <ul style="list-style-type: none"> • Types of impact that are (not) supported/preferred • Fields that are (not) supported • Types of knowledge of which exchange is (not) supported/preferred • Types of stakeholders that interaction with is (not) supported/preferred • Types of interaction channels that are (not) supported/preferred

Concluding remarks

The provided model and framework pave the way towards evaluating the conditions that university provide for impact. The next step is to develop indicators. In summative evaluations these show governments and academics whether universities make an effort in providing conditions for societal impact. In formative evaluations they offer universities a management tool for improving their strategies. I pose that such an approach offers more relevant suggestions for improvement than counting patents, contract research or public talks and whether these numbers have changed between evaluations.

The societal robustness of the model has been tested through presentations, discussions and workshops for knowledge transfer professionals and university senior leadership. It successfully facilitated reflections on current impact strategies and desired future strategies.

The academic robustness is currently tested using case studies of four universities in the UK and the Netherlands.

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Fiction lagging behind or non-fiction defending the indefensible? University-industry (et al.) interaction in science fiction

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ABSTRACT

University-industry interaction has supporters and detractors in the scholarly literature. Whereas policymakers have mainly joined the former, science fiction authors have predominantly enrolled the latter. We illustrate how the genre has been critical to university-industry interaction via the analysis of the most positively acclaimed novels from the 1970s to date. We distinguish the analytical dimensions of type of conflict, and innovation helices involved other than university (industry, government, society). By doing so, we merge two streams of literature that had not encountered before: university-industry interaction and representations of science in popular culture. A methodological novelty is the creation of an objective corpus of the literature to increase external validity. Insights include the relevance of the time context, with milder views or disinterest on university-industry interaction in science fiction works after the passage of the Bayh-Dole Act; and the lack of an academic or policy narrative about the benefits of university-industry interaction so convincing as to permeate into popular culture. Discourse is crucial for legitimising ideas, and university-industry interaction may have not found the most appropriate yet.

Keywords: university-industry interaction, conflicts, representations of science

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1. Introduction

University-industry interaction (UII) is a source of conflict, with advantages and disadvantages. It is a typical object of analysis in the field of Innovation Studies, which so far has offered inconclusive evidence about its benefits. However, the approach has always been to study UII in the ‘real world’. Could the study of ‘fiction’ shed any light on the debate?

The study of ‘representations’ of socioeconomic phenomena in fiction can enrich their analysis, as the concomitant field of Organization Studies acknowledges: Borges’ short stories or science fiction novels can offer lessons to researchers in the field (De Cock 2000; Pick 2016). Fiction is a laboratory for experimenting with many plausible situations, unconstrained by real limits, but shaped according to creators’ mental models. Thus, fictional representations of socioeconomic phenomena produce empirical evidence that is connected with (and sometimes mimics) reality. Even superheroes create networks with similar topographic properties to those of humans (Alberich et al. 2002)!

Innovation Studies have incipiently used fiction (specifically, science fiction) to establish analogies with typical objects of analysis in the field, namely the sources of innovation (Basset et al. 2013) or its rate and direction (Archibugi 2017; Steinmueller 2017). However, the field has not analysed the representations of these objects per se. Cultural Studies are ‘the best proxy’ for this type of analysis. The usual work includes representations of researchers in popular culture, e.g. in literature (Haynes 1989), in specific types of literature, e.g. Victorian and Edwardian novels (Russell 2007) or science fiction novels (Bowman 2007), in movies (Weingart 2003), in specific types of movies, e.g. Hollywood comedies (Terzian and Grunzke 2007), or in superhero comics (Locke 2005). The characteristic result is an ambivalent portrayal of researchers, from the archetypal dichotomy between the harmless absent-minded professor and the mad genius, to more complex distinctions. This resonates with the

ambivalent understanding of university-industry interaction, but the typical work in Cultural Studies deals with the world of science in isolation, without considering its interaction with industry. These works understand that literature shapes contemporary attitudes to science and scientists as much as it is shaped by them (Huxford 2000).

The question is still open: how is UII depicted in popular culture? We hereby analyse the representation of UII, paying particular attention to its (perceived) advantages and disadvantages as depicted in science fiction works. Our expectation is that we will discern an evolution towards more complex ambivalence in contemporary works.

2. Advantages and disadvantages of university-industry interaction

2.1. Advantages of university-industry (et al.) interaction

University-industry interaction is useful for academics, firms and the economy. It makes academics earn personal income, gain awareness of general economic needs and orient their research towards applied goals. It may connect them to industrial researchers with specialised frontier knowledge, and widen their network so that more opportunities to raise funding and find professional exits for their students and collaborators arise (Meyer-Krahmer and Schmoch, 1998; Balconi and Laboranti, 2006; Meng et al., 2019; Henningsson and Geschwind, 2019). For firms, interaction with universities may bring familiarity with state-of-the-art ideas, the chance to sub-contract specialised scientific work which would be too costly to develop in-house, or indirect benefits derived from signalling the ability to collaborate: attraction of good scientists, strategic alliances with other firms and a better position to get R&D grants (Santoro and Chakrabarti, 2002; Maietta, 2015; Guerrero et al., 2019). This mutual reinforcement between universities and companies impulses the value of academic activities for the region and the country, legitimises the role of universities and translates into

economic growth (Etzkowitz and Zhou, 2017; Ghio et al., 2019). This may explain that many conceptual models of the 1990s about the innovation process incorporated university-industry interaction among the motors of well-functioning societies, e.g., national systems of innovation (Freeman, 1987; Lundvall, 1988), the Mode 2 of knowledge production (Gibbons et al., 1994), the Triple Helix (Etzkowitz and Leydesdorff, 1996) or the entrepreneurial university (Clark, 1998; Etzkowitz, 1998). These approaches differ in the importance granted to universities in the innovation process, but do not question that some degree of interaction with firms should exist. In a similar fashion, national governments, and the European Commission typically mention university-industry interaction as a necessary condition for growth and welfare.

Some sort of synthesis has underscored that benefits and costs of university-industry interaction are undeniable, so the question is how to overcome the barriers that prevent successful interaction (Barnes et al., 2002; Bruneel et al., 2010; Bjursell and Engström, 2019; Kunttu and Neuvo, 2019). Another line of synthesis differentiates between types of interactions (D'Este and Patel, 2007), grouped in two broad types: university-industry commercialization and academic engagement (Perkmann et al., 2013). The former would comprise interaction mechanisms like patents and spin-off companies, whereas the latter would rely on others like joint R&D, exchange and mobility of researchers, informal connections, etc. Academic commercialisation would therefore gather the most polemic aspects of interaction with firms, and would be less recommendable than academic engagement –a more accommodated way for faculty members to continue with their academic standards and serve practical means at the same time. Hence, both syntheses establish that university-industry interaction is not inherently bad, but has disadvantages that, properly managed, can turn into advantages.

This view impregnates most current conceptual frameworks, which tend to assume that the underlying tension in university-industry interaction is ultimately solvable: the ‘productive interactions’ approach argues that if there is learning during the course of a relationship between researchers and other stakeholders, this learning can account for social impact of research (Spaapen and Van Drooge, 2011: notably, most of the examples given by this authors involve university researchers and industry stakeholders). The literature on ‘societal impact of research’ cares about the problem of measuring and assessing the returns of public science, but largely relies on the assumption that the impact is positive if leading to innovation (Bornmann, 2013). Similarly, the ‘responsible research and innovation’ (RRI) approach conceives scientific impact through interaction with industry and society as the basis for innovation, another ‘anchor points’ and the ‘Grand Challenges’ (Von Schomberg, 2013). The ‘transformative change’ frame revises how much innovation policy and innovation actors’ perspectives should change to achieve socio-technical system transitions towards sustainable growth, but admits that the public-private interactions were well conducted by previous theoretical approaches or by contemporary ones, like ‘societal impact of research’ or ‘RRI’ (Schot and Steinmueller, 2018). University-industry interaction as a precondition of ‘sustainable’ knowledge production is widely acknowledged (Bjursell and Engström, 2019; Saviano et al., 2019).

Notice that most of these approaches prefer the term ‘stakeholders’ of the science system to ‘university-industry interaction’. This emphasises how the relevance of public researchers transcends their impact on industry to cover other sectors of performance, notably society, citizenship or cultural agents (as also acknowledged by the Quadruple Helix framework: Carayannis and Campbell, 2009), but also hospitals, the military, non-governmental organizations, etc. To our knowledge, there has not been a literature on the disadvantages of university interactions with organizations other than firms, equivalent to that of university-

industry interactions. For our purposes, we are open to identify the same kind of conflicts in both types of stakeholders.

2.2. University-industry interaction: neutral views?

Consequently, the typical paper on university-industry interaction takes its benefits for granted and cares about its promoting factors: managerial practices conducive to clear proprietary benefit (Barnes et al., 2002; Leischnig and Geigenmüller, 2018); geographical proximity, be it unimportant (Vedovello, 1997), or important according to the type of R&D project (Broström, 2010) or geographic proximity of other firms (Giunta et al., 2016), quality of the university and radicalness of innovation (Tang et al., 2019); individual characteristics of academic researchers such as age and academic status (D'Este and Patel, 2007); characteristics of the firms such as the choice between exploitation and exploration, and absorptive capacity (Fernández-Esquinas et al., 2016), social capital (Al-Tabbaa and Ankrah, 2018) or phase of the interaction process (initiation or management: Goel et al., 2017), phase of the economic cycle (Azagra-Caro et al., 2019), the presence of successful project leaders (Takanashi and Lee, 2019), sectoral characteristics (de Moraes Silva et al., 2018), government subsidies (Scandura, 2016), business funding (Yegros-Yegros et al., 2016), etc.

2.3. Disadvantages of university-industry interaction and a typology of conflicts

So far, the bright side of university-industry interaction. Critiques challenging this idealised view of what can be considered 'academic capitalism' (Slaughter et al., 2004) have been numerous. The academic reward system, based on the importance of scientific findings, is enough to guarantee a continuous flux of useful knowledge (David et al., 1992; Partha and David, 1994). The intromission of external stakeholders with their own private agendas may deteriorate the quality of the academic work, and do nothing for the welfare of faculty

members (Bozeman and Gaughan, 2011). Companies will have a tendency to ask for short-term, value-in-hand deliverables, which are at odds with fundamental understanding of nature and breakthrough discoveries. They will try to retain the property of the results, thus obscuring academic contributions to open science. Academics involved in contacts with firms will devote less time to teaching and publishing, endangering their performance in those domains (Manjarrés et al., 2008; Banal-Estañol et al., 2015)¹, and similarly for deans (McClure and Teitelbaum, 2016). They may even bias their results to please their private sponsors (Chiles et al., 2018), or use postdocs as visible boundary spanners, to safeguard their image (Johnson, 2018). Long standing university-industry interaction can lead to less valuable science-based innovations because of the inertia of these relationships, that cause both partners not to be aware of better existing technical solutions (Meyer-Krahmer and Schmoch, 1998). University-industry interaction is dominated by power (male faculty members, holding an administrative position, and large firms) and may cause regional imbalances, since local interactions occur only where firms have high absorptive capacity (Azagra-Caro, 2007). Under the lens of the ‘striving universities’ approach, the fact that faculty can overcome the conflicts of involvement with industry is trivial: it hides that the cost is resignation, free time consumption and energy deprivation, not intrinsic motivation, and that only the auspices of a neoliberal ideology can justify that (Gonzales et al., 2014).

Studies about UII have exposed many of its potential conflicts, but typologies of those conflicts are scarce. We need one to establish analytical categories, while remaining open to others that may emerge from the works analysed. Campbell and Slaughter’s (1999) typology of UII conflicts is one of the most comprehensive. The authors distinguish between conflicts of interest, commitment and equity. We can summarise their respective meaning as dangers to the public service, lack of reporting to the academic organization and academic promotion

¹ The evidence on the relation between university-industry interaction and scientific excellence is mixed: some works report a positive relationship (Balconi and Laboranti, 2006, Van Looy et al., 2011).

based on relationships with industry. Within conflicts of interest (the first type), there are two sub-types: those due to enhanced entrepreneurship and those due to fostering intellectual property rights². We will use this typology to organise the empirical evidence.

3. Methods

Our corpus is composed of the novels that were concurrent winners of the Locus, Nebula and Hugo Awards, plus Frank Herbert's *Dune*. We take these to be the most-representative texts, inasmuch as a triple-awardee embodies wide critical and popular acclaim. The former prizes are the three most prestigious awards in the SF community, together covering the views of both experts and the public. The Locus Awards are conferred by the science fiction and fantasy magazine *Locus* (based in Oakland, CA), selecting winners via a readers' poll. The Nebula Awards are given by the Science Fiction and Fantasy Writers of America (SFWA); nominees and winners are chosen by published authors who are members of the association. The Hugo Awards are organized by the World Science Fiction Society; awardees are chosen by attending members of the annual World Science Fiction Convention. The inclusion of *Dune*, winner of two prizes only (Nebula and Hugo) obeys to its being the world's best-selling science fiction novel, which systematically makes it to the top in science fiction recommendation lists. Table 1 compiles the information.

² The crown of these contradicting views is the enforcement of intellectual property rights at university. Some consider academic patenting as a natural consequence of applied orientation of universities, and academic patent licensing as a legitimate alternative to alleviate the pressure on others sources of funding. Moreover, academic patenting signals the technological and industrial capabilities of university research and the willingness to be useful to the community. However, others consider that academic patenting directly clashes with the philosophy of open science: it privatizes the use of university technology and controls who can benefit from it. It also aims at producing revenue through licensing, which introduces a commercial mentality among researchers and administrators and deviates time from research, with bad repercussion on research quality. Moreover, paradoxically, it may deteriorate knowledge transfer, given that corporations will have to engage into costly negotiations with university, which may overestimate the value of their proprietary technologies.

All in all, as in the case of other interaction channels, the typical research on academic patenting assumes its benefits and focuses on how to foster it, e.g. effective technology transfer offices' management practices (Backs et al., 2019), quality of other interactions (Fischer et al., 2018).

There are 15 books, ranging from 1966 to 2013. New Wave science fiction is dominant, whereas contemporary subgenres such as steampunk are rare (Basset et al., 2013; Hrotic, 2014). They have 14 authors, since one of them repeated the triplet (Connie Willis). They are all Anglo-Saxon, as a natural consequence of the three prizes being for English language books. 10 authors are men and 4 are women, which reflects the overrepresentation of males in the science fiction genre (Thelwall, 2017).

We analysed their contents as follows: Laura and Pedro split and read the books, produced fiches and extracted literal quotations. Joaquín read the summaries and other complementary information from online sources and discussed with Laura and Pedro whether the books provided evidence regarding university-industry interaction and how to classify it.

Table 1 Joint winners of the Locus, Nebula and Hugo Awards

1 Year	2 Novel	3 Author	4 University represented?*	5 Interaction with other sectors represented?	6 View on interactions	7 Internal conflicts represented?
1966/1965	Dune ^a	Frank Herbert	Yes	Yes: industry, government	Conflictive	No
1971/1970	Ringworld	Larry Niven	Yes (symbolically)	Yes: industry	Neutral	No
1973/1972	The Gods Themselves	Isaac Asimov	Yes	Yes: society, government	Conflictive	Yes
1974/1973	Rendezvous with Rama	Arthur C. Clarke	Yes	Yes: industry, government	Conflictive	Yes
1975/1974	The Dispossessed	Ursula K. Le Guin	Yes	Yes: state, society	Conflictive	Yes
1976/1975	The Forever War	Joe Haldeman	Yes (symbolically)	Yes: military	Conflictive	No
1978/1977	Gateway	Frederik Pohl	Yes	Yes (secondary): industry	Neutral	No
1979/1978	Dreamsnake	Vonda McIntyre	Yes (symbolically)	Yes: industry	Conflictive	No
1984/1983	Startide Rising	David Brin	Yes (symbolically)	Yes: government	Neutral	Yes
1987/1986	Speaker for the Dead	Orson Scott Card	Yes	Yes: government	Conflictive	Yes
1993/1992	The Doomsday Book	Connie Willis	Yes	Yes (secondary): public	Conflictive	Yes
2008/2007	The Yiddish Policemen's Union	Michael Chabon	No	-	-	-
2010/2009	The Windup Girl ^b	Paolo Bacigalupi	Yes	Yes (secondary): industry)	Conflictive	Yes
2011/2010 2014/2013	Blackout/All Clear Ancillary Justice ^b	Connie Willis Ann Leckie	No	-	-	-

Source: Own elaboration. ^a Joint Winner of Nebula and Hugo only. ^b Locus Award for Best *First* Novel. * Also included: public research organisation/government lab.

We found university represented in most of the works (Column 4). Of course our methodological choices matter: First, we equated public research organisations (also known as government labs) with universities, since they experience similar conflicts from interaction with industry (Azagra-Caro et al., 2007; Arza, 2010). Second, we included not only the often explicit but also the occasional symbolic representations of university, e.g. organized explorers (*Ringworld*) or health bodies (*Dreamsnake*).

Debates about interaction with industry were represented so often as university (Column 5). Again, one methodological choice facilitated finding them: to include sectors other than industry: government/state, society/public, military (Carayannis and Campbell 2009's Quadruple Helix Model loosely inspired labelling the sectors). A key reason is that the views on interaction were indistinguishable from one another, as the results section will make clear: the narratives seem to have chosen industry or other sectors for coherence with the plot, not because of clearly distinctive conflicts with university. However, we have excluded debates without an organizational perspective, e.g. conflicts between the public and the private good, or between science and technology. We have also excluded critiques to corporate science, when they involved no interaction with university, even if the type of conflicts were similar, e.g. the lack of freedom of the industrial researcher, or the sacrifice of ethics for money.

In Column 5 we also specify whether the representation of the interaction is secondary to the plot (if not specified, it is most important). It means that the plot does not rely on it, usually because university characters are not protagonists. We realised this was an important distinction, because of a temporary pattern: the topic becomes less important as time goes by. We will later develop this issue.

We qualified the views on interactions as positive, conflictive or neutral, but we could never apply the category 'positive' –that is already a surprising result (Column 6). We will develop these views in detail in the next section. Let us indicate first that the representation of

internal conflicts in the university system is the norm rather than the exception, e.g. the pursuit of scientific prestige at the expense of the public service and the quest for trust is a recurrent topic. We included Column 7 in Table 1 to show that most works do not depict a Manichean dichotomy between the purity of the university and the dirtiness of industry, but are critical to both worlds. However, internal conflicts are not the target of our study, so we do not develop them unless indispensable.

4. Results

4.1. Importance of the topic and the two-period divide

In 5 out of the 6 books there are representations of the conflicts between university and external actors, i.e. the topic has been important for influential science fiction works.

Time seems to play a role: 4 books are from the 60s-70s, and in all of them the topic is core to the plot. 2 books are from the 90s-00s, and in one of them it is not so important (*The Doomsday Book*), and in the other one it is not represented (*The Yiddish Policemen's Union*). We can take this as a symptom that initial fears against excessive intromission of third parties in academic research agendas have given rise to milder views or disaffection to the subject. We tentatively attribute it to changes in the public opinion after the passing of the Bayh-Dole Act (Mowery et al. 2001), which fostered commercialisation at universities, although we will verify so by reading all the books in the sample. In any case, sci-fi authors have not replaced scepticism by a positive depiction of UII (broadly defined).

4.2. Conflict of interest with the public service (a): threats to sustainability

This category is the more populated with examples, starting with the oldest novel in the sample: *Dune*. It narrates the story of a galactic economy based on the traffic of *melange*, a spice produced only in one planet, Arrakis, inhabited by the Fremen. The Emperor granted the non-local Harkonnen family the management of Arrakis. Kynes, an Imperial Planetologist who conducts research in Arrakis, is critical to the way the Harkonnens have exploited it for their own benefit and in detriment to the Fremen. He oversees the transition between the outgoing Harkonnens and another family, the Atrides, who have been granted domain over the planet. Duke Leto Atrides then gives Kynes permission to study the spice, research that the Harkonnens had prevented in the past, and the Emperor himself does not seem to support either:

*I don't care if you study the spice as long as I share what you discover
[...]. The Harkonnens discouraged investigation of the spice, didn't
they?*

In fact, the Emperor has allowed this transaction between families in connivance with the Harkonnens, in order to set a trap to the Atrides –a representation of a conglomerate of industrial-government interests. The Harkonnens, back in charge, target and eventually succeed in killing Leto Atrides and Kynes:

*–Have the Man [Kynes] killed.
–M'Lord! Kynes is the Imperial Planetologist, His Majesty's own
ser—
–Make it look like an accident.*

The careless exploitation of natural resources in the planet restarts.

The Gods Themselves tells a similar threat, this time to planet Earth. Radiochemist Frederick Hallam develops a cheap, clean, and apparently endless source of energy: the

“Pump”. Physicist Peter Lamont and archaeologist and linguist Mike Bronowski discover that the Pump increases the strong nuclear force inside the Sun, bound to eventually explode. Hallam is totally closed to accepting this, and Lamont attempts to demonstrate it to a senator, who refuses his request:

Young man, my powers, on paper, are enormous, but I can only succeed when the public is willing to let me. It is a mistake... to suppose that the public wants... the environment protected or their lives saved and that they will be grateful to any idealist who will fight for such ends. What the public wants is their own individual comfort... You have a theory but a theory by itself is meaningless.

The moral is that everyone is driven by self-interest: the public, who does not want to believe in inconvenient truths (such as the Pump, which provides free energy to everyone, but could potentially be harmful); as well as politicians, who do not want to risk their reputation.

In the words of another character, ex-physicist Denison, briefly introduced in Part 1 as the colleague and rival of Hallam:

The easiest way to solve a problem is to deny it exists.

We find similar examples in *Rendezvous with Rama*. An alien starship enters the Solar System, named Rama. Survey vessel *Endeavour* is sent to explore and study it. A committee of scientists and representatives of the United Planets (Mercury, Earth, Luna, Ganymede, Titan and Triton), based on the moon, monitors events and gives feedback. Various conflicts dominate the dynamics between both groups, in the form of impossible problem-solving requests, and constant demands of cost-benefit analysis, from politicians to scientists.

However, the ultimate challenge for scientific quest is that from Mercury, who embodies the concept of “technological barbarism” (in the words of one character): with vast engineering skills, Hermians (natives from Mercury) are the Solar System top exporters of

metal, metal manufactures and energy. They are used to living in “survival mode” due to the brutal conditions of their planet: isolated, and constantly weighing the risks against the benefits. The citizens from all the other planets, on the other hand, have a “thrive mindset”: they value art, and lean towards a respectful pursuit of knowledge that takes into account others’ needs as well as one’s own. It is easy to see in this dichotomy between Mercury and the others a representation of the conflict between challenge-driven and frontier research. Hermians conclude that the risk Rama poses is not worth the potential gains, so they unilaterally launch a missile to destroy it, but one of the astronauts neutralises the rocket. The mission commander puts it this way:

The human race has to live with its conscience. Whatever the Hermians argue, survival is not everything.

The threat is even more palpable when the boundaries between the state and the military blur. In *The Forever War*, there is a war between Earth and Taurus. National and international governments orient their economies towards armed fighting –science at the forefront. The United Nations recruit the most brilliant college students, including the main character, William Mandella, for their elite battle forces. We see here a parallel with reports of university students’ pro-industry bias after receiving gifts by companies (Lieb and Koch, 2013). The war lasts for hundreds of years, and Mandella finally discovers its futility: it started by accident, but Earth’s public-private forces in power made it look like the result of Taurans deliberate hostility.

We find a similar example in *The Doomsday Book*, in which time-travel is an ordinary practice for historians at the University of Oxford, until some sceptics seem to think that it has something to do with a current epidemic. Gilchrist, Acting Head of the History Faculty, closes the laboratory, even though there is no scientific basis for that belief:

Our position in the community [...] depends on maintaining the goodwill of the townspeople. I felt it important to calm the public's fears by closing the laboratory until the sequencing arrives. I felt it important to calm the public's fears by closing the laboratory until the sequencing arrives. If it indicates that the virus is from South Carolina, then of course the laboratory will be reopened immediately.

There seems to be a dependence on public opinion and approval, even though their fear is without foundation.³ Keeping the public content is a priority, even to the expense of scientific endeavor, and the safety of the scientists themselves: with the decision to close the laboratory, Gilchrist puts in danger the life of the main character, Kivrin, another scientist who has travelled to the past and is stranded there.

In *The Windup Girl*, people die of starvation worldwide. Large corporations control food supply and are responsible for plagues, depletion of natural resources and subsequent food scarcity that come with their engineered products. However, Thailand has managed to resist subjugation by maintaining its own reserve of seeds and restricting imports, which need to pass tight inspection. Companies such as AgriGen, seek to find and seize the Thai seedbank, a sort of public laboratory, so that the country is forced to buy and depend on their products (a situation that may resemble conflicts raised by Chiles et al., 2018).

A secondary character, Gibbons, is in charge of the seedbank, where he conducts research on food processing. He used to work for AgriGen but moved to the public sector, renouncing a higher salary and access to better resources in favour of more intellectually challenging tasks. These motivations are already suggesting that potential tensions of university-industry interaction may arise because of the different incentives of each sector. More explicitly, when

³ A researcher opposed to Gilchrist ironizes against him with a highly topical issue at the time of writing this paper: "There has been 'considerable public concern,' as you call it, that the virus was caused by liberal immigration laws," he said. "*Do you intend to secede from the EC as well?*" (italics are ours). It could have been written today in reference to the Brexit.

a new plague threatens the seedbank, Gibbons helps one of the protagonists to find that AgriGen has caused the plague, so he utterly engages with the public sector (even if he usually acts with ironic distance).

4.3. Conflict of interest with the public service (b): keeping ownership of ideas

Although there is no explicit mention of legal mechanisms to enforce intellectual property rights, *The Dispossessed* uses the concept of intellectual property as dramatic material. Physicist Shevek accepts a position as a professor at an Urrasti university, in the capitalist state of A-Io. However, Shevek finds this state is closer to a “private”, profit-maximising institution (although it is supposed to be democratic, it is not), as the government monetizes and selfishly profits from publicly-funded research. What Shevek wants is to make his knowledge available to everyone: knowledge belongs to the people; not the government, not a group of elite individuals, but everyone.

I came here from Anarres because I thought that here I could do the work and publish it. I didn't understand that here an idea is a property of the State. I don't work for a State. I can't take the money and the things they give me. I want to get out [...]. I was to be kept from the populace, to live among scholars and the rich. Not to see the poor. Not to see anything ugly... There I was to be happy and do my work, the work I could not do on Anarres. And when it was done I was give it to them, so they could threaten you with it.

In *Dreamsnake*, the main character, Snake, is a member of the Healers, a community organized like academics: their mission is to pursue and apply knowledge for the sake of practising medicine. Mentors guide students until they are worth of holding the title of Healers; and Healers can lose their title in case of misbehaviour, as judged by their peers. The

novel poses a curious situation of technological lock-in: Healers use ‘dreamsnakes’, an extra-terrestrial species of snakes whose poison relieves pain, but do not know how to breed them. That is to say, Healers possess applied knowledge that guarantees usability of resources, but not the basic knowledge for ensuring their constant supply.

Because of a sort of imprudence, Snake’s dreamsnake dies. She needs to replace it in order not to lose her Healer title, and she has two possibilities, but faces obstacles due to ownership restrictions:

- Inhabitants of Central City, notable traders, get new dreamsnakes from commercial exchange with the Otherworlders, the extra-terrestrial race that breeds them. Central Citizens have not made public how to make contact with Otherworlders, keep dreamsnakes for their own consumption and are particularly reluctant to share dreamsnakes with Snake and the Healers, who use them for the public good. One can see here a metaphor of capitalism preventing knowledge diffusion.
- North, a researcher-like individual who hates Healers, finds the way to breed dreamsnakes. He keeps the secret for his own benefit, since he gets the adoration of followers who have become addicted to the drug secreted by dreamsnakes, and he even tries to kill Snake. This could be a representation of the ‘entrepreneurial’ scientist, separated from the disinterested academic community.

In both cases, as in *The Dispossessed*, there is no mention to formal retention instruments, but of course Central Citizens and North have put in place some sort of secrecy mechanism to retain ownership of basic knowledge for commercial interests.⁴

⁴ There are explicit mentions to knowledge diffusion in *Dreamsnake*. The main character reflects upon how network fragmentation hinders knowledge diffusion.

4.4. *No conflict of interest? Academics teaching and consulting for industry*

In *Gateway*, humans find an extra-terrestrial technology that allows for space travel. Success is not guaranteed and space travellers face a chance of dying, but also of getting new artefacts and knowledge. The Gateway Corporation is the publicly sanctioned monopoly in charge for the use of the alien technology, and it hires college professors referred to as the *Corporation Science Research Division* or the *R&D people*: they teach travellers about the space, and analyse the possible discoveries. This is very secondary in the plot, but we highlight it as one of the few non-critical approaches to university-industry interaction. The story narrates how academics work for industry with neutrality, without any obvious clues to judge its advantages or disadvantages.⁵

4.5. *Conflict of commitment (I): non-disclosure of information as a problem*

Yet another character from *Dune* (see section 4.2) exemplifies the corruption of scientists who serve private interests. Doctor Yueh is a physician from a Suk School, which imposes Imperial Conditioning –a sort of unbreakable Hippocratic Oath that renders them incapable of inflicting harm. The Harkonnens kidnap Yueh’s wife, coercing him into betraying the Atreides, whom he serves. Yueh, a wise and good man of science, is not reliable any longer for his ‘organization’, due to the external pressures of ‘industrial’ stakeholders (represented by the Harkonnen).

Speaker for the Dead covers another angle of secrecy: one motivated by ethical concerns. In this novel, a family of xenologists analyse the second alien species ever found by humans, the *Pequeninos*. *Pequeninos* suffer disease and hunger, and the xenologists can help them, but an Earth government body, the Starways Congress, forbids it. Humans unduly caused the

⁵ However, in the book, the only existing science is science at the service of the economy, which may contain an implicit critique, but too subtle for us to be conclusive.

extinction of the first alien race they encountered, and their sense of guilt has become so strong as to ban sharing science and technology with extra-terrestrials, to protect the latter from any unintended harm. Hence, although external imposition of secrecy endangers the free pursuit of science, this is not at odds with sustainability and life, unlike in other novels. However, the main character, Ender, ally of the xenologists, suspects that the Starways Congress overprotects other species interestedly:

At that moment Ender saw clearly that the rules governing human contact with the piggies [another name for Pequeninos] did not really function to protect the piggies at all. They functioned to guarantee human superiority and power [...]. Why are we so anxious to keep them from any influence from our culture? It isn't just in the interest of science. It isn't just good xenological procedure. Remember, please, that our discovery of the ansible, of starflight, of partial gravity control, even of the weapon we used to destroy the buggers [the first, extinguished, alien race] –all of them came as a direct result of our contact with the buggers [...] in only a few generations, we took their machines, surpassed them, and destroyed them [...] –we're afraid the piggies will do the same to us.

Because the reader sympathises with Ender, it is difficult not to adopt his point of view and feel that unethical concerns counterbalance ethical ones, so the notion that secrecy is detrimental to science prevails.

4.6. Conflict of commitment (II): non-disclosure of information as an acceptable evil

Ringworld provides a neutral piece of evidence regarding non-disclosure of information (neither positive, nor negative). University and industry are represented by the two main

characters of the novel: Louis Wu, an Earth adventurer whose goal is to pursue knowledge for its own sake; and Nessus, from the alien race of the Puppeteers, rulers of a galactic mercantile empire. The latter hires the former to explore a space structure called *Ringworld*, and promises the spaceship in which both travel as payment, establishing a pecuniary reward that is reminiscent of a university-industry contract. One interesting point for this research is that Nessus recruits two other crewmembers, Speaker (an alien from the Kzin race) and Teela (a particularly lucky Earth Human). During the expedition, Nessus unveils that Puppeteers have genetically engineered Kzin and lucky Humans like Teela to manipulate them. On the one hand, the crewmembers get angry, but on the other hand Nessus's revelations occur because of comradeship out of having lived adventures together. This suggests that communication and trust may alleviate the tension raised by secrecy, as in the case of university-industry interaction.

The final resolution adds an extra layer of complexity and is even more relevant for our purpose. When the mission finishes, on the way back to their planets, Louis and Speaker decide not to disclose the Puppeteers' manipulation of Humans and Kzinti, because it would be too disturbing for their races, putting peace at risk and potentially leading to their annihilation, since Puppeteers are more technologically capable. This indicates that 'state pacts' are necessary to cope with the advantages and disadvantages of inter-institutional relationships, and that individuals can micro-manage unresolved conflicts.

A somewhat similar ambiguity is present in *Startide Rising*. Here, the Council of the Five Galaxies regulates the coexistence of most known races, in unstable equilibrium. The Council relies on the Library, an aeons-old institution that (supposedly) stores all available knowledge and makes it publicly accessible. Most species use it to build further advances. Earthlings, on the other hand, prefer research-based development instead, which sets them apart. Humans represent then the closest depiction of university endeavor in this fictional universe.

In this context, the Earth's government sends spaceship *Streaker* to explore the galaxy, i.e. a possible representation of university researchers. Its crew finds evidence of the existence of the Progenitors, the mythical creators of life: the location of a derelict fleet, some artifacts and an alien body. The *Streaker*'s crew mission becomes to deliver this information to their government, but other races that want to take possession of the secret soon pursue them, and the crew tries to escape. They could 'sell' their secret to some races in exchange for their life, but they run away and fight if necessary for loyalty to their government. Hence, this represents an act of non-disclosure of information for nationalistic reasons: the secret belongs to the 'heroes'' homeland, not to others.⁶ As one of the members of the crew puts it:

Our discovery will be given only to the Galactic Institutes, and only by our Terragens Council leaders themselves.

Thus, the crew does not completely deny the convenience of submitting the secret to the Library Institute to make it publicly available, but concludes that the decision corresponds to the Terran government. Their commitment to waiting to share the information instead of broadcasting it immediately to the Library is actually quite understandable, and seems to obey other than purely selfish reasons. Throughout the novel, it is repeatedly established that the Library's records have been manipulated, which renders this repository of knowledge unreliable: thus another source of ambiguity is introduced. It could be argued that, again, non-disclosure of information is a better option, justified by lack of trust in international institutions.

Overall, *Startide Rising* shares with *Ringworld* a neutral view of universities' non-disclosure of information generated for others. It does not lead to clear advantages, but may avoid worse scenarios.

⁶ The novel does not offer particular reasons to despise other races, but the fact that the main characters are humans (like, most likely, the reader), humans are the most curious race in the galaxy and they have been discoverers in a 'quest for truth' predispose the reader to take sides with them.

4.7. Conflict of equity: lower promotion of 'disengaged' academics

Should scientists be able to research whatever they are interested in, or should society dictate that according to its own needs? Before moving to Urras, in *The Dispossessed* (see section 4.3), Shevek lives in Anarres, where he is frowned at for not focusing on the problems his society considers more important. He joins the university to develop his theory, but Sabul, a jealous superior, blocks his work. He is accused of putting his personal desires and intellectual interests before society's needs. He loses his job at the university, effectively being forced to perform agricultural labour, instead of working on his research. Sabul explains it to Shevek:

What worked against you was a combination of things. The abstruse, irrelevant nature of the research you've done these last several years. Plus a certain feeling, not necessarily justified, but existing among many student and teaching members of the Institute, that your teaching and behaviour both reflect a certain disaffection, a degree of privatism, of non-altruism.

The Doomsday Book provides another piece of evidence. As mentioned in section 4.2, the Oxford History Department customarily sends students and researchers to the past, to do field work. Periods have a danger rating (out of ten) and the most risky ones are off-limits. This has been the case of the medieval period (which has a rating of 10): no one has been allowed to travel to the Medieval Ages because of the potential risks. Gilchrist, Acting Head of the History Faculty, coaxes authorities to open the fourteenth century, in hopes he will score a point orchestrating this ground-breaking operation, and sends Kivrin (an enthusiastic History student) to study the Black Death. He even skips several protocols that would ensure the student's safety to speed things up. However, when problems arise, the present suffers an epidemic and the public blames time travel for that, despite the lack of convincing proofs (see

section 4.2), Gilchrist refuses to take any responsibility and blames others instead. Symbolically, Kivrin had many promotion opportunities when the evaluation criteria were scientific (for her pioneering and risky field research on the Black Death) but she is left out of academia when the evaluation criteria take into account societal impact (literally left out: she remains isolated in the past).

5. Conclusions

The influence between literary representation and society is thus reciprocal: fictional depictions of scientific research reflect, at least to some extent, society's opinions and fears. At the same time, literature has the power to shape public opinion, be it for the best or for the worst.

In this paper, we merge university-industry interaction studies with the literature on representations of science in popular culture. By doing so, we expect to have contributed to university-industry interaction studies by signalling that: (a) most disadvantages of university-industry interaction are extendable to university interactions with other sectors of performance (government and society); (b) the predominant popular view of university-industry interactions is negative, and not even the rise of university-industry interaction in the last four decades has changed it. This suggests that policymakers have not focused on the importance of discourse for legitimising action (McCloskey 2002).

Our aim is also to have contributed to the literature on representations of science in popular culture by putting the focus not on the depiction of the isolated scientist but on her relationships with others.

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How can higher education institutions foster societal relevance for development?

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Introduction & background

Higher education institutions are expected to contribute to society, on top of teaching and research, by stimulating the application and exploitation of knowledge for the benefit of the social, environmental, cultural, and economic development of society (de Jong et al., 2014). With decreasing funding for research as a result of tight fiscal government landscape, researchers have to demonstrate their contribution in terms of societal relevance, on top of academic impact (Australian Research Council, 2013). Higher education institutions have been long known for overreliance on metrics for research evaluation at an individual level. Measures of societal impact are needed but this type of impact is more difficult to assess than scientific impact; with a concern that this may lead academics to focus activities on what can easily be measured (and rewarded by their institutions) than what is most useful to society, but difficult to assess (Bornmann, 2013). Higher education institutions are for public good as they are funded by public funds thus need to align their priorities with societal needs. This paper proposes a paradigm shift in research evaluation, from outcome-oriented to process-oriented approach in order to foster sustainable development especially in African and other developing economies.

Methodology

The study reviewed and summarised relevant studies on evaluation of impact in higher education institutions. The objective of this review is to serve as a basis for development of robust and reliable methods for fostering societal impact for sustainable development.

Results & discussion

In recent years, internationally there has been an incipient shift from evaluation systems focused on academic excellence, to systems that take account also of societal impact. However there has been a slow shift in developing countries like South Africa. African research has to meet the research of African communities. This shift has been particularly critical in Africa due to the role that research emanating from higher education can play in fast tracking development. For knowledge exchange to happen between researchers and society, research has to be accessible and relevant to society. The literature is characterised by an over reliance on bibliometric methods to assess research impact and there has been a great misuse and abuse of metrics. Which undervalues the wider impact of social sciences and humanities research. Moreover, poorly designed evaluation criteria can have dire consequences: the ability to dominate minds, distort behaviour and determine careers (Lawrence, 2007). Moreover, this focuses on what is easily measurable will not drive sustainable development in Africa, but only a change in prioritises and approach can potentially contribute towards sustainable development. Research evaluation should consider not only the magnitude of the social impact of research but also the type of impact, for

example, whether and to what extent it addresses and satisfies societal needs (Ciarlia & Ràfols, 2019). Therefore, institutions have to utilise indicators that recognise research impact broadly, beyond ‘academic impact’. Evaluation systems need to recognise and reward open access practices and knowledge contribution on society.

Currently higher education institutions give more weight and value to publications, especially peer reviewed articles, and insignificant portion is given to engaged scholarship which is seen as how tertiary institutions can contribute to society. To foster societal impact the value that is given to academic impact needs to match the value that is given to societal impact, and even more. Researchers are known to respond to recognition which is why open access has not been fully embraced by researchers, much because there is little support for such practices even though individual researchers are making a difference to the greater community. Societal impact has the ability to go down the same route unless we change our approach and evaluation systems embrace these changes. Moreover, indicators of impact need to go beyond metrics and peer review but have to utilise methodologies like case studies and surveys. Doyle (2018) states that there may be benefit in reconceptualising research impact rather than being perceived as a product of research, research impact may be better conceptualised as being part of the process of research.

For funders and research institutes to foster societal impact there is a need for paradigm shift in how research is being evaluated; from outcome-oriented evaluation practices to process-oriented evaluation practices. A process-orientation to understanding how research achieves impact acknowledges the indirect, intangible, unexpected and endless influences of research that may be difficult to anticipate and demonstrate (Doyle, 2018). Since societal impact is uncertain, long term and always dependent on other factors. De Jong et al. (2014) argues that evaluation should focus on the conditions under which societal impact is generated rather than on the impact itself. Reconceptualising research impact using a process-orientation approach gives insight on how research influences the real-world (Doyle, 2018). This is because there are different types of use of research: instrumental use, conceptual use, symbolic use and wide spread use. Outcome-oriented evaluation misses the collective nature of impact endeavours, as well as the broader social and cultural benefits of research (Ni Mhurchu et al., 2017). What we measure is based on what we value most; and perhaps why the motivations of the dominant society toward academic measures have been prioritised (Bainbridge et al., 2015). Thus, to contribute towards sustainable development in Africa funders need to re-think their priorities and value systems.

Conclusion

It is critical that researchers and funders recognise the research benefits beyond academia as not just simply an add-on activity to be undertaken at the end of a research project because if societal impact is regarded as an additional in the sense of needing further resources, it is likely to suffer in the face of other, better resourced, demands on an academic’s time. The discovery that academics need adequate resources, rewards, and enthusiasm in order for their research to benefit others is by no means unique hence the need for shift in systems from research outcome to research process. If the ultimate goal of knowledge exchange is to increase the uptake of research outside the academy for wider societal benefit, then an approach to rewarding knowledge exchange that focuses on outcomes seems unlikely to be the most effective driver of knowledge exploitation and application for sustainable development. Hence the need to embrace process-oriented approach instead of only focusing on the outcome of research.

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The Sustainable Development Goals, Capabilities and the Societal Impact of the Humanities

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Introduction

Researchers and research institutes are increasingly required to demonstrate the value of their research to society or, to put it differently, the beneficial societal impact of their activities. Recently the Sustainable Development Goals (SDG) have been used to measure the societal impact of research (e.g. in the new “University Impact Rankings” published by the *Times Higher Education* in 2019) and to guide research programmes towards socially valuable goals (e.g. in the current and developing EU Framework Programmes, “H2020” and “Horizon Europe”). The SDGs give one possible answer to the question of what research activities should aim for and have been enthusiastically adopted as such in some quarters. There is a risk that this trend will develop into new counting exercises with requirements of researchers and institutes to show how much they are doing to support and further the SDGs, including researchers in the humanities. While it will no doubt be possible to map research in the humanities onto many of the seventeen SDGs it is a more difficult task to understand and show *how* the research makes this contribution and *what* the actual contribution is.

Theoretical background

This paper will address this problematic issue through the lens of the capability approach. Firstly, it is based on the capability approach as it has been developed and presented by Martha Nussbaum (2000 and 2011) with her emphasis on adopting a list of ten “central human functional capabilities” for evaluation purposes. Secondly, it is based on a modular version of the capability approach as it has more recently been developed by Ingrid Robeyns (2005, 2016 and 2017). The capability approach is based on a fundamental distinction between *capabilities* and *functionings*, where a capability is the *real* freedom an individual has to function in a way he or she values, while a functioning is *to do* or *to be* something. The main emphasis within the approach is on capabilities, as people should not (except in exceptional circumstances) be forced to function against their own values and / or choices, even though someone else might find it desirable. It can be argued that the SDGs are a version of *doing* or *being*, in the sense of the capability approach. Following that, an argument can also be made for the need to emphasise capabilities, more than functionings, in individuals and societies to further the SDGs (but this would also apply to goals other than the SDGs). This is the exploratory approach taken in this paper. The value of Robeyns’ approach is not least in her emphasis on social factors that influence the development of capabilities and the realisation of capabilities through functionings.

Methods and aims

The paper builds on two initial attempts to analyse cases of societal impact using the capability approach. The first was an attempt based on cases of humanities research collected within the European research network ENRESSH (Muhonen, Benneworth, and Olmos-Peñuela 2018), that were analysed using Nussbaum’s list of ten central capabilities (Sigurdarson 2018a and 2018b). The second is an analysis of ten cases of research in the humanities collected through interviews within the University of Iceland. The cases were analysed based on Nussbaum’s list and also on Robeyns’ modular approach (Haraldsdottir and Sigurdarson 2019). The current paper develops these previous versions and proposes steps towards a developed *capability theory* of societal impact of research that is more suited

to the humanities than many other attempts. If successful, this theory can contribute towards developments of new ways of narrating research in the humanities with potential benefits for evaluations of societal impact.

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SESSION 5.2

> **National evaluation exercises**

> **Chair** · Ginevra Peruginelli

Impact Assessment of Research Evaluation: The Bulgarian Case ·

Albena Vutsova, Todor Hristov and Martina Arabadzhieva

National evaluation exercises as implementation of research policy. A comparative study of Norway and Portugal · *Jon Holm and Ana Ramos*

Impact in and of the Academic Humanities: Lessons We Might Learn from a History of Public Cultural Policy in England · *Zoe Bulaitis*

IMPACT ASSESSMENT OF RESEARCH EVALUATION:

THE BULGARIAN CASE

Albena Vutsova

Todor Hristov

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The concept of research evaluation is rather broad, and it covers different aspects as institutional, program, project, or team evaluation, the latter being associated with independent and professional evaluation of particular academic achievements or findings. Practices of research evaluation have been introduced in different countries in various periods of time. The general idea of such practices, however, is to improve a particular type of research activity depending on the goals and the target of the evaluation, rather than to impose retroactive sanctions.

This paper will describe the development of the practices of research evaluation and their impact on the efficiency of research activities in the evaluated institutional unit.

The effects brought about by research evaluation are multilayered, and it can affect not only the quality of given research results but also the volume of research production, the development of research competence in the relevant

field, the competitiveness of the evaluated unit, the rearticulation of competition as a normative foundation of the life of academic communities, the constitution of researchers as entrepreneurs of themselves. Furthermore, the introduction of new evaluation mechanisms unavoidably entails a reevaluation of the intangible capital accumulated by the individual researchers, by their institutions, and perhaps even by their intellectual traditions.

The paper will focus on the Bulgarian practices of research evaluation because of the fact that, as the country has joined the European Union relatively recently, their adequate enforcement reveals significant flaws which are particularly salient in the fields of humanities and social sciences. We will claim that such defects are not merely accidental, they are inescapable side effects of research evaluation practices that do take into account social inequalities and the path dependency of the research milieu.

We will demonstrate that by focusing on the case of humanities and by analyzing some specific evaluation aspects, the effect upon the achievements and the benchmarking of these scientific field. Building on that, the paper will make recommendations on the evaluation of research in the future so as to enhance its impact on the performativity of academic activities.

National evaluation exercises as implementation of research policy. A comparative study of Norway and Portugal

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This work compares the main processes of research evaluation in two countries with R&D systems at different development stages, Norway and Portugal. It aims at shedding light on the factors that determine the specificities of research evaluation in both countries and how “quality” of SSH research is conceptualized and translated into evaluation guidelines and assessments. Furthermore, it will discuss how those evaluation exercises are used as tools to implement national research policies.

National contexts in brief

In the last 30 years, “R&D units” have been the organizational base of the research system in Portugal. These units are networks of researchers with significant autonomy from HEIs (some are formed by the association of two or more research groups from different HEIs). The R&D units are subject to periodical (every 5 years) assessments. In Norway, SSH research is organized within the ordinary university units and in independent research institutes. The higher education institutions receive a rather generous basic funding amounting to 70 to 80 percent of their R&D expenditure depending on the research intensity of the unit. The most research intensive units show a larger share of externally funded projects.

Evaluation methodology and criteria in Portugal

R&D units are evaluated by panels of international experts, based on the units’ reports and activity plans, as well as on the direct contact of the evaluators with managers and researchers during on-site visits. The assessment is organized at national level and comprises all research areas. The result of the evaluation determines the amount of funding. This funding (multiannual contracts with the national funding agency, Fundação para a Ciência e a Tecnologia, FCT) does not differentiate cost levels of research activities in different areas, which must be met by other instruments, such as R&D project grants.

The system was fairly stable from its beginning in 1996 until 2013, when substantial changes were introduced, reflecting a different political orientation at that time. But peer review has always been the main methodology and, although the formulation of the evaluation criteria varied between exercises, it is possible to group them around three main purposes: (a) Scientific quality (relevance, internationalization) and productivity of the unit; (b) Working environment, management, feasibility of the proposed activities; (c) Training of (young) researchers, knowledge transfer and outreach activities.

The evaluation criteria and guidelines are the same for all scientific areas and there are no SSH-specific adaptations. The concept of scientific quality is described in the evaluation guidelines: “publications in major research journals”, “multidisciplinary and relevance to other research areas”, “international publications”, etc. .

Evaluation methodology and criteria in Norway

RCN is mandated by the government to "ensure the evaluation of Norwegian research activities" (see above). Subject specific evaluations are carried out by international peers supported by professional evaluations agencies commissioned by RCN. The role of RCN is to define evaluation criteria and processes, assure the involvement of stakeholders in the planning and organise follow up activities.

In line with its mandate, RCN performs evaluations of institutions, thematic areas and research within specific academic subjects. The national subject specific-evaluations started out as qualitative peer reviews in the late 1990'ties. The first round of evaluations were limited to single disciplines. The second round of evaluations starting with evaluation of Biology, Clinical Medicine and Health Science (2011) has seen an increase in scope and disciplinary breadth. From an evaluation of single disciplines, RCN has moved towards evaluating broader areas of research like the Humanities (2017) and the Social Sciences (2018). These recent evaluations within SSH have been pathbreaking in adding the dimensions of societal impact and interplay between research and education to the evaluation of research quality which remains the central task of international peers who are invited to perform the actual evaluation.

Comparison of criteria

In Table 1 we have matched the evaluation questions (Norway) and criteria (Portugal) used in the respective exercises. We use this comparison, as well as the reports of Humanities panels in both countries, to establish the role of evaluation exercises in policy implementation and to ascertain the factors related to "quality" in the Humanities.

In Portugal, the evaluation determines the amount of annual funding that the R&D units receive in the subsequent years, but the panelists also make a global analysis of the scientific area under evaluation. Therefore, the exercise encompasses a "formative" aspect, providing decision-makers and unit managers with an overview of each scientific area and recommendations aimed at correcting deficiencies and improving the units' performance and competitiveness.

In the 2017 exercise, R&D units in Humanities were evaluated by five panels: Architecture and Urbanism (8 units); Arts & Design (14); History & Archaeology (15); Literary Studies (13) and Philosophy (10). The most frequent concept of research quality in every panel was, by far, *internationalization*, followed by *collaboration*, *cultural impact*, *multi/interdisciplinarity* and *relevance*. One can argue that most of these "quality" concepts are transversal to all scientific areas, except for *cultural impact*, which can be considered specific to Humanities and was valued by the panelists. There are no references to bibliometrics or any other quantitative indicators in the reports. We conclude that despite the fact that there are not SSH-specific guidelines/criteria, the panels took as a starting point the general criteria, adapting them to the accepted disciplinary practices.

The national evaluations of academic subjects in Norway were conceived as formative exercises at the end of the 1990ies. The formative purpose has allowed for a certain variation in the conceptualisation of research quality to adapt to the specific practices of each discipline on the one side and developments in research policies on the other. The definition of research quality has been holistic with little discussion on how research quality should be defined and which aspects of this notion should be privileged in the assessment. The evaluation criteria (see table below) simply refers to the 'quality norms of the discipline', which indicates that it

is left to the evaluation committee – representing the discipline – to agree on what to look for in the evaluation data in order to assess the research quality in each research group.

Research groups were evaluated by eight panels: Aesthetic Studies (6 groups); Nordic Languages and Linguistics (11); Nordic and Comparative Literature (3); Modern and Classical Languages, Literatures and Area Studies (16); Archaeology, History and Cultural Studies (22); Philosophy and Studies in Science and Technology (15); Religion and Theology (12); Media Studies (11). Also in the Norwegian case the most frequent concepts of research quality across all panels were *internationalization* followed by *productivity**, *prestige of publication channels[†]*, *interdisciplinarity**, *collaboration* and *theoretical advancement*. Many of these concepts were referred to explicitly in the formal criteria (*) and in the grading scale used for research groups (†). The concepts not explicitly mentioned by in the formal criteria are probably more telling of the disciplinary norms brought to the table by the panels. Among these we find concepts that could be seen are more specific for SSH, like: national relevance and cross-theoretical work.

Conclusion

We can conclude that, in Portugal, the overall process of R&D units evaluation is key to implement policy: “strengthen and diversify the landscape”, quality improvement”, “not intended to reduce the number of units or to channel the available funds preferentially to a given area or to a reduced number of excellent institutions”.

In the Norwegian case an increased political attention to the societal benefits of research has influenced the overall design of the evaluation exercise through the introduction of societal impact as a separate evaluation dimension. The assessment of research quality as such still seems to be quite unaffected by this policy change. Experts are invited to base their judgement on the quality standards of their discipline. That this adaptation also takes place is indicated by the presence of humanities specific notion of quality in the assessment texts.

Table 1 - Comparison of FCT 2017 (PT) and HUMEVAL 2015 (NO) evaluation criteria and data 16042019

		Assessment questions (NO)/Standards and guidelines (PT)	
Dimension	NO	PT	
<p>Organisation, leadership, strategy and resources</p>	<ul style="list-style-type: none"> • How well is the group led? • Does it have a good strategy and sensible goals (albeit perhaps demanding ones)? • Does it contribute to the institution's overall goals? • Does it make good use of external research funding? • Does the institution provide adequate resources and infrastructure? • Does the group make good use of these? 	<ul style="list-style-type: none"> • R&D Units should assemble a critical capacity to successfully accomplish their objectives and to promote work environments fostering scientific creativity. • Appropriateness of objectives, strategy, plan of activities (including ethical concerns if applicable), budget, Programmatic Funding request and organization for the following five year period (2018-2022). • The configuration and organization model of the R&D Unit should be suitable to its objectives and R&D activities, and not artificially constructed with unnatural associations or size, and should not result in inappropriate dispersion or concentration of means or resources. 	
<p>Research production and quality</p>	<ul style="list-style-type: none"> • How good is the quality of the research overall, in relation to the quality norms of the discipline? • Is the productivity good, given the norms of the discipline? • Has the group contributed to advancing the state of the art in its discipline(s)? • Does it make good use of interdisciplinary approaches, where these are relevant? 	<ul style="list-style-type: none"> • Quality, merit, relevance and extent of internationalization of the R&D activity in 2013-2017 of the Integrated Researchers in the application (especially those with PhD), assessed by international standards, considering originality, consistency and rigor. If applicable to the nature/objectives of the R&D Unit, also the technical, cultural or artistic impact. • For this purpose consider: contributions for knowledge advancement and/or application; publications; organization of conferences, colloquia and/or seminars; patents, prototypes or products; knowledge and technology transfer; spin-offs; preservation, curation and dissemination of R&D results and data, respecting the principles and practices of Open Science; promotion of scientific and technological culture (outreach); actions of special scientific, technological, cultural, artistic, social or economic relevance to society. 	
<p>Recruitment and training</p>	<ul style="list-style-type: none"> • Are the group's hiring and career development practices consistent with best practice? • Are PhD candidates and post-docs adequately trained and mentored? • Is there sufficient national and international mobility of researchers? 	<ul style="list-style-type: none"> • Advanced training (PhD and Postdoc level); initiation of undergraduate or Master students to research. • Talent attraction, hiring of new researchers and scientific careers development. 	
<p>Networking</p>	<ul style="list-style-type: none"> • Does the group make good use of collaboration, nationally and internationally, to advance its strategy and produce high-quality, relevant research? 	<ul style="list-style-type: none"> • Extent of internationalization of the R&D activities. 	
<p>Impact on teaching</p>	<ul style="list-style-type: none"> • To what extent is the research of the group relevant for the study programmes at the host institution? 	<ul style="list-style-type: none"> • Support to PhD Programs. 	

Assessment questions (NO)/Standards and guidelines (PT) cont'd	
Overall	<ul style="list-style-type: none"> • What is your overall judgement of this group? • Is it a 'star' group, which should be identified as such in the panel's national assessment of the area?
Feedback	<ul style="list-style-type: none"> • Justify in detail the 3 evaluation criteria ratings and the overall grade, and provide substantive comments and recommendations regarding R&D activities and results, the team of Integrated Researchers, the objectives, strategy, plan of activities, reasonability of funding and budget, organization, ethical concerns and other aspects that may be considered relevant. Address strengths and weakness of the R&D Unit as a whole and, whenever applicable, comment on Research Groups and/or Thematic Lines. • Include references to specific cases or situations of resources, competencies and teams of exceptional quality or value that may be useful for monitoring and steering the development of the National S&T System, including: (i) the response to specific problems of public interest or to challenges faced by society, (ii) the strengthening of internationalization and the use of special opportunities of high value international cooperation or partnership, (iii) the preparation of concerted initiatives aiming at attracting resources for R&D activities from private sources or from outside Portugal, (iv) the opening of new promising avenues of R&D.

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Evidence		
Dimension	NO	PT
Organisation, leadership, strategy and resources	<ul style="list-style-type: none"> • Institutional self-assessment • Group self-assessment • RCN funding data 	<ul style="list-style-type: none"> • Institutional self-assessment
Research production and quality	<ul style="list-style-type: none"> • Group self-assessment • Group member short CV's • Access to group member publications in CRIS Stin • Sample outputs 	<ul style="list-style-type: none"> • Summary of up to 5 contributions that the R&D Unit considers more important (2013-2017) • A limited number of full-text publications (5, 10, 15, 20 for R&D Units with, respectively, <30, 30-59, 60-119, ≥120 Integrated PhD Researchers) • A limited number of "Nuclear CV" (3, 5, 10, 15 for R&D Units with, respectively, <30, 30-59, 60-119, ≥120 Integrated PhD Researchers) • Access to updated Curricula Vitae of all the Integrated Researchers reporting all the relevant R&D contributions in the period 2013-2017 and easy access to publications references through the ORCID platform.
Recruitment and training	<ul style="list-style-type: none"> • Group self-assessment 	<ul style="list-style-type: none"> • Institutional self-assessment
Networking	<ul style="list-style-type: none"> • Group self-assessment 	<ul style="list-style-type: none"> • Institutional self-assessment
Impact on teaching	<ul style="list-style-type: none"> • Group self-assessment 	<ul style="list-style-type: none"> • Institutional self-assessment
Overall	<ul style="list-style-type: none"> • All of the above 	<ul style="list-style-type: none"> • All of the above
Feedback	<ul style="list-style-type: none"> • All of the above 	<ul style="list-style-type: none"> • All of the above

Impact in and of the Academic Humanities: Lessons We Might Learn from a History of Public Cultural Policy in England

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Relevant Conference Themes

- Specificities of SSH research and SSH research evaluation: Relation between knowledge production and assessment.
- Aspects of SSH research evaluation: Societal relevance; Effects of evaluation and performance-based funding on SSH research and researchers
- Approaches to SSH research evaluation: Alternative Metrics.

Paper Presentation Proposal

This paper addresses the rise of 'impact' within research assessment criteria by placing it within a historical context of cultural policymaking. The need for such an enquiry has never been greater, given the escalation of accountability metrics and the consequent demand for scholars to perform within such frameworks.

2010 to 2014 should be understood as a significant watershed in terms of the assessment of the value, or values, of higher education in England. Professor Regenia Gagnier describes how it was at this time that “traditional markers of academic distinction [were] overtaken by internally established criteria of worth [in] compliance or alignment with the University’s competitive drive in a global Higher Education market”. Since 2010 there has been an observable expansion in league tables and statistics, which attempted to categorize, evaluate, and substantiate the value of specific universities to the student-consumer. Alongside the quantification of the value of teaching and education, there is also the expansion of such calculable values within research assessment. The 2014 Research Excellence Framework criteria exemplified the prioritisation of research that offers a form of measurable public accountability. However general such a concept might seem, it nonetheless required a scale on which it could be measured: impact.

My paper explores the valuation of “impact” in the university within the longer debate concerning the social value of the arts. Specifically, I will argue that in drawing a parallel between debates in accountability within the creative industries in England, it is possible to map these emerging critiques from the humanities onto a broader history of cultural policy. I demonstrate that the fields of higher education and the creative industries are not distinct in terms of the challenges they face, and emphasise how communication across those engaged in

arts and humanities work, be that practical, managerial, or academic is vitally important for addressing the idea of meaningful research and social impact.

My paper uses policymaking in England as a case study, although the debates concerning the creative industries are important across Europe (and at an international as well as national level). I will first highlight a brief history of the economisation of the value of creative work under Margaret Thatcher and, secondly, address the emergence of the concept of the creative industries under New Labour Government led by Tony Blair during the 1990s. Finally, this paper also argues that in the present climate of policymaking -- which is overly focused on economic short-term ends -- to historicise is in itself political act. To historicise is to argue for contingencies and potential reform and to recognise that sometimes a policy decision has made mistakes.

This paper is a presentation of research I have published in the *Palgrave Communications* special issue on the “Future of Research Assessment”. To summarise, I will argue that the current decisions being made (and language used) in higher education policy has close ties to cultural policymaking approaches in public institutions (e.g. galleries, museums, cultural organisations); I will reveal the historical precedent behind the “impact” agenda within the wider cultural sphere; finally, I will assert that close rhetorical analysis of debates in arts management and museology provides a relevant framework with which to better engage with the emergent research assessment models concerning “impact” and meaningful external engagement within universities.

This paper raises awareness of the urgent need for humanities scholars to engage in these emerging discussions concerning the future of research assessment and cultural value.

Biography

Dr Zoe Hope Bulaitis is an early-career researcher exploring the value of the arts and humanities within the neoliberal university in the UK. Her work seeks to historicise and contextualise present moments of crisis (both monetary and imaginary) within broader cultural landscapes. Currently, Zoe is working as a Research Associate (Postdoc) in the Creative Industries: Policy and Evidence Centre within the School of Arts, Languages, and Cultures at the University of Manchester as a Postdoctoral Research Associate. This role is part of the wider AHRC Creative Clusters Programme.

She completed her PhD “Articulations of Value in the Humanities: The Contemporary Neoliberal University and Our Victorian Inheritance” at the University of Exeter (July 2018). Most recently, Zoe has been teaching Critical Theory and English Literature at the University of Birmingham and the University of Wolverhampton whilst also developing her forthcoming monograph which builds upon her doctoral research. She has most recently published her research in *Palgrave Communications* and *The Sociological Review*. Zoe’s research actively engages in the fields of visual and popular culture; higher education policy; and cultural and critical theory concerning notions of artistic and cultural value.

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