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OPEN SCHOLARLY COMMUNICATION IN THE EUROPEAN RESEARCH AREA FOR SSH - PREPARATION

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D6.6 Report on quality assessment of innovative research in SSH

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Report on quality assessment of innovative research in SSH

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"And I know that the editors actually polished my review and they deleted a few things. So that's why I felt like I said what I had to say." (OP02)

Executive summary

Peer review is a central scholarly practice that incorporates fundamental paradoxes ever since the point of its inception. On the one hand, it is very difficult to isolate and expose peer review for the sake of empirical analysis, as it usually happens in closed black boxes of publishing and other gatekeeping workflows that are embedded in a myriad of disciplinary cultures, each of which comes with very different, and usually competing notions of excellence. On the other hand, contrary to the idea that peer review serves as a boundary object between scholarly communities that is defined by inherently elusive concepts such as excellence, it is a practice that carries an enormous weight in terms of gatekeeping; shaping disciplines, publication patterns and power relations; and governing the (re)distribution of resources such as research grants, promotions, tenure and even larger institutional budgets. This central role of peer review in scholarly communication and in the working mechanisms of academia alone explains why it is crucial to study it so as to better understand situated evaluation practices, and to continually rethink them to strive for their best, and least imperfect (or reasonably imperfect) versions/instances.

This report aims to present the result of the work conducted in task 6.6 (*Quality assessment of SSH research: innovations and challenges*) of the OPERAS-P *(Open Scholarly Communication in the European Research Area for Social Sciences and Humanities – Preparation)* project. Our task aimed to better understand the ways in which peer review works in actual SSH practices. In the present report, we analyse key aspects of peer review that normally remain hidden from analysis. This work supports the development of the relevant OPERAS activities and services by informing them about current trends, gaps and community needs in research evaluation. This entails 1. teasing out the underlying reasons behind the persistence of certain proxies in the system (such as the 'impact factors of the mind' that continue to assign tacit prestige to certain publishers and forms of scholarship) and 2. the analysis of emerging trends and future innovation in peer review activities within the Humanities domain. This comprises two areas: innovation in peer review workflows (different flavours of openness, novel practices and tools) and the peer review of digital scholarly objects (such as digital critical editions, data, software etc.).

The goal of our study was to gain an in-depth understanding of how the notion of excellence and other peer review proxies are constructed and (re)negotiated in everyday practices across the SSH disciplines; who is involved in the processes and who remains outside; what are the boundaries of peer review in terms of inclusiveness with content types; and how the processes are aligned or misaligned to research realities. To achieve

this, we undertook and analysed 32 in-depth interviews with scholars about their motivations, challenges and experiences with novel practices in scholarly writing and in peer-review. This input, the encoded and pseudonymized interview transcripts, will be shared as open data in a certified data repository (NAKALA) together with a rich documentation of the process so that our interpretations, conclusions and the resulting recommendations are clearly delineable from the rich input we had been working with and which are thus openly reusable for other purposes.

The first, introductory chapter provides a summary of the status quo of research on peer review with special focus on SSH, presenting the background against which we analyzed our interview data. To frame our analysis, it was foundationally important to understand how deeply peer review is embedded into broader systems of academic power structures, commonly referred as the prestige economy. Due to its essential embeddedness into academic power structures, it is almost impossible to discuss the topic of peer review in isolation, without its entailments for formal assessment and the economics of scholarly communication.

The second chapter describes the processes we followed in an open and standardized methodology of the interview analysis that is shared with OPERAS-P *Task 6.5. 'Future of scholarly writing in SSH'.*

The third chapter forms the body of the analysis. At the end of each subchapter there is a summary section and a set of recommendations to OPERAS and other actor groups involved in scholarly communication for how to change the social, cultural, infrastructural and administrative dimensions of peer review practices for the better. From the overall frame (3.1. Placing peer review in the complex dynamics of quality assessment), we gradually refined our focus through the general functions and special flavours of peer review in SSH disciplines (3.2. Peer review - as defined by SSH practice) so as to develop sections 3.3. Challenges, 3.4. Incentives and rewards; 3.5. Innovations and 3.6. Informal peer review practices.

The fourth and final chapter summarizes our findings but does not repeat the recommendations made on the level of subchapters.

Although as part of our mission to inform future OPERAS services, we make recommendations that are technical/infrastructural in nature, our results confirm Fitzpatrick (2011)'s basic premise that the major challenges around peer review are rather social then technical. The vicious circle of peer review, its deep interwovenness with broader and quite rigid sets of power structures together with its inherently social nature (a practice that is

passed on from one generation of academics to the other) explain why "it is very, very hard to change ingrained behaviours, even when you ask academics to behave differently." (Eve 2021)

It seems, the rewarding system we as a scholarly community collectively depend on is largely narrowed down to beaten tracks of scholarly practices and conventional content types, published in established venues over creativity, innovation and diversity. There is a crucial need to break the vicious circle of peer reviews and better align research evaluation with research realities. Our results give an idea about the priorities of different scholarly communities in this re-alignment. In certain aspects, these priorities significantly differ from the vision of open, reproducibility-driven peer review put forward within the dominant Open Science paradigm. The special flavours of peer review in SSH as reflected in the interviews partially account for these differences.

Further, we found that when it comes to innovations, the 'what' aspect, that is, efforts for broadening the scope of formal peer review and making it more inclusive with artworks, born-digital content types, data, software etc. has proven to be more important to our respondents than the 'how'. Opening up the peer review processes turned out to be especially challenging in these research contexts, with strong and complex but not univocal community resistance against open peer review practices. Publishing the review texts anonymously alongside the publications turned out to be the flavour of openness that enjoyed the most support and even endorsement by our respondents.

Still, overall, the biggest challenge we experienced is along the dimension of the 'who'. The crisis in reviewing capacity turned out to be an overarching challenge that impacts the efficiency of peer review, and prevents open and other innovative reviewing practices, such as post-publication peer review, from becoming genuine community practices and also contributes to strengthening the prestige economy. This is true not only in terms of publishing but also in attracting reviewers. Implementing mechanisms that enable appropriate crediting of reviewing activities, be it open or closed, is therefore an absolute priority. Only through synchronous action coordinated between national ministries, institutions, disciplinary communities and infrastructure providers can research evaluation be changed to the better.

On the other hand, assessing the quality of scholarship and continuing the discussion around it is a much more abundant and prevalent activity that is not limited to formal peer review discourses. Our analysis offers a detailed perspective of where and how informal reviewing mechanisms are organically growing out of community practices and who are engaged in them. These organic and spontaneous evaluation practices are performed with

the pure intentions of continuing a meaningful scholarly dialogue and advancing one's field in mind. In essence, the scholars whose perspectives inform this report recognized these interpersonal or purely scholarly rewards and incentives as the most important values in peer review. The presence of this collective scholarly sovereignty should not be underestimated if one aims to understand how peer review can still be operated by publishers building on voluntary labour. If anything, scholars deserve to be recognized for that.

1. Introduction

Excellence is an elusive concept. One the one hand, several practice-based studies (e.g. (Eve 2020), (Tennant and Ross-Hellauer 2020), (Moore et al. 2017), (Michèle Lamont 2009)) demonstrate how little consensus emerges across scholarly communities - organized along disciplinary, geographical, institutional, generational or other sociocultural factors - on where excellence lies, how to recognize it, how to (re)define and (re)negotiate it, and what the many ways are in which it can manifest in scholarly knowledge creation. To illustrate the intrinsic perniciousness of the notion, Moore et al (2017) describe it along Wittgensteinen terms, as "a beetle in the box" that none of us can really/factually see but which is instead essentially construed in unique, tacit, incommunicable and very diverse knowledge practices.

On the other hand, despite its very elusiveness, the idea of excellence carries an enormous weight in academic power relations. It is ubiquitously present as a key value to pursue (or even "fetishize" as the title of Moore et al.'s 2017 article suggests) when it comes to assigning value to works of others and making decisions about conference programs, publications, grant funding, hiring and promotion. But even beyond these, the terms '*Research Excellence Framework*' in the UK[1], '*Exzellenzstrategie*' ('excellence strategy') in Germany[2] or '*Kiválósági központok*' ('excellence centres') in Hungary[3] clearly indicate how deeply the notion of excellence, whatever it really means and to whom, has become inscribed in big, international, national, and institutional academic power structures. Such frameworks had been designed to increase competition, foster comparability between and across research institutions and serve as a framework for a

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standardized assessment of them that, eventually, directly could translate into university rankings and other qualitative measures.

These trends explain some of the major anomalies, tensions, and challenges contemporary scholarly evaluative practices, more specifically, peer review activities, are facing. In spite of to its inherent fragility and imperfections, the great many scholarly content types that remain out of the scope of formal peer review, the increasing variety of academic evaluative cultures who perform it, and the resulting divergence in research evaluation practices, expectations regarding peer review are still based on an expectation that it function as a *gold standard* ((Mayden 2012), (Jusdanis 2011)). In other words, this fragile patchwork must also operate as a fair system that does not only perform quality assessment and validation of research and research outputs but also enables their comparability and eventually governs the distribution of scholarly/academic resources (Lamont 2009:52). As we will see it unfolding in the next subchapter, in its quest to ensure perceptions of quality or excellence, peer review increasingly gained symbolic capital ((Fyfe et al. 2017), (Blackmore and Kandiko 2011)) in the modern academic prestige economy as a process of objective judgement and consensus.

Such embeddedness of contemporary peer review practices into formal recognition, rewarding, controlling and even economic systems (see (Fyfe et al 2017), (Tennant et al. 2017) makes it almost impossible to investigate peer review as isolated, single events or practices (such as peer review of a specific manuscript) without considering their wider implications and the systemic interferences that they are both shaping and are bounded in. Consequently, each instance of review is entangled with innumerable others, across fields and disciplines, institutions, or a reviewer's or a writer's career.

This central role of peer review in scholarly communication, bearing the power to shape disciplines, scholarly and publishing practices, preferences of content types, transparency, and power relations in academia, alone explains why it is crucial to study to better understand situated evaluation practices, and to continually rethink them to strive for their best, and least imperfect (or reasonably imperfect) versions/instances.

The present report aims to do just that in the context of research evaluation practices within a European context of Social Sciences and Humanities (SSH) as it looks into quality assessment of novel research and innovative publications in the SSH research. We seek to inform future innovation in the peer review that emerging scholarly communications will require by teasing out the underlying reasons behind the persistence of certain proxies in the system (such as the 'impact factors of the mind' that continue to assign tacit prestige to certain publishers and forms of scholarship). Our study undertakes to differentiate forms

from functions of how good scholarship is perceived and valorised through desk research, followed by the analysis of 32 in-depth interviews with scholars about motivations, and experiences with novel practices in scholarly writing and peer-review practices. This valuable knowledge will enable us to inform OPERAS and shape its future services for the SSH community.

The overview that constitutes the rest of this chapter outlines the key issues, trends and phenomena that shaped our research questions and methodology. Our study is focussing on peer review practices in the context of research publications, other instances of peer review (e.g. grant or conference panels) are only marginally discussed.

1.1. Peer review has always been situated in broader sociocultural and technological realities - and is changing accordingly

Although in contemporary academic practice, peer review is perceived as an ubiquitous, stable, and, as discussed above, essential scholarly practice and there is a strong belief in its legitimacy ((Tomkins, Zhang, and Heavlin 2017); (Ware and Mabe 2015)), it is worth keeping in mind that its centrality emerged within a relatively short time period, especially in the context of Social Sciences and Humanities where, as we will see in the '1.4. Special flavours of peer review in the SSH disciplines' subchapter, peer review of research papers is becoming a mainstream practice only in the 1960s-70s.

Recognizing its trajectories for future innovations, the historical evolution of peer review became a well-investigated area within the study of scholarly communication (see the open Zotero bibliography attached to this paper). These works, dominantly written from STEM perspectives, give us a detailed account of how both changes in the role and institutionalization of scholarly communities as well as broader sociocultural, technological and media changes successively shaped the peer review machinery into a distilled, complex and multifunctional institution such as we know it today. The generic take-away of these studies is that sociocultural realities, collective value systems and major historical, technological events are all mirrored in the changes in peer review practices, and therefore peer review practices can be interpreted as reflections of a given Zeitgeist. This is an especially exciting perspective to keep in mind when interpreting our own findings.

An important observation of these studies is that there has been a close relationship of forms of research evaluation and dissemination from the beginning. A commonly referenced origin story for what we now call peer review is that of the establishment of

scholarly societies, such as the *Royal Society of London* (1660) and its publication forum, *Philosophical Transactions*, followed by the *Royal Society of Edinburgh* (1783). There were followed later by societies with special field/research interests, such as the *Geological Society* (1807) and the Royal *Historical Society* (1868) ((Moxham and Fyfe 2018) , (Fyfe 2017; for an interactive visualization of the historical development of peer review, see (Tennant et al. 2017)). The foundation of scholarly societies can be interpreted as a significant step towards establishing a more systematic written scientific discourse that would better serve scientific exchange than the previous practices, which allowed for sharing research only with one's immediate circle of acquaintances e.g. via correspondences or at social events ((Fyfe 2017), (Csiszar 2016)). Peer revaluation at this time had been carried out within these gentlemanly (!) learned societies ((Kronick 1990) (Moxham & Fyfe 2017), (Spier 2002) cited by (Tennant et al 2017)) and therefore the focus of the emerging evaluation practice was to keep a constructive, collegial and written dialogue between authors and the publication editors ((Baldwin 2017) cited by (Tennant et al 2017)). Still, as (Shapin and Schaffer 1985) remarks, although scientific gatekeeping was not yet present in this early practice of scientific judgement, validating the results and determining forms of participation was already part of its function. This latter quality assurance and filtering function gradually gained importance in the context of the scarcity of printing capacities and the material costs associated with printed pages (Shuttleworth and Charnley 2016).

Due to the limited research on the topic, we do not know whether a thorough investigation rooted in a Social Sciences and Humanities perspective would reveal a completely different narrative about the origins of peer evaluation. What is clear is that partially because of the traditional (and still heavy) reliance on disseminating scholarship in book formats, the role of editors and editorial selection and curation work have been traditionally gaining more weight in shaping the publication landscape in the SSH fields than peer review (Knöchelmann 2019). Refereeing and peer review came to these fields as a practice that had been adapted from STEM fields and even after the establishment of scholarly journals in SSH[4], it only gradually changed the dominance of editorial oversight and evaluation to become a mainstream practice by the 1990s (Moxham and Fyfe 2018, Pontile 2014). As (Ross Hellauer and Derrick 2019) puts it: "The adoption of peer review by a wide variety of humanistic and social science disciplines reveals both the long-standing (if contested) envy of the epistemic rigour apparently associated with the

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[4] *English Historical Review*, 1886; *American Historical Review*, 1895; *Annales*, 1929; *Past and Present*, 1952. Similarly to the dominant editorial practices in Arts and Humanities fields, in Sociology journals, internal, editorial review had been the standard until the mid-20th century. A landmark in the establishment of formal peer review in Social Sciences marks the introduction of the review policy of the American Sociological Review in June 1955 (Pontille and Torny 2015).

natural sciences, and the professionalizing desire to adopt what has come to be seen as 'proper' academic practice." Such remarks are easily found/interpreted as evidence for "the colonisation of SSH by STEM values and notions of quality." We are going to discuss these colonization narratives and how epistemic cultures of SSH define evaluation practices in the '1.4. Special flavours of peer review in SSH' subchapter but before doing so, it is important to ask and understand first why and how peer reviewed publication venues became synonymous with proper academic practice and high quality, excellent research.

To do this, we need to jump a couple of centuries ahead, to the time when the term 'peer review' emerged[5], academia became a *sector* and scholarly publishing became a (highly profitable) *industry*. Interestingly and symbolically, as (Baldwin 2017) reveals, the establishment of 'peer review' (both the term and the institution as we know now) is connected to discussions around the distribution of increased government funding directed towards scientific and medical fields in the UK and USA following the Second World War.[6] The role of peer review in this context has still been closely associated with scholarly autonomy, in the sense of self-regulation and implementing quality assurance standards for good scientific conduct, but also with scholars' increased accountability to the public in the sense that the increasing amounts of public investment into science are well spent (Fyfe 2017). As such, in the 1950s-1970s, having publications in peer reviewed venues (in journals, dominantly) increasingly became a condition of research funding in the western academic world across all disciplines and as a response to that, it became sold as a key added value service by scholarly publishers to the academic communities, still building the institution of peer review on voluntary academic labour .

If one is seeking answers for how peer review and certain publication patterns became so strongly associated with academic tenure and promotion criteria, this is the period to look at. Fyfe et al's study "*Untangling Academic Publishing: A history of the relationship between commercial interests, academic prestige and the circulation of research*" reveals that by the second half of the 20th century, peer reviewed (journal) publications became the highest valued symbolic currency in academia (as opposed to other scholarly content types that are traditionally out of the scope of peer review, but also opposed to other academic activities, such as teaching), allowing institutions but also individual authors to distinguish themselves from the increasing number of research institutions, researchers

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[5] According to the Marriam-Webster dictionary, the term was first used in its contemporary sense in 1969. Interestingly, it was borrowed from the science and medical funding distribution protocols of the US government (Baldwin 2017), Csiszar 2016).

[6] In (Tennant et al. 2017)'s framing: "Since this humble origin, it has vastly increased in complexity and become systematized and commercialized in line with the neoliberal evolution of the modern research institute."

and publications worldwide. This is the time when the gatekeeping function of peer review (Rodríguez Sánchez, Makkonen, and Williams 2019) is growing strong, when participation in peer review defines power positions as well as who qualifies as peers and how remain outside of the circles of academia.

In this period of expansion and internationalization of research communities from the 1970s and 80s onward, competition is growing stronger and becoming engrained/inscribed to academic cultures. The culture of chasing excellence as a primary source of academic scarcity became widespread community practice in this period. In (Tennant et al 2017)'s summary: "Such expansion was primarily due to the development of a modern academic prestige economy based on the perception of quality or excellence surrounding journal-based publications (Baldwin, 2017), (Fyfe et al., 2017). Peer review increas-ingly gained symbolic capital as a process of objective judgement and consensus."

And although peer review has come to stand as a *sine qua non* of high-quality, certified research, the steady production of peer reviewed publications in itself is no longer a sufficient indicator of excellence in a research landscape that is as international and as competitive as in our days, and that is increasingly shaped by university rankings and international league tables (Hazelkorn 2015). This explains how the publishing industry and how journal and publisher brands came to join the 'prestige economy' (Blackmore and Kandiko, 2011), and became an important, almost defining factor in academia. This rise is a factor that is now deeply entangled with the gatekeeping mechanisms of peer review on the one hand and rewarding systems and academic careers on the other.

The publish or perish culture (Plume and van Weijen 2014) and the increasing amount of research and number of publications worldwide ((Van Noorden 2017), (Bornmann and Mutz 2015)), are common explanations behind the emergence of "container level proxies" (Eve 2013),where excellence, impact and merit of a given publication is judged by the prestige of the publisher or the journal in which it had been published. That said, the rise in production made it impossible for academic hiring committees and other assessment panels to manually filter through works one by one and find ways to compare them to each other in terms of their merits, impact and excellence in a reality where Global scientific output doubles every nine years (Van Noorden 2017). Instead of having the capacity to stay in the top of the growing body of all relevant fields, quantitative measures of impact known as research metrics (such as citation counts, the Impact Factor or the h-index) have emerged as seemingly easily comparable evaluation proxies. The detrimental effect of these metrics on scholarly knowledge production became clear with the advent of the Open Science paradigm (see e.g. (Wilsdon 2015), as they massively fuel both the "publish

or perish" culture and the heavy reliance on journal and publisher brands to assess quality. At the same time, by the end of 2010s, it also became clear that metrification irreversibly became a core component of research evaluation and there is a strong (and almost instantly harmful, see e.g. most recently (Moore 2020)) temptation for almost all the involved players to automate it as much as possible to reduce human labour associated with it. Although the San Francisco Declaration on Research Assessment (ascb.org/dora/; DORA), which calls for a systemic replacement of the current harmful proxies to responsible research metrics, is gaining endorsement from research funders and research performing organizations worldwide, in practice, the replacement of Impact factor and traditional citation metrics replacement with responsible metrics proves to be a complex task that brings massive sociocultural, infrastructural[7] but also disciplinary challenges. In the context of this latter, it is worth mentioning the HuMetricsHSS initiative, which aims to create and support frameworks for understanding and evaluating all aspects of scholarly work so as to establish indicators of excellence in academia that are particularly focussed on the humanities and social sciences.[8] The design and implementation of fair rewards and recognition criteria and responsible metrics that take account of the full research life cycle is also a strategic priority in the 2024-28 phase of the European Open Science Cloud (EOSC)'s development.[9]

Finally, an important consequence of this prestige economy that dominates scholarly publishing and quality assessment is that it imposes a strong conservatism and risk-aversion in the system in the sense that the most prestigious publication formats and venues are operated by traditionally renowned journals and presses with publishing workflows that are originated in the non-digital era (in the context of Arts and Humanities scholarship, see this discussed in (Jusdanis 2011).

1.2. Peer review captured in the prestige economy

Having seen now how peer review became centrally and essentially embedded in academic power structures in the second half of the 20th century and how it became

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[7] The availability of publicly owned scholarly information management systems that are inclusive with all disciplines and a wide variety of content types is a crucial prerequisite of the implementation of responsible research metrics. Currently, we see a big threat that big, for-profit players are well-positioned to extend their portfolio to deliver new generation research metrics, capitalizing on their enormous competitive advantage in terms of information management systems. In a changing world of Open Access in Europe where decades of stronger and stronger policy efforts have been dedicated to make scholarly communication less dependent on publisher prestige, we can easily face a new era when research evaluation itself becomes even more dependent on these closed, black box systems.

[8] https://humetricshss.org/

[9] https://www.eoscsecretariat.eu/news-opinion/eosc-sria-strategic-research-innovation-agenda-version-09

intertwined with symbolic capital, prestige, and formal assessment, it is easy to see why " it is very, very hard to change ingrained behaviours, even when you ask academics to behave differently" (Eve et al. 2021).

Due to its essential embeddedness into academic power structures, it is almost impossible to discuss the topic of peer review only, in isolation, without its entailments for formal assessment and the economics of scholarly communication.

Fig 1. *The vicious circle of research evaluation.*

Instead, as the figure above, inspired by (Eve 2015) suggests, it seems more accurate to portray peer review and research evaluation as part of a vicious circle in which only a subset of digital scholarly outputs (and processes) are eligible to be channeled to the established venues of scholarly communication (journals, books) where formal peer review happens. As a next step, the perceived strength of popularity and gatekeeping function of these venues (evidenced e.g. by their rejection rates) become translated into metrics and points in systems of formal research assessment which feed into as the primary reward systems for academics. As such it incentivizes or disincentivizes the creation of certain content types and prevents new evaluative cultures to emerge. This way, the sense of quality is strongly intertwined/conflated with publisher prestige in assessment mechanisms, which, in turn, fuels the strong supply to the already established journals and

presses (Eve 2014). This circle therefore conserves and skews scholarly publishing towards established structures (presses, content types) and prevents scholarly communities from leveraging on the full potential of the available digital and web technologies. It is important to keep in mind that, as it was illustrated in the previous subchapter, such mechanisms are not existing in isolation but are always shaped by the broader social, political and economic climate of a given society and its dominant value systems. Peer review is therefore not only embedded in formal assessment, academic power relations and the economy of scholarly publishing, but also into the overall Zeitgeist. As (Kulczycki et al. 2018) points out through Czech and Polish case studies, changing incentives on the level of national policies is a powerful tool to change publication practices for better or for worse.

The vicious circle of research evaluation reveals a chain of entanglements across the key notions and mechanisms of research evaluation. In reality, however, the interactions are more complicated still, as quality can diverge from prestige, mechanisms fuelling good scholarship and research integrity can diverge from mechanisms fuelling career advancement, and the interests of scholars and innovative scholarship can diverge from that of the publishers. As we will see in the next subchapter, the growing tension between interests of scholars and innovative scholarship vs. academic publishers vs. research funders is frequently and vocally reflected in the Digital Humanities discourse. Statements like the ones below compellingly articulate the need for the realignment of research evaluation with research realities.

"Imagine if you were to stop being first and foremost a scholar for a little while in order to take a job in which you could do something that would be useful not just to your personal career, but to the whole scholarly community. What would be the focus, what would seem most useful to you?" (Baillot 2016, p.1)

"Digital humanists find, time and time again, that they are expected to perform twice the labour of traditional scholars; once for the work itself and once again for its evaluation." (Eve 2020, p. 105)

1.3. Dust, divergence, decoupling - rethinking peer review in the age of digital and open scholarship

By the 2010s, the need to rethink research evaluation in general and peer review in particular became a more and more frequently voiced concern in other disciplines too.

Together with a new wave of sociocultural changes, the digital transformation of research opened up radically new potentials in innovation and dissemination in all scientific areas. The resulting paradigms, known as Open Access and Open Science, have led to fundamentally new pathways by which research can be designed, performed and evaluated, and knowledge shared. Questioning intrinsic academic power relations, bringing transparency to the black box of research evaluation, and breaking down the prestige economy and the above illustrated vicious circle in which peer review seems caught has become a crucial endeavour worldwide.

Although as (Csiszár2016) makes it clear, peer evaluation practices had been questioned and critiqued from their very beginning, in its strong commitment to innovate scholarly communication practices, the Open Access paradigm delivered an especially rich stream of metastudies on and critiques of peer review to inform new mechanisms. (The literature review above is largely informed by these studies and the present study aims to expand this line of research to the SSH.)

Such critical reflections of peer review systematically uncover gender bias (against women, see (Squazzoni et al. 2021), (Lendák-Kabók and Ochsner 2019), (Larivière et al. 2013)), career bias (against early career researchers, see (Tennant and Ross-Hellauer 2020)) and other social biases (such as language bias,(Herrera 1999)) as well as confirmatory bias (rewarding well-established the types of scholarship over the disruptive and innovative, (Tennant et al. 2017), (O'connor 2012)). Others investigate how the ever-increasing volume of scholarly publications and the resulting expansion of publication venues threaten the efficiency or even the functionality of peer review ((Grossmann and Brembs 2019), (Brembs, Button, and Munafò 2013), (Björk and Solomon 2013)). The increasing reviewing duties opposed to the lack of rewards for the crucially important human filtering activities became more and more apparent. In (Tennant et al. 2017)'s summary: "This system is proving to be a vast drain upon human and technical resources, due to the increasingly unmanageable work-load involved in scholarly publishing" which in turn causes serious delay to the timely publication of research results (Björk & Solomon, 2013; Pautasso & Schäfer, 2010)."

Further, the increasing number of retractions of articles (especially in STEM field but also in Psychology, see (Teixeira da Silva, Bornemann-Cimenti, and Tsigaris 2021)) and solid evidence of rejected papers in many cases being published in other journals with similar prestige (Peters and Ceci 1982) all called the gatekeeping and validation function of peer review and the scholarly community's collective ability to recognize excellence into question (Eve 2020) and led to conclusions about the dysfunctionality or "brokenness" of

peer review that are similar to that Cameron Neylon's critical observation shared in a blog post:

"Somehow the process of peer review is supposed to sprinkle some sort of magical dust over a text which makes it "scientific" or "worthy", yet while we quibble over details of managing the process, or complain that we don't get paid for it, rarely is the fundamental basis on which we decide whether science is formally published examined in detail. There are a few studies that suggest peer review is somewhat better than throwing a dice and a bunch that say it is much the same. It is at its best at dealing with narrow technical questions, and at its worst at determining "importance" is perhaps the best we might say." (Neylon 2010)

It is important to emphasize that these challenges are much more social than technical (K. Fitzpatrick 2011). Still, innovative solutions and proposals to tackle them include both social practices and their technical and infrastructural trajectories. Such innovations are generally centered on three main aims:

1. To bring more transparency in the practices of peer review

2. To disentangle the many functions peer review fulfils/carries today and break the vicious circle (described in the section above) that prevents its better alignment with research realities of our age.

3. Broadening the scope of peer review and extending its inclusiveness with a broader range of digital scholarly outputs

In many cases, these three aims go hand in hand. The chart below gives a non-exhaustive overview of innovative publication peer review practices and services. To give an overview of the openness-related innovations of peer review, we will rely on Tony Ross-Hellauer's 2017 study '*What is open peer review? A systematic review,*' in which the author collected 122 definitions of open peer review and organized them into 7 overarching traits of innovations (open identities, open reports, open participation, open interaction, open pre-review manuscripts, open final version commenting, open platforms). As such, it gives the most comprehensive overview of the open peer review landscape that we know of. In the chart, we complemented (Ross-Hellauer 2017)'s seven traits of open peer review (these are always indicated by reference to (Ross-Hellauer 2017) with other manifestations of open peer review, compiled from the literature on and practices of scholarly communication.

Overarching aim	Method	Literature (discussed in)[10]	Example (with focus on SSH instances)
Opening the black box of peer review (as in (Ross-Hellauer 2017)	**Open identities:** Authors and reviewers are aware of each other's identity.	(Bolek et al. 2020) (Ross-Hellauer 2017)	Journals belonging to the Open Library of Humanities; Zeitschrift für digitale Geisteswissenschaften; European Scientific Journal[11]
	Open reports: Review reports are published alongside the relevant article (either signed or unsigned)	(Ross-Hellauer and Görögh 2019) (Ross-Hellauer 2017)	Post publication book reviews; Journals published by MDPI Frontiers?
	Open participation: The wider community are able to contribute to the review process	See also discussed in decoupling peer review from gatekeeping. (Reddy et al. 2020) (Ross-Hellauer 2017)	EGU Copernicus journals; Episciences.org Humanities Commons
	Open interaction: Direct reciprocal discussion between author(s) and reviewers, and/or between reviewers, is allowed and encouraged.	(Hansson 2010) (Ross-Hellauer 2017)	Kairos The Psychology of Education Review
	Open pre-review manuscripts: Manuscripts are made immediately available (e.g., via pre-print servers	(Xie, Shen, and Wang 2021) (Laporte 2017) (Ross-Hellauer 2017)	HAL Humanities Commons

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[10] Non-exhaustive of course, only examples.

[11] In most of these journals, open peer review is optional in addition to the traditional double blind reviews.

	like arXiv) in advance of any formal peer review procedures.		BodoArXiv (medieval studies) Cogprints (cognitive sciences); LingBuzz (linguistics); MediArXiv; PhilArchive (philosophy); PsyArXiv (psychological sciences); PhilSci-Archive (philosophy of science); SocArXiv (social sciences)
	Open final-version commenting: Review or commenting on final "version of record" publications. (See also: post publication peer review below) ; open annotation practices	(Romary 2020) Ross-Hellauer 2017 (Bertino and Staines 2019)	Science Open F1000 OPERAS Living book Göttingen University Library (open annotation) Post publication book reviews Digital Humanities Now
Decoupling peer review from publication venues	**Open platforms ("decoupled review"):** Review is facilitated by a different organizational entity than the venue of publication.	(Priem, Piwowar, and Hemminger 2012) (Tennant et al. 2017) (Ross-Hellauer 2017)	Science Open Peerage of Science RUBRIQ OpenMethods Post publication book reviews
	Portable peer review Review reports associated with a given	(Bell and Kvajo 2018)	Review Commons BMC Biology

	submission travel with the paper in case it is becoming resubmitted to another publication venue.		
	Open pre-review manuscripts: Manuscripts are made immediately available (e.g., via pre-print servers like arXiv) in advance of any formal peer review procedures.	See above	See above
Decoupling peer review from gatekeeping	**Automatic publication after checking the soundness of the submission** (also known as the PlosONE model)	(Eve 2013) (Eve 2014) (Eve et al .2021)	PLOS ONE, PeerJ, the Frontiers series, journals belonging to the Open Library of Humanities
	Pre-registration: registering a scientific study before it is conducted, indicating its main hypotheses and methodology. To reward and encourage this form of scholarly transparency, pre-registered papers will be published regardless of the significance of their results.	(Nosek et al. 2018)	Center for Open Science AsPredicted
	Post-publication peer review (correlates with decoupled peer review):	See open final version commenting above	See open final verso commenting above
	Open participation: The wider community are able to contribute to the review	See above	See above

	process		
Broadening the scope of peer review	Data peer review, data journals	(Carpenter 2017)	Research Data Journal for the Humanities and Social Sciences Journal of Open Humanities Data Dataverse Journal of Cultural Analytics Journal of Open Archaeology Data Journal of the Text Encoding Initiative (Video) Journal of Embodied Research
	Software peer review	(Tennant et al. 2017) (J. J. van Zundert, Antonijević, and Andrews 2020)	Journal of Open Research Software (JORS); Journal of Open Source Software; SoftwareX
	Peer review of methods	(Tennant et al. 2017)	Protocols.io OpenMethods
	Tool criticism	(Fitzpatrick 2011)	RIDE
	Peer review of other types of digital scholarship in Digital Humanities (such as digital critical editions); networked monographs	(Fitzpatrick 2011) (Baillot 2016) (Tóth-Czifra 2021)	The Digital Classicist Wiki The Digital Latin Library

This inventory gives an idea about the great diversity of innovations in peer review and also shows that the technological prerequisites that are required to to resolve some of the major issues associated with traditional models, and to explore how new platforms could improve the process in the future The question that innovation studies leave largely unanswered is what makes it still difficult to implement them at scale, across disciplines that would result in a systemic cultural change in research assessment. The present study is looking at answers to this in the context of the SSH domain.

In the context of their implementation across disciplines, it is worthwhile to point out that, similarly to the emergence and design of many other Open Science practices, many of these innovations are originating from the STEM fields and thus have been implicitly designed to incorporate numerous tacit assumptions about how science operates and communicates. Some of the key topics and practices that thematize innovations around peer review such as the publication or non-publication of null results, the concept of megajournals such as Plos ONE, reproducibility and replicability or, as (Eve 2014) calls our attention to, even technological soundness, are not native or straightforward concepts across the SSH domain and are in many cases alien to research realities of the disciplines belonging under this broad umbrella. From this perspective, a recent European tendency where discussions around research or research data quality assessment are quasi equated with reproducibility[12] looks especially concerning (see e.g. (Ochsner et al. 2020)). The question we need to ask when interpreting the results of the present study is not only whether and if so, how these concepts can be translated and transplanted to SSH research practices, but also what are the peer review specialties and innovations that organically grow out of the SSH disciplines and how to support SSH disciplines to self-govern and regulate notions of quality. The last subchapter of this introduction gives a brief overview about these domain-specific peer review practices.

1.4. Special flavours of peer review in the SSH disciplines

Before having a look at what peer review means for SSH disciplines, it is worthwhile to stop for a brief reflection on the term "publication patterns in *the* SSH" and remind ourselves of the internal richness and heterogeneity of all the diverse disciplines that fall under this umbrella term. Similarly to (Hellauer and Derrick 2019)'s approach, while

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[12] See for instance ERIC Forum Cross-Domain Workshop on Research Quality and Reproducibility organized on 10-11.02.2021 (https://eatris.eu/wp-content/uploads/2021/02/20200210_ERIC-FORUM-WP3-Quality-Workshop-Draft-Agenda.pdf) as a recent example of this tendency.

interpreting our results in the coming chapters, we conceptualize the relationship of STEM and SSH disciplines on a fluid spectrum with regard to methodological traditions rather than as discrete categories and see SSH as an internally heterogeneous unit with important epistemological differences within and across its disciplines. This internal diversity in itself constitutes a core value within SSH, while at the same time, it explains many of the specific challenges peer review practices are facing in the domain. Below is a brief inventory of the peculiarities of peer review practices in SSH that directly shaped our methodology and research questions/questionnaire.

1.4.1. Due to the diverse evaluative cultures inhabiting SSH scholarship, quality judgements are situated and therefore it is hard to compare them

As discussed above, Social Sciences and Humanities scholarship usually manifests itself in small disciplines that are deeply embedded in specific local, linguistic and thematic contexts. One the one hand, this explains why centralized publication fora, such as Nature or, thinking in terms of Open Access and peer review innovations, mega-journals like Plos ONE, F1000 or PeerJ, have never emerged in the domain (Spezi et al. 2018). One the other hand, since scholarly judgments are situated in these combinations of smaller contexts, it is more difficult to compare them (Ochsner et al. 2020, Knöchelmann 2019). This is especially apparent in knowledge areas where the pass/fail approaches that are so strongly present in the positivistic traditions of peer review (Derrick and Ross-Hellauer 2019) and reproducibility are largely absent. This might have a role in Rowley and Sbaffi, (2018)'s finding, namely that SSH scholars are less convinced that peer review can effectively judge novelty or importance, detect plagiarism or fraud, detect factual inaccuracies, or determine an article's fit to the journal. One can recognize a similar skepticism/distancing in Lamont (2009:52)'s conclusion in the context of investigating the nature of academic judgement in SSH grant panels: "The evaluative cultures of academic disciplines vary greatly - so much so that it can seem like a minor miracle that consensus emerges from this sea of differences, and that the black box can actually produce awards."

1.4.2. Editorial selection and curation work is still has a central role in decision-making about publications

Another long-standing practice in SSH publishing that mitigates the role of peer review is that, as mentioned above already, the role of the editors and editorial selection and

curation work, a step in the publishing workflow that precedes peer review, had been traditionally important in shaping the publication landscape in the SSH fields. As (Knöchelmann 2019) noted: "Being published in the humanities is much more connected to editorship, where peer reviewers provide the editor with a subjective understanding of the work. Decisions of acceptance or rejection are much more connected to interpretation and argument instead of objectified principles. The name of the editor is highly connected to the value of the journal and the discourse it serves. Editors are "cultural intermediaries who bridge two worlds, insiders-outsiders with a foot in each camp" [10] (p. 45)."

1.4.3. Book peer review is a diverse practice where the quality assurance mechanisms are not always transparent to the readers

Peer review has a critical importance in scholarly communication, but both its practices and their understanding exhibit a great deal of opacity. This is especially true for the peer review processes concerning Open Access monographs. Both the central role of editors in the curation of books and book series and the fact that peer review had emerged in and has been optimised for journals lead to a diversity of practices that are much less formalized then journal peer review ((Derricourt 2012), (Verleysen and Engels 2012)). The implementation of the OPERAS Peer review Certification Service for Open Access Books[13] in the Directory of Open Access Books (DOAB) is an important step towards bringing clarity to the quality assurance mechanisms for books. The service is a response to the increasing need for transparency and a better understanding of book peer review processes. The certification system, developed in collaboration with DOAB, provides a convenient way to reassure authors and evaluation agencies about the scientific quality of Open Access books. The service aims to open the black box of peer review by:

- Identifying several characteristics of peer review as they specifically pertain to Open Access books,

- Creating standard definitions of the various ways in which book peer reviews are conducted, and

- Informing readers about the nature of review a published work has undergone.

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[13] https://operas.hypotheses.org/4552

DOAB: Directory of Open Access Books - Internet Explorer

https://doabooks.org/doabAdmin?func=editPublisherPR&pprId=64

Approved
○ Pending ● Yes ○ No

Review timing

Question A
At what stage is the peer review being conducted?

○ Before submission
● After submission
○ After publication

Reviewed object

Question B
What is being reviewed?

○ Book proposal
○ Full manuscript
○ Sample chapters
○ Book proposal & Full manuscript
● Book proposal & Sample chapters
○ Research paper
○ Research proposal
○ Preprint

Review Process

Question C
Who conducts the PR?

○ A single peer reviewer
○ Multiple peer reviewers
○ Peer to peer review
○ Crowd sourced reviewers
○ Editor or series editor
○ Editorial board
○ A single peer reviewer & Editor or series editor
○ A single peer reviewer & Editorial board
○ Multiple peer reviewers & Editor or series editor
● Multiple peer reviewers & Editorial board
○ Peer to peer review & Editor or series editor
○ Peer to peer review & Editorial board
○ Crowd sourced reviewers & Editor or series editor
○ Crowd sourced reviewers & Editorial board

○ Book proposal
○ Full manuscript
○ Sample chapters
○ Book proposal & Full manuscript
● Book proposal & Sample chapters
○ Research paper
○ Research proposal
○ Preprint

Review Process

Question C
Who conducts the PR?

○ A single peer reviewer
○ Multiple peer reviewers
○ Peer to peer review
○ Crowd sourced reviewers
○ Editor or series editor
○ Editorial board
○ A single peer reviewer & Editor or series editor
○ A single peer reviewer & Editorial board
○ Multiple peer reviewers & Editor or series editor
● Multiple peer reviewers & Editorial board
○ Peer to peer review & Editor or series editor
○ Peer to peer review & Editorial board
○ Crowd sourced reviewers & Editor or series editor
○ Crowd sourced reviewers & Editorial board

Question D
Level of openness?

○ Single blind peer review
● Double blind peer review
○ Unblinded peer review

☐ Open peer review (the review is public)

Decision process

Question E
Who oversees the peer review process?

☐ Publisher
☑ Editor or series editor
☑ Editorial board or committee
☐ Scientific committee

Submit

DRAFT

Fig. 2. *Variables of the OPERAS Peer review Certification Service for Open Access Books showcase the diversity of book peer review practices.* Source: (Ferwerda 2019)

The screenshots above show the major variables in peer review practices that can be openly indicated through the service. This also serves as a nice overview of the variables in the processes and criteria that makes up the diversity matrix of book peer review practices.

1.4.4. A diversity of scholarly content types that are important for SSH scholarship still remain out of the scope of peer review

An analysis of the data in the OPERAS Peer review Certification Service for Open Access Books has the potential to reveal interesting insights not only about how peer review of books has been performed and who are the reviewers but also about the types of books that are more likely to be peer reviewed than others. That said, even if there is a tendency

in research policy conversations to picture Open Access books as a homogenous unit, in practice, the types of books that are relevant/important for Arts and Humanities disciplines show a great diversity. Beyond the single authored monograph, it also includes edited volumes (this content type usually scores quite low in formal assessment criteria, (see e.g. in (Webster 2020)), collections of essays, textbooks, exhibition catalogues or critical editions (digital or not) and many others. These might be subject to quality assessment of different kinds but usually, in the absence of standardized peer review procedures and scholarly information management systems that are inclusive with a broad range of content types (Kulcyczki et al. 2020) they largely remain out of the circles of the academic symbolic capital.

It was the advent of digital technologies and the developments around Digital Humanities that brought even greater diversity in terms of digital scholarly content types. This, in turn, led to an interconnected, systemic discourse about peer review and its limitations in the digital knowledge creation *processes* within the Arts and Humanities domain, probably the first major strand to emerge from a peer review discourse that had been organically growing out of the epistemic cultures of the (digital) Humanities. The task force within The Modern Language Association (MLA) dedicated to evaluating scholarship for tenure and promotion and its outcomes (Stanton, Bérubé, and Cassuto 2007); the Evaluating Digital Scholarship special issue of the *Profession* journal (Schreibmann, Mandell, and Olsen 2011) and Kathleen Fitzpartick's seminal study "Planned Obsolescence: Publishing, Technology, and the Future of the Academy " (2011) all brought strong and unique voices to the peer review discourse, emphasizing the the need to establish and strengthen evaluative cultures and frameworks around complex digital scholarly objects (digital critical editions, networked monographs, databases, software, participatory project websites, data visualizations, and other research tools and services of different sorts). This turned out to be a long-standing challenge in Digital Humanities (see e.g. (Nyhan 2020), (Risam 2014)).Although we can see the emergence of guidelines and manifestos[14] aiming at providing practical guidance on the quality assessment of digital scholarship and its inclusion into academic tenure and promotion guidelines, in reality, digital scholarly objects

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[14] The Modern Language Association (MLA)'s dedicated task force on evaluating scholarship for tenure and promotion and its outcomes (Stanton, Bérubé, and Cassuto 2007); the Evaluating Digital Scholarship special issue of the Profession journal (Schreibmann, Mandell, and Olsen 2011) ; and (Ball et al. 2016)'s Annotated bibliography on evaluating digital scholarship for tenure and promotion mark milestones in this progress; still functioning as reference works for anyone aiming to start a conversation about the inclusion of digital scholarship in formal assessment criteria of one's institutions.

that cannot be placed on a bookshelf are still largely out of sight from research evaluation and recognition (Eve 2020).[15]

Earliest attempts to change this for the better and establish the genres of tool criticism and data journals within Digital Humanities had started out from the recognition that peer review is an absolute prerequisite for the inclusion of digital scholarship into the formal systems of research assessment and its administration[16]. In addition to developing frameworks to critically discuss ('read') digital objects and to accommodate digital scholarship in the well-established institution of peer review, such as in (Galey and Ruecker 2010), we see the establishment of data journals (Research Data Journal for the Humanities and Social Sciences, Journal of Open Humanities Data Dataverse , Journal of Cultural Analytics, Journal of Open Archaeology Data, Journal of the Text Encoding Initiative, (Video) Journal of Embodied Research) and dedicated venues for tool criticism (most notably, the RIDE journal, established in 2014 by the Institute for Documentology and Scholarly Editing.

Apart from strengthening the discourse around the quality assessment of Digital Humanities data, tools and environments, these journals also serve as important instruments to gain peer recognition for such outputs and embed them in the scholarly citation system, which is an absolute necessity for receiving proper academic credit for them.[17] Doing so, however, the journals also point out the difficulties of gaining academic credit for tools and data *without* aligning them to the well-established format of the scholarly journal and all its information management entailments (discovery, indexing and citation tracking systems that are optimized for papers and are inclusive with research tools). This clearly showcases the compromises required in gaining recognition for digital scholarly objects *on their own terms:* one needs to "gift wrap" them into tool papers in order to integrate them into the formal research assessment and administration systems.[18]

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[15]   A striking example is the tenure case of the Zotero co-director Sean Takats: It was his monograph in French history that served the basis of his tenure evaluation in 2013, while the reference management system that became a widely used, cornerstone infrastructural component in scholarly writing across continents and disciplinary boundaries had only been marginally considered. (Takats 2013), cited by (Dorofeeva 2014)).

[16] (Tennant et al. 2017), (Moore et al. 2017), (Fyfe et al. 2017) highlight both the complexities and severe consequences of the close associations between excellence and journal and publication prestige in the academic prestige economy.

[17] It is worth mentioning here that RIDE is not a standalone effort but is embedded into an emerging dool criticism culture (see e.g. (V. Zundert and J 2016), (J. J. van Zundert, Antonijević, and Andrews 2020))   on the one hand, and in the context of venues such as OpenMethods (https://openmethods.dariah.eu/) or the Journal of Open Source Software Blog (https://joss.theoj.org/) that come with similar aims but are much less integrated into the formal scholarly communication.

[18] A similar tendency can be observed with scholarly data publications, e.g. the cite as suggestion of the Hungarian National Corpus also points to a paper: Csaba Oravecz, Tamás Váradi, Bálint Sass: The Hungarian Gigaword Corpus. In: *Proceedings of LREC 2014,* 2014.

It remains to be seen, whether and how novel evaluation and certification frameworks, such as the FAIR principles (Wilkinson et al. 2016) will address this pressing need for re-harmonization efforts of research evaluation and novel research practices. In becoming translated, adopted and deeply embedded in disciplinary research realities, these emerging alternative assessment frameworks carry the potential to address some of the crises peer review is facing in the digital realm and might put novel mechanisms in place that allow for the recognition of digital scholarly objects on their own terms, without the paper-centric legacy of traditional peer review (Tóth-Czifra 2021).

1.4.5. Open peer review practices remain on the level of experiments

It is important to highlight that when peer review happens in the context of SSH publications, it is still mostly double-blind, or, in the context of books, single-blind (Pontille and Torny 2015). The persistence of closed reviewing practices seems to be even more apparent in the light of the more than 10 year history of experimenting with them. These experiments most notably started with Kathleen Kitzpartick's gesture of opening up the manuscript of her book "*Planned Obsolescence: Publishing, Technology, and the Future of the Academy*" (and later also "*Generous thinking*") for open annotations and commenting, to test the primary interest of her books, that is, exploring more transparent and more collaborative means of scholarly communication in practice. Another early experience, as noted (Seth 2020) that is also closely associated with Digital Humanities practice: the trial of open peer review in Shakespeare Quarterly in 2020. A most recent experiment of testing open peer review on a larger scale happened in the context of the Digital Humanities 2020 conference. What looks like a recurrent pattern is that all these initiatives are centered around a certain scholar or a smaller scholarly community who are committed to the values of the open research culture but the experiments remained isolated instances that never scaled up to form a community of practice.

In this respect, implementing more transparent reviewing policies on the level of journals or book series have a much stronger potential to establish new cultures of research evaluation on a systemic level. Currently, only a few SSH journals have open peer review policies in place, such as the German digital humanities journal *Zeitschrift für digitale Geisteswissenschaften* (*ZfdG*), which offers both open peer review and post-publication peer review possibilities, or the journals belonging to the *Open Library of Humanities (OLH)*. The OLH model had been inspired by Plos ONE's approach and as such, it aims to decouple peer review from its gatekeeping function. In practice, this means that the peer review processes do not address the perceived novelty, impact of innovation potential of

the submissions, but instead focus on research integrity and allow for the publication of all the contributions that come with methodological soundness and are resulted by transparent, clear and fair scholarly *processes*. As OLH's founder, Martin Pual Eve puts it: "So, while the OLH project will allow the academics on our boards to decide on this, my preference is to address, as Clay Shirky puts it, the filter failure at the publication side, rather than casting the vote into the hands of two unaccountable individuals into what sees the light of day, but we will still need to modify PLOS' criteria slightly." (Eve 2013 9-10)

In addition to these emerging practices, it is worthwhile to mention the long-standing tradition of post-publication book peer review that qualifies as an SSH-native and truly open practice of peer review. An important difference compared to the mainstream peer review practices however is that these count as publications on their own. Also, being post-publication, they are not associated with the gatekeeping function of peer review. Still, the number of reviews an academic book receives is an important indicator of perceived impact and therefore also accrues symbolic capital to its authors ((Zuccala and Leeuwen 2011), (Zuccala and Robinson-García 2019)).

A key research question of our study will be why SSH journals and scholars have not taken up open review practices in more than a few notable instances, and what the underlying reasons behind the persistence of certain proxies in the system are. Following Fitzpatrick (2011:38)'s emphasis on the centrality of the *human* in academic filtering systems, our aim is to dive deep into the actual practice of scholarly judgements in the context of SSH publications to uncover attitudes, reflections, behavioural patterns and a rich pool of personal experiences that collectively shape the emerging trends and future innovation in peer review activities within the SSH.

1.5. Summary

The chart below gives a visual overview of the topics discussed in the 'Introduction' chapter.

Key areas for the investigation of peer review practices in the Humanities

Transparency
- The many shades of openness from black box to fully transparent workflows
- Administration, tracking
- Book peer review as an even bigger mystery/less standardized practice

The prestige economy
- The symbolic capital and institutional rewarding criteria; container-level evaluation
- Reconsidering academic incentive and reward mechanisms to recognise quality assurance work (reviewing, editing)

Special flavours of peer review in SSH
- Quality judgements are situated in small epistemic cultures
- Editorial curation is central
- Book peer review is a diverse and not always transparent practice
- Open peer review remains on the level pf experiments

Rewards, recognition, incentives and capacity building for peer review
- ...or the current lack of thereof and its impact on the pace of publishing
- Reconsidering the function of peer review: a systemic gatekeeper vs a (continuous) process of collaborative improvement

Innovations and new evaluation frameworks
- Around novel digital scholarly objects
- Around nice/multidisciplinary areas
- 'Unofficial' peer review happening outside of academic publishing
- Decoupling peer-review from the journal article

Trust and rethinking power relations
- ...towards both the individuals involved and the institution itself
- The social components of peer-review: control, governance, power dynamics and biases (gender bias, senior's gatekeeping etc.)

Fig. 3. *Visual overview of the topics discussed in the 'Introduction' chapter.*

2. Methodology[19]

2.1. Preparatory phase

On the basis of the early findings of the literature review, researchers collaborating on the task 6.5 and 6.6 worked iteratively to define the key concepts of the study pertinent to the future of scholarly writing. First, in order to open-up the study to various materials, we agreed to treat a "scholarly text" broadly, not only as a linguistic articulation, but rather as an expression that could use different media. Secondly, we prepared working definitions of the main concepts pertinent to the task:

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[19] Since the interviews were conducted together with Task 6.5 within the OPERAS-P project, this chapter is identical to the interview methodology section in D6.5 '*Report on the future of scholarly writing in SSH*'.

- Communicating – an act of sharing a text through various formal or informal channels;

- Specificity of SSH – scholarly communication practices in Social Sciences and Humanities which are different from other fields;

- Writing – an act of generating a text, understood as an expression of an argument that may use different media, formats and genres;

- Collaboration – collective activities undertaken in writing, communicating, publishing and peer-review;

- Tools – services and software used in the process of writing, communication and publishing on various stages of the researchers' workflow.;

- Publishing – an act of disseminating a text through a formal process including intermediaries (publishers, reviewers);

- Innovative forms and genres - text used by scholars to transmit their argument, beyond traditional formats of a journal article, book, report etc.;

- Audiences – public engaging with scholarly texts and their authors;

- Evaluating – critical assessment of products of all types of scholarly communication, i.e. writing, communicating, publishing;

- Innovative forms of peer-review – peer-review practices going beyond the commonly accepted forms, to address perceived deficiencies of the system.

- Academic prestige - widespread respect attached to certain practices by scholarly communities.

- Power structures – dynamic systems of hierarchy and influence in scholarly communication.

Simultaneously we thought about the types of stakeholders we wanted to interview. We wanted representatives of various roles in our research sample: scholars, innovators, reviewers, publishers, librarians and editors.

2.2. Interview scenario

We prepared one scenario for interviews with researchers performing various roles in scholarly communication. The final version was the result of the pilot phase in which 4 interviews were conducted.

The inspiration for the interview questionnaire was the methodology of episodic interviews. The main premise of the method is that human knowledge is narrative and that human experience is constructed narratively. Meaning is thus negotiated both internally (internalisation of dominant narratives, reference to existing norms and values) and externally (in interaction with others, which allows the narrative to be contextualised, as others accept or dismiss it). From this the concept of episodic and semantic knowledge is derived:

- episodic knowledge (particular, based in instances of using e.g. digital media in conducting research)

- semantic knowledge (internalised knowledge, generalisations such as "Scientists should use digital media")

The sections of the questionnaire correspond with the distinction between two types of knowledge. The full questionnaire is available in the Annex 2.

2.3. Interviewing

2.3.1. Procedure

The interviews were conducted by a 10-person research team (representatives of IBL PAN, SIB DARIAH partner, UNIZD, DARIAH, Uni Lux and MWS) between April and August 2020. Due to the COVID-19 emergency the initial plan to conduct the interviews in person had to be altered and most of the interviews were conducted online.

The team worked in accordance with the guidelines collected in the interviewer handbook shared with all members of the research team, detailing all steps of the procedure, ensuring that all interviews would be conducted in the same manner. Most of the interviews were conducted in English, some in national languages (these interviews were then translated). Full transcripts of 32 interviews (31 single and 1 double interview) were available for the analysis, and a GDRP signed with each interviewed person.

As we focused on the content of the interviews rather than on analysing the interviewees' behavior, we adapted simple transcription conventions. Repetitions of words or phatic utterances were omitted for the sake of clarity. Interviews carried out in national languages were machine-translated into English with DeepL and manually corrected. The interviews were not proofread for English, hence some mistakes may be present both in transcriptions of non-native speakers talking in English or in the case of translations.

2.3.2. Research sample

The research sample containing 33 interviewees includes:

- Gender: Male (19), Female (14);

- Career stage: PhD candidate (5), ECR/Post-doc (up to 12 years after PhD) (11), Senior (13), Other (4);

- Countries: Bulgaria, Canada, Croatia, the Czech Republic, France, Germany, Hungary, Ireland, Latvia, Luxembourg, the Netherlands, Poland, Switzerland, UK, USA;

- Disciplines represented: Arts and Media, Biblical/Religious Studies, Cultural Studies, Digital Humanities, Education/Computer Sciences, English Studies, History, Information and Communication Science, Linguistics, Literature and Literary Anthropology, Philosophy, Psychology, Science Studies, Sociology, Other SSH.

When selecting a sample we were also careful that we include interviewees in a variety of roles such as researchers, authors, book editors, journal editors, publishers, reviewers, librarians, data curators and software developers. Each interviewee represented more than one role. We were also careful to include both people engaged in innovative scholarly communication and scholars with more traditional communication workflows.

2.4. Coding and analysis stage

Coding and analysis were performed by a 6-person team (representatives of IBL PAN, UNIZD and DARIAH). The coding and analysis team met regularly every week to discuss

all the important and problematic issues. The team worked with MaxQDA. Coding was divided into three stages.

In the first coding cycle we applied provisional coding to the material using codes corresponding to topics defined in the preparatory phase (see above), prepared as the groundwork for the interview questionnaire. In the second iteration these excerpts were coded with a provisional coding scheme developed by the team on the basis of the interviews. Each team member was responsible for a particular topic and was coding excerpts assigned to this issue in the first cycle. This cycle also used descriptive coding, to address issues not covered by the provisional coding scheme. Once this cycle of coding had been completed, IBL PAN prepared a second master file, which combined all the codes added by team members. The third coding cycle gave more freedom to researchers working on a particular topic to recode the material and introduce subcodes pertinent to their topics. Further analysis and work on the report was conducted in previously established and assigned subject areas.

2.5. Documentation

The documentation of the project and those interview transcripts which have been approved for publication by interviewees are available in the Nakala repository (https://operas-p.nakala.fr). The team aims to publish all approved transcripts before the end of the project.

3.   Findings on peer review

3.1.   Situating peer review in the complex dynamics of quality assessment

3.1.1. Peer review as an evaluation and assessment tool

As we have seen in '1.2. Peer review captured in the prestige economy', it is impossible to analyse the institution of peer review alone, without looking at the broader assessment systems it is embedded into. Thus, we wanted to investigate the insights that the SSH researchers had about the role of peer review as an evaluation and assessment tool.

3.1.1.1. Bibliometrics: people vs. numbers?

For many researchers there is a noticeable tension between one's own internal world -- their own goals, criteria or needs in terms of research (that are usually presented as not so bibliometric-centred) -- and the external expectations of the academic landscape that they need to fulfill. According to our interviewees these outside pressures become especially apparent at certain points of their career, when they are early career researchers and when they plan to change the job. A Post doc researcher stresses that his priorities are community-based but at the same time admits that he feels he might be not following the external expectations enough:

"*I don't know these things. I wouldn't know even where to look and decide where to go for them. What matters for me is the scholarly community I am actually participating in. However, this runs a problem when you are applying for research funding which is much more metric centered. Yes. And the problem is that people if these journals would have a very high impact factor or any of that sort of scientific metrics, they do have a much higher rejection rate. For most purposes, you don't need to actually publish in high impact journals in order to say that you are just making progress and you're good, not necessarily within your own field, but within your institutional environment. They just want to see some outputs. And so it's a very careful balancing act between, you know, whether you're actually embedded in an institutional setting and whether you are between jobs and then you are trying to make an impression on people never heard of. So it's problematic, to say the least. And I'm constantly worried about that, I'm not publishing in good enough or high quality enough journals or not Open Access journals or not enough whatever the administrators think is actually the next big thing about academic publishing.*" (OP01)

Moreover, as we can see, some respondents also hint at a distinction between disciplinary practices, often embedded in the scholarly community, and the strict world of metrics. The interviewee cited above draws a line between a kind of evaluation that involves in-depth knowledge of a person's scholarly achievements, community-based measures (that can be especially practised within an institutional setting where people know each other and are aware of each other's work) and the external, metrics-based way of assessment that is especially practised if one does not know the researcher personally, for instance in the case of a recruiting committee. Indeed, measuring quality or prestige in numbers, such as bibliometrics, often contrasts with the more qualitative view of prestige that is considered more wholesome. A senior researcher from Eastern Europe calls looking at bibliometrics 'a matter of generation', suggesting that they are less important to more senior researchers.

She confesses that she has started paying attention to them fairly recently, somehow 'forced' by the evaluation system:

"*It's also a matter, I guess, of rules and regulations, that I have started to do this only lately for the past year or two, past couple of years. And first of all, it depends on the new regulations that have been introduced for the evaluation of our work as university teachers. So our evaluation is based on our teaching, then our research, including of course publications, then some administrative work, if we have, it's called 'contribution to the academic life'. And finally, in the fourth place, the evaluation by the students, student's feedback. We have a special center at the university which makes calls among students after the end of every course so we have this feedback from the students. But one of the first two, teaching and research, are the ones that have the highest share in our evaluation. So it is very important to show good teaching and good research.*" (OP19)

A post doc researcher from Poland also suggests that once the bibliometric needs have been met, one may focus on other undertakings and priorities and does not need to worry about them anymore. They sound like a requirement to be ticked off, and afterwards one has more freedom to do what they wish in their career:

"*Not in Poland, but in Europe I can sleep peacefully, as if I wanted to be employed somewhere. Because I have publications in the top journals in my field. So if I look in science, bibliometrics - the top five [journals], I have my publications there, where I am the main or the only author.*" (OP13)

The same respondent notes that he still pays attention to the impact factor of a journal when publishing with PhD students, sometimes putting the bibliometrics above other qualities (for example the relevance of the topics). He explains that the career stage of the co-authors has a strong influence on the final decision on where to publish a text:

"*The younger our co-author - which is understandable to us - the more he needs a publication with an impact factor. Although we ourselves criticise the impact factor, we are fully aware that this is essential for career development.*" (OP13)

We also wished to see if peer reviewed publications counted more in the academic career of our respondents. Still, most respondents considered the monograph ("*the queen of all other publication formats*" - OP22) to be the best, or perhaps more prestigious, scholarly output for SSH scholars (see D6.5 '*Report on the future of scholarly writing in SSH*') and even the peer-reviewed articles did not outmatch it:

"*In our institution, and in American institutions in general, it's less important how well received your monograph is than the fact that it was published, and that it was published by a certain number of presses. The second would be co-authored or co-edited volumes, and then third would be peer reviewed journal articles, and then way down on the list would be chapters in an edited volume. We get almost no credit for that.*" (OP24)

Interestingly, in the context of books the quality assurance seemed to be even more time-consuming and perhaps differing on a case-to-case basis, with few established rules as compared to journals. For example, one of the respondents refers to the pressures of doing both "*editorial and review work*" (OP01) for a textbook. Another researcher tells the story of a conflict with editors responsible for a volume in which she published a book chapter because they did not proofread the cross references to other chapters and they "*published a version that was not updated*" (OP02).

Sometimes high quality does not mean that a publication was most thoroughly prepared and checked but is instead linked to the notion of exclusivity. If it is hard to publish with a certain journal or publisher, then the standard of the texts that appear with them are expected to be high. One of the interviewees gives an example of a large conference that happens on a regular basis, describing the relatively relaxed process of reviewing the submitted full manuscripts and the remarkable speed between the submission and the publication. The reason for this is not carelessness, however. It is a prestigious conference yet its source of prestige does not come from the fact that the final text is peer reviewed. Instead, the fact that one can present at the conference is already prestigious and seen as a good indicator of the quality of someone's work because the double blind peer review takes place at the point of submissions. Moreover, it seems that a large part of the source of prestige is that at least half of the applicants get rejected:

"*The selection goes completely differently, because once you're accepted for the conference, the review of your conference paper is not that strict any more. If you have already reached a high enough standard with your conference submission, then it is understood that the publication is already your responsibility.*" (OP05)

3.1.1.1. Reviewers' expertise

We asked the interviewees directly if they think that peer review is conducted by the best experts, assuming that if they thought this was the case, it would add to the prestige and trustworthiness of peer-reviewed publications. Most respondents thought that it was not always the best specialists who were involved in the reviewing process:

"*Experts are not the only ones who are conducting the reviews; it is also done by different profiles. Anyone who was ever involved in the publishing endeavour knows how hard it is to find good and reliable experts who are willing to review others' work.*" (OP32)

The reasons given often referred to the lack of time that the researchers struggle with, meaning that the best experts cannot always read and evaluate the work they should become familiar with:

"*It's damn hard to catch a peer reviewer, especially on special topics, honestly there's an article we haven't been able to publish for half a year because the person I asked for was all sent back.*" (OP05)

This feeling that good reviewers are scarce and 'hard to catch' appears in many interviews. When asked about the expertise of the people conducting the peer review, a senior researcher in History suggested that this was in fact a problem area:

"*Today the problem is more about finding people who do the reviews.*" (OP27)

Moreover, it is not only the matter of the lack of time that the top experts have. The issue seems to be identified as a part of a deeper systemic problem where the publish-or-perish culture generates too many publications, many of which are not of high quality:

"*That means that people are struggling to publish more and more so there is a kind of race to how quickly you can publish and the publisher a lot. That means lots and lots of work that is out there for review. A lot of this work is very poor, I have to say because it's reasonable. If you just terrorize people that they need to publish in order to be able to get their first job or something and they need to publish a lot, it is not about quality. It's about quantity and then there's not enough peer-reviewers to do that work, especially since the work is free.*" (OP15)

Therefore, it is impossible to read everything and hard to review all the publications that need to be assessed.

3.1.2. Peer review and prestige

Prestige is an overarching topic that frequently re-occurs in conversations about peer review and scholarly communication in general. Interestingly, still we see very few attempts to define the term - if they do, it is within a specific context of use rather than the concept itself (see D6.5 '*Report on the future of scholarly writing in SSH*').

We were interested in exploring the motivations that Social Sciences and Humanities researchers have for conducting peer review in the academic world where time is always a scarce resource (see 3.1.1).

Three aspects that deserve attention are:

- the prestige of the act of reviewing itself;

- the importance of the prestige of the journal in attracting reviewers;

- the question how peer review affects the prestige, trustworthiness and reliability of a scholarly publication in the eyes of the community.

3.1.2.1. The prestige of the act of reviewing

Most of the respondents recognise that reviewing is a prestigious activity for a researcher to engage in, it is something that a good scholar ought to do:

"*The work is not paid, we do that for let's say, prestige, as part of our scientific and scholarly careers because we are expected to do that. Reviewing work is sometimes harder than writing your own work, and you want to do it in the right way. We try to maximise the work we do with the least effort.*" (OP32)

Moreover, peer review mostly is not reported by our respondents anywhere, thus it is not just unpaid but also not officially credited in most academic institutions so there are no tangible effects of being a reviewer:

"*I don't write it in my CV either. I just think it's an essential part of the research. And I have benefited so much from the scholarly community and receiving peer review. So I feel like this is something that I should do because that's that's part of the game, right? I should be contributing to the knowledge.*" (OP01)

Thus, the prestige of being a reviewer for a well-known journal does not necessarily raise the status of a researcher in the community. A respondent saw that his colleague wrote in a CV that he had reviewed for a "large journal" but thought that this information was not important because it could not be verified due to the criteria of the peer review process ("*it can't be checked since peer review is blind*" - OP05). We discuss emerging solutions to this problem in the coming chapter: '3.5. Innovations' .

3.1.2.2. The journal's prestige and attracting reviewers

We wanted to understand the relationship between the perceived prestige of a journal and the decision to peer review for a specific publication. Importantly, it seems that not just anyone will be asked to be a peer reviewer. Scholars early on in their careers may not get many opportunities to review the work of others:

"*I think it was probably just after I got tenure key that I started being contacted to do a peer review, my work was not terribly well known during most of my pre-tenure period. And so I may have done a couple of article reviews prior to that. But it was after my first book came out not long after I got tenure and I think it was from that point forward that I started getting more requests. So there was a sense that... You know, I had demonstrated my expertise. Oh, right, and now people could ask. I think there is probably a tendency for mid career scholars to receive more requests to do peer review in a conventional form than either early or very senior scholars, partially because they have made a name for themselves and therefore are known to the people who are asking for the reviews to be done, but also because they haven't yet reached that level of fame at which, you know, everybody just assumes they're way too busy and I couldn't possibly ask this person to do a peer review. I think there was a point at which a lot of successful scholars kind of. ..do less peer review.*" (OP04)

This is probably why the doctoral students or early career researchers seem to accept the offers to evaluate the work of others ("*I've been looking at all the articles that were sent to me, were interesting, within my research topics and sent from people that I quite like. So I hadn't any reservations towards participating*" - OP17). For those scholars who reject some peer review opportunities, the perceived prestige of a journal is an important factor that the researchers take into consideration when making the decision to become a reviewer:

"*To be very honest, the prestige of the magazine is by far the most important criterion for me at the moment.*" (OP11)

Another respondent notes that it is not only his own criterion but one that he notes as being important in the community:

"*[...] since I have strong reasons to believe that many of my colleagues, many other scholars apply the same logic, it means, you know, the journals with a high impact factor would probably receive better manuscript and would have better reviewers. I mean, from my experience if I get a request to do a review for what seems to be a lousy journal I would not even respond. Especially if it seems like a predatory journal. Well if it's a really*

good journal then I would think twice before saying no because I feel obligated. Their reviewers would do the same for me so I try to do the same for the other people." (OP31)

On the other hand, there is a real risk of maintaining the status quo, or preventing less privileged scholars from contributing to the community in a fuller way. This is because often the reviewers are asked to conduct the peer review by their colleagues, persons that they are personally acquainted with:

"*These are mostly favors for people I already know rather than at a formal and out of place things.*" (OP01)

"*In general it is people that I know who ask me.*" (OP21)

It can be perceived as a reinforcement of the existing power structures in a given discipline. One of our interviewees, an established Professor herself, also perceives the dangers that creating a peer review bubble may create:

"*[...] those characteristics that make a scholar known for their work can work against the diversity of the reviewer pool and of the perspectives that are brought in to review, because I think...scholars who have gone to extremely prestigious PhD programs, for instance, and have very prestigious advisers when there were PhDs, have a tendency to have connections into publications earlier rather than later. And so they tend to get published a little earlier and therefore become known a little earlier. And that kind of prestige sort of, what it ripples out, it has effects on that entire dynamic, and so I think that there are many women scholars, scholars of color and early career researchers, researchers who are coming from less prestigious programs, for instance, that aren't approached to do peer reviews quite as frequently and so don't have the opportunity to do the same kind of work of shaping the field that the the more privileged scholars do.*" (OP04)

3.1.2.3. Is a peer reviewed publication more prestigious?

Despite its many problems (as described in other subchapters of the report), peer review plays a crucial role in building trust towards certain publications. Our respondents see a link between the rigor of the review system applied and the prestige of the final publication:

"*Because everyone knows that journal articles are more seriously reviewed than articles in collective books. That is to say, everyone who has been to a conference knows very well that when you publish conference proceedings, the degree of editorial demand is often quite low. Not always, but more often than not, whereas in journals, the degree of editorial*

demand is much higher. Therefore, in this respect, publishing in journals is more decisive than publishing collectively. Then, within the publication in review, there are journals that impress more people [...]" (OP25)

Many interviewees seem to believe that there are different standards and criteria for different publishers and journals, emphasising the diversity of policies and practices across different editorial boards, communities, and disciplines: "*[...] it depends on the journals*" (OP27). Thus, the reliability of the peer review process varies -- this is expressed both on a more general level ("*It depends on the journal, and even inside a journal it depends on who among the pool of experts is available*" -- OP22) and by referring to one's own anecdotal negative experiences:

"*I have benefited so much from the scholarly community and receiving peer review. [...] Although I've had bad examples. Well, I have once done a peer review work for a publication [...] But in the end, this piece featured almost none of my contributions and all.*" (OP01).

As we will see in the later chapters, even when researchers openly criticise the academic system of evaluation, they are usually very much aware of the importance and the status that peer review gives publications (and in many cases it is necessary for them to follow the rules they dislike for the sake of career advancement). An Early Career Researcher in Psychology admits:

"*I come from a field where only scientific papers peer- reviewed journals are valued and the criteria for valuing those journals is based on the impact factor. It's very clear..it's horrible but it's very clear.*" (OP29)

Similarly, a more senior researcher, a Professor in Digital Humanities, sees some value in trusting the metrics:

"*So science metrics I see filter well. We don't like it, it's very ultra-conservative, but basically, we don't know better.*" (OP05)

This sentiment of perhaps not having a better alternative is echoed by some other respondents. Sometimes peer review is 'better than nothing' so when you have one article that has not been commented on and is presented without any additional context and one that has been peer reviewed, you may choose the latter. On the other hand, a senior researcher in Information Systems and Education contrasts a blog post accompanied by comments with a peer reviewed text:

"*If there is a blog post, and there are no comments or comments are not substantial and I don't feel very competent discussing it, then I would trust more peer-reviewed papers. But if there's something that's published on the web or some popular place and I see people who are competent in the field discussing it in such a way that it is actually enriching my own understanding by reading their comments, then that is quite a valuable source for me. Even if, for instance, there would be a version that is peer-reviewed and peer-review would say: "Oh it is rubbish!". If people whose competence I don't doubt competently discuss this article and they basically show that article is OK, and that we can argue this and that, then I would trust that discussion. More than a blind peer-review. But if there's no discussion, then I have to rely on a blind peer-review.*" (OP30)

The interviewee above stresses the competence of the possible contributors to the discussions. The expertise of the commentators (even on a less traditional publication form in the academic world, such as a blog post) matters even more than the established process of a blind peer review (see '3.2. Peer review - as defined by SSH practice' for a more detailed discussion). Importantly, the ability to assess the quality of work within one's narrow discipline is something that is echoed by more respondents -- peer review becomes more of an important indicator of quality when one wishes to read something that is away from their usual research scope.

3.1.2.4. Peer review as a stable guarantee in the world of change

Peer review has been pointed out to be a stable instrument for investigating a publication's quality in the academic world where many other qualities of an output have been rapidly changing. When asked about the prestige of open access publications, one of the interviewees points out that while it no longer matters if a publication is printed or digital, the peer review remains a significant measure:

"*Today, in an academic evaluation, what matters is rather the nature of the reviewing and therefore the nature of the journals. If you publish in a journal that is 100% online but is a serious journal, there is no difference with something that is not online: open and 100% digital access is no longer an obstacle.*" (OP25)

In a similar spirit another respondent points out that the wrong presumption about open access publications not being peer reviewed directly affects their prestige. When people think that OA outputs have not been peer reviewed, they do not value them as much:

"[...] there's so many mistaken understandings about Open Access that it's not peer reviewed. You know, and it's all wrong, clearly. But because of those ingrained ideas, I think for many scholars, the prestige of Open Access publications is still lower than that of the closed access traditional journal that's been around for one hundred years." (OP04)

3.1.3. Summary

- There are a number of tensions surrounding bibliometrics: they are contrasted with both researchers' individual ways of assessing their work and in some cases, also with community practices.

- Metric-based requirements are critical for early career researchers and often become less crucial for those who have already advanced in their careers.

- While the act of reviewing is perceived as an important part of the academic work, it is difficult to find ways to recognise it, especially in the case of traditional blind peer review.

- The institution of peer review can reinforce existing power structures and make it harder for certain scholars to contribute to the community. While editors find it difficult to find good reviewers for their journals, there are groups who are much less likely to get asked to review others' work.

- Many respondents feel that the quality of the peer review process varies between different journals and publishers. It is not always conducted by the best experts in the field.

- Despite the shortcomings of the institution of peer review, most scholars still take it into consideration when assessing the trustworthiness of a text, especially outside of their expertise. However, the voices of the research community seem more important than the blind peer review practice in this aspect: our respondents sometimes mention putting confidence in novel forms that have been commented on or shared by experts in the community.

3.1.4. Recommendations based on these insights

Recommendation 1: Introducing quantitative measures for research evaluation

seems to be unavoidable to a certain extent, so as to enable comparing scholarly works from very different disciplines, regions. However, to resolve the conflict between research metrics and research realities, both geographical peculiarities (as (Kulczycki 2018) reveals) and disciplinary communities of practice (as revealed in our results) need to be taken into account in a flexible and multi-dimensional system of metrics. We recommend further development of the HuMeticsHSS in this direction. Harmonizing HuMeticsHSS's efforts with the DARIAH Impact Working Group[20] would facilitate coordination along the domain-specific angle across geographical regions across and beyond Europe.

Recommendation 2: Research metrics a) need to be developed in conversation with the communities being measured and b) metrics need to be used for the intention they were designed for and c) where infrastructure is needed to support a metric-based approach, that needs to be done before metrics can be applied.

Recommendation 2: Information management systems that are publicly owned and are inclusive with a broad range of content types are absolute infrastructural prerequisites of implementing responsible research metrics that are transparent and under control of the research communities and ministries. The current tendency of proprietary, closed systems are gaining important positions in delivering research metrics (see Moore 2021 cited above) poses a significant threat against transparency and community control. OPERAS already invested in such transparent, public infrastructure by implementing the OPERAS Metrics Service[21], a service that enables transparent tracking of the usage of OA books. As a next step, we recommend for OPERAS to launch a Working Group dedicated to responsible research metrics that functions as a European level knowledge hub for experts in charge of the implementation of research metrics in the OPERAS member countries. Such a coordinated effort could 1.) ensure interoperability across national Current Research Information System (CRIS) systems 2.) could inform future OPERAS services on a regular basis. We also recommend coordination with ENRESSH[22] along these lines.

Recommendation 3: Speaking of prerequisites, enabling citability of all the various kinds of research outputs beyond the research paper is a first step towards them being taken into account for formal assessment. We recommend for OPERAS to

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[20] https://www.dariah.eu/activities/working-groups/impact-factors-and-success-criteria/

[21] https://www.operas-eu.org/services/metrics-service/

[22] https://enressh.eu/

coordinate with the advocacy and training efforts of DARIAH[23] towards a better citation culture in the SSH.

Recommendation 4: In an increasingly complex research assessment landscape where automated workflows, knowledge graphs and scholarly outputs' visibility in information management systems play a more and more important role, publishers need to make sure that their content is findable and accessible for machines too, not only for humans, to enable citation and usage tracking. Authors cannot be disadvantaged in terms of citations and visibility because they are publishing with smaller publishing houses. The ongoing efforts of OPERAS[24] to provide support for smaller publishers to upscale their workflows to digital and interoperable with bigger scholarly information systems (e.g. providing help for the implementation of PID systems, developing conversion tools from domain-specific formats to global standards[25]) is of vital importance. We recommend to continue and extend this work e.g. with an HTML metadata enhancement toolbox that enables publishers to increase their HTML metadata quality too. This is crucial at the age of scholarly writing where reference management tools (such as Zotero) are becoming mainstream but scholars still need to spend a significant amount of time with manual metadata cleaning in these tools followed by the HTML metadata import via browser extensions (or, in worse case, they might opt for citing the papers with better metadata quality to spare time. The distortion effect of this in terms of bibliodiversity is more than threatening).

Further recommendations regarding better rewarding review work and going against the prestige economy can be found under the coming chapters.

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[23] https://www.dariah.eu/activities/open-science/

[24] See e.g. Work Package 2 of the HIRMEOS project: https://www.hirmeos.eu/work-packages/.

[25] See the TEI-XML→JATS conversion tool to be developed in OPERAS XML toolbox, https://operas.hypotheses.org/operas-p.

3.2. Peer review - as defined by SSH practice

3.2.1. Still perceived as a gold standard? Trust, generic sentiments towards peer review

To assess our respondent's generic sentiments and level of trust towards peer review, we embedded this topic in the context of discovery and asked them "Do you trust more publications when you know that those are peer reviewed?". Although our sample is far from being representative, the proportion of agreement or disagreement is indicative and frames our analysis below that looks for underlying tendencies and reasons behind these numbers.

Peer review: still perceived as a gold standard?

The role of peer review in scholars' perception of quality:

Do you trust more publications when you know that those are peer reviewed?

- **56%** yes

- **44%** It doesn't make a big difference in my judgements

"If you want to be a peer, you have to review at some point."
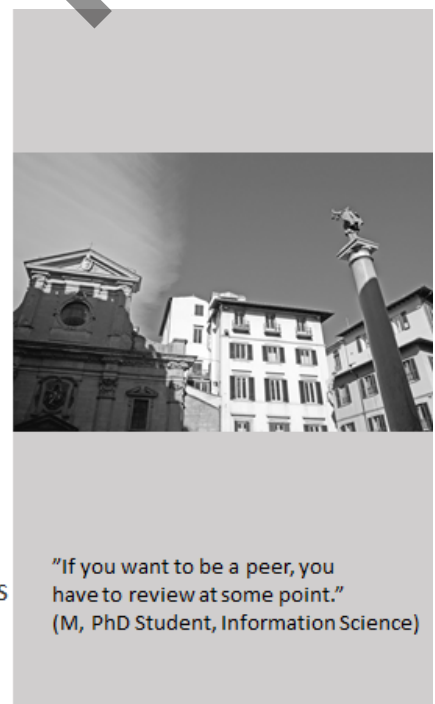(M, PhD Student, Information Science)

Fig. 4. *The role of peer-review and scholars' perception of quality*

Our results reveal that in line with earlier studies assessing attitudes towards and the general legitimacy of peer review ((Johnson et al. 2018), (Tomkins et al. 2017), (Siler et al.

2015)), our respondents still trust peer reviewed-publications over non-peer reviewed ones, even if they are aware of flaws in the system, like OP06: "*So I remember once I was so surprised basically to find a number of mistakes in a paper. And I even told my supervisor and asked is it just me or is there really something wrong with the paper? Yeah, that happens. And it's very unpleasant because it's not just the name of the author, but the name of the editors you start to distrust. So. Yeah*."

"*I have mixed views about peer review. So on the one hand, I feel that it's an exclusionary practice. High prestige titles that use peer review to exclude work are often doing so for reasons of career scarcity. So that acts as a proxy for various job market metrics etc. I also think that peer review is not very good at catching errors necessarily. I've had peer reviews back that have been wrong, factually wrong about the things they're critiquing from top journals in my field and has been quite disheartening. But on the other hand[...] I also see instances where, you know, peer review does detect rubbish and stopped getting through and it should have. So I kind of have mixed views on the role of peer review.*" (OP03)

In many cases, respondents even see peer review as a defining feature of scholarly texts, a scholarly practice that opens the door to formal assessment:

"*For me, the barrier comes with the question: what is recognized as scholarly writing in academia, and let you obtain a position? Until recently (but maybe it is changing) the digital, and especially what is not peer-reviewed, does not count as scholarly writing, at least not for career advancement. But if we take out these considerations, there are lots of formats. For instance, I did a lot of different analyses on websites about the First World War. I looked at 150 websites and how they told the History on the web. I could identify a series of trends: for instance asking for the users to participate, the growing presence of images, the personalization of narratives around people or around the user (such as: "tell me where you live, what your surname is, and I'll tell you a story about it").*" (OP22)

Those who count less on peer reviewed status of publications when assessing their quality and credibility emphasize the importance of critical reading and the role of individual judgments, or admit that they are not always aware whether a publication is peer reviewed or not.[26] In such cases, they rely on other indicators such as journal prestige (or simply a finite number of periodicals and book series they or their department usually subscribes), or usage metrics such as the number of citations and downloads. Also, since information on peer review is not always immediately visible on the level of articles,

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[26] This is in line with Emanuel Kulczycki et al (2019)'s recent findings.

Kulczycki, E., Rozkosz, E. A., Engels, T. C. E., Guns, R., & Hołowiecki, M. (2019). *How to identify peer-reviewed publications: Open-identity labels in scholarly book publishing*. „PLoS ONE", 14(3), e0214423. doi: 10.1371/journal.pone.0214423 [PDF]

respondents put a bigger emphasis on the availability of them in scholarly databases such as Web of Science, national databases or Google Scholar as indicator of trustworthiness.

The tendency that the gatekeeping function of peer review is less prevalent in SSH fields (see explained in the '1.4. Special flavours of peer review in the SSH disciplines' subchapter of) and reviews are more embedded in individual judgements was also confirmed in our results, see for instance: *"I'm continually shocked by reviewers, who will peer review a piece of mine and I'll have someone saying this is much too long, someone saying this is much too short and make two completely contradictory kind of responses. And so you can't really look to reviewers as gatekeepers because I don't think reviewers know what they're doing any more than I do. And so I think that we've all internalized these ideas that we have to perform the sort of, the scholarly kind of role and that's what keeps it kind of perpetuating. So that's why it's such a horrible problem to fix, because we're all just continually disciplining ourselves."* (OP10)

Interestingly and logically, the filtering function of peer review is becoming more important in inter- and transdisciplinary settings, when someone is looking for scholarly information outside of their own field of expertise, in knowledge areas where they cannot necessarily navigate themselves along the thick, insider semantics of author names, affiliations and publication venues. For instance:

"It depends on the topics. I already saw that a peer-review is not a guarantee of quality. Sometimes I read texts on the internet (blog, etc.). I think I can evaluate their quality if it is in my field. But if I get away from my area of expertise, I feel less confident and I trust more what is peer-reviewed. It also depends on what we consider peer-review is. For instance if I see an article shared 50 times by my colleagues, it's also a form of peer-review for me." (OP21)

These statements clearly exemplify the extent to which the term *peer review* means different things to different individuals and communities. In the next subchapter, we aim to extract patterns in the function of peer review as reflected in SSH research practices. At a later point we will see whether the weaker gatekeeping function of peer review in SSH mitigates biases and cultural inertia around peer review practices.

3.2.2. Functions of peer review

The 32 analyzed interviews reveal that even within the confines of academic publications, peer review indeed carries a multitude of functions, functions that may seem complementary in one case and conflicting in the other. In addition to:

- Filtering the body of works to enter the peer reviewed spheres of scholarly communication (see discussed in e.g.OP07, OP11, OP12, OP22);

- The validation and certification of research results and new forms of scholarship (OP04, OP08, OP24, OP25);

- Aligning the language of the publications with the register of academic publications (OP03, OP05, OP06, OP08; OP16, OP19);

the three most frequently discussed and most controversial functions were:

- Constrictive improvement of scholarly works;

- Gatekeeping; and

- Constructing/shaping disciplinary identities and boundaries.

Reflections on the function(s) of peer review had been elicited both directly (see question '2.4.2. What are the main functions of peer review? (gatekeeping, improving scholarly work, filtering?' of our questionnaire) and indirectly, through respondents' episodic knowledge.

3.2.2.1. Constructive improvement of scholarship is clearly the most desirable function of peer review

Improving the quality of submitted works and "continually support[ing] the author and giv[ing] them all the feedback that authors need to write the best possible paper." (OP29: 216 - 217) was the most frequently voiced function peer review should ideally fulfil. Many respondents emphasized that even rejections are fine to accept once the reviews contain constructive feedback and were written with care and empathy. This seems to be a value in the peer review process that is equally important on the author side and on the reviewer side, for instance :

"*And so I review in English, German and French. I think I read a lot of really bad stuff. I also tried to be a friendly reviewer and to be super constructive. I write extremely lengthy reviews like at least three to five pages when it's open and when there is...it depends*

sometimes they give you a template or questionnaire, sometimes not. But I usually note no typos, but I'm really into the whole argument and I try to be really critical. And when I said this literature, I usually said just exactly where it should be integrated. And not only you should all read that, because I think it's useless. And also sometimes I'm like, I would like to tell you there is this piece. I'm not expecting you to have read it for this paper, but I think it could contribute to reflection later." (OP02)

To extend this line of argumentation, and to help themselves as reviewers to stay constructive and helpful, some of the respondents (OP10. OP04) draw comparisons to teaching practices and argue that ideally reviews should be written with the same coaching mindset and decency as when evaluating and giving feedback on students' work. Another value that had been repeatedly attached to the improvement-focussed reviewing culture is that it gives more chances for members of the broader intellectual community to initiate a dialogue through their respective roles of being a reviewer and an author in a specific publication setting (OP04, OP09, OP10, OP30).

3.2.2.2. Improvement vs. gatekeeping: complementarity or conflict?

Still, as many of our respondents indicated, in reality, in addition to constructive improvement, peer review also has to fulfil another function, historically just as inherent but much more controversial, namely gatekeeping. Some respondents see these two functions as complementary, e.g. with the gatekeeping function as a primary aim but with possibilities to deliver constructive feedback as well[27]. Other reflections however clearly uncover the frequent intersections between gatekeeping and reinforcing power positions in academia and flag scenarios or real use cases where gatekeeping clearly goes beyond ensuring quality and thus prevents interest-free research assessment that is genuinely constructive. The following excerpts are especially enlightening in this respect:

"*On the one hand, gatekeepers are necessary because you wanna filter for good quality research, it's the research we want to do but the question is do I think the system is equal and without problems? No, I don't think so. I think there are many obstacles that shouldn't be part of gatekeeping but they actually exist. Maybe you will understand me, coming from Poland which is a big nation but I always feel whenever I work with Czech data, I*

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[27] See e.g." Interviewer: What are the main functions of peer review (gatekeeping, improving scholarly work, filtering?
Respondent:: First of all, gatekeeping. The editorial board should conduct the sanity check. That should be the first filter or first triage. On the other hand, readers are doing that. They are checking the sanity, as well as facts and arguments that are used. The gatekeeping role is very important, but all the other roles are important as well, like achieving a good quality of the paper or leveraging the quality of a certain paper with the experience. (OP32)

somehow have to justify why I am working with the Czech data and why that is interesting. I always feel like if you're an American or you're English, working with English or American data, you don't have to explain why that topic is interesting." (OP16).

"*And so we like to think that something having gotten through that peer review process and having been published, gives it a kind of seal of approval that lets us know that if I take the time to read this thing, I'm going to learn something from it, because the experts say this is good. And I think we want peer review to function that way, but at the same time kind of recognize that that's more about gatekeeping than anything else. And for me, in an ideal world, a peer review model that's less about gatekeeping and more about really helping a piece of scholarly work become as good as it can be. That's really about improving the work and helping it find the right place to publish is more important. So I think it's two kinds of competing functions that peer review has: one is really improving the work and just making it better. And the other is letting an audience know that this is good enough to read.*" (OP04)

"*I give her feedback that is supposed to be helpful and will hopefully make the document better. But I will often couch it in the sense that this could just be me, it might just be my issue, but this would be better. So, I consider it more of a dialogue than a gatekeeping process or a sort of something based on kind of care rather than trying to reject people. Yeah.*" (OP10)

Interestingly, our results show correlations between being in favour of the prestige economy and having a strong faith in the gatekeeping function of peer review: those who recognized established publisher brands as quality markers were more likely to find gatekeeping the most important function of peer review (see OP05, OP13, OP14, OP19, OP32). The polarized opinions around gatekeeping vs. constructive improvement can be read as reflections on recent changes in academic culture (see e.g. (Fitzpatrick 2019)) where the hegemony of massive competitiveness, that made gatekeeping such a crucial practice in academia, is increasingly becoming loosened up by a more collaborative research culture.

3.2.2.3. The role of peer review in shaping disciplinary identities and boundaries

An important specificity of these discussions around gatekeeping is that they are not as exclusively associated with prestige (and its indicators: journal brand, publisher prestige or bibliometrics) as the literature in the introduction chapter may suggest. In many interview instances, gatekeeping is rather associated with shaping disciplinary identities and boundaries, reinforcing disciplinary norms and standards of excellence that prevail within

in-groups. Rejecting a paper that is *not a good fit* into the intellectual endeavour and mission that comes with a specific publication forum looks like a frequently encountered community practice that has a prominent role in filtering and selection:

"*I knew it would be rejected after a while because they had struggled so much to find reviewers. For me, it already means we're not a good fit for the journal.*" (OP02)

"*So it might be the case that the paper is sound, but it isn't the right scope. So the editor can say it doesn't fit my journal, but you might be interested in looking at these other journals so we can do this. We can move it through that way. Yeah, that's relatively new.*" (OP09)

"*I'm thinking of certain journals now where they're really focused on the work of a kind of ingroup and the peer review process probably does make the work of the journal better, but for that ingroup. And so the review process doesn't necessarily make the work more trustworthy to me. It makes it more sort of standardized to the ideas of that ingroup. And so it becomes a kind of closed circle.*" (OP04)

"*It is a guarantee that a particular scientific output can stand with the collection of scientific outputs in its discipline. It is very important for generalization. Otherwise, it is better to publish in super specialized journals. So that's why I insist that we should be careful with the generalization of peer review and the automatization of the submission process. Otherwise the publishing house can actually give that guarantee. The credibility of the discipline is at stake. So other experts in the discipline give you the permission to enter this collection of scientific outputs.*" (OP22)

" *Yes. And if the author is not successful or if the article isn't the right fit. So going back to what we're talking about previously, what would happen? Typically if an author makes a submission to a specific journal, they get a desk reject because it's out of scope or something technical, it's not right with the paper that just gets sent back to the author and they have to start the whole process again. In some instances, we're now looking at transfers. So it might be the case that the paper is sound, but it isn't the right scope. So the editor can say it doesn't fit my journal, but you might be interested in looking at these other journals so we can do this. We can move it through that way. Yeah, that's relatively new.*" (OP09)

What these excerpts reveal is that the burgeoning diversity of disciplinary cultures and competing intellectual traditions and methodological schools (of thought) is both a value and a challenge in scholarly communication and in SSH research in general. On the one hand, the diversity of disciplinary evaluation cultures and the broadness and pluralism that

it brings about is acknowledged as a guarantee for the integrity and advancement of scholarship. On the other hand though, as Lamont (2009: 103) points out, hiring and promotion decisions are made within disciplinary cultures and the scarcity of tenured positions, leading roles in institutions and departments . fuels competition both across and within disciplines. The ability to showcase established and well-functioning publication fora around a certain school of thought is therefore crucial in shaping discourse spaces but also power positions (see a case study for that in (Michele Lamont 1986)).

3.2.2.4. The central role of editorial curation in research evaluation

As the last excerpt shows, editorial selection and curation work does indeed have a central importance in gatekeeping and decision-making about publications. The interviews strongly confirm this assumption (discussed in '1.4.2. Editorial selection and curation work still has a central role in decision-making about publications'). Editors had been repeatedly referred to as ultimate sources of authority when it came to defining the exact scope and publication policies and workflows of the journal, being in charge of pre-selection (also known as desk rejections) based on the scope of the venue (OP02, OP10, OP12, OP32), or making final publications decisions (OP09, OP12, OP13). Some of our respondents highlighted the value of this work, such as in the excerpt from OP20 and OP10 below, but this had been clearly outweighed by reporting intransparency or even power abuse in editorial decision-making (see the other two excerpts below).

"And, of course, like editors will look at articles and they will have a sense quite immediately whether or not they think that it fits with the journal scope. But I don't necessarily think that's gatekeeping, I think that's just sort of curation, I guess, or pre-curation." OP10)

"This system always acts as if it were anonymous, but in the end, there are magazine editors who assign this to people who of course know it, and they also know the author and they are the ones who moderate how to deal with it. And it can also happen that there is a negative review, but the editor finds the article so good that he still takes it. Yes, that is supposed to be objective, but in the end that is not good either. I don't know if it would be so good either if a system of reviewers was established, so to speak, which works completely without this moderation based on personal contact, based on known persons and non-anonymized persons; if that were to be omitted, and a standard traffic light system - yes green, then we publish it and yellow has to be returned, red no thanks. I don't think this is a good idea either, because the magazine editor or publisher of an anthology naturally has an agenda, has ideas about how the final product should look in its entirety,

what fits in there, what might be missing. And that's why I find this moderation very important." (OP20)

"I have seen many times how texts were accepted against negative reviews. Because someone ordered, for example, the director of some institute, some professor ordered the text to be accepted. So in my opinion such practices are common. I have also seen texts that were rejected even before the review stage because of some personal animosities between the editorial staff and the person who submits [the text for publication]. I wrote negative reviews myself - some text in my opinion shouldn't be published... I don't know whose, because even afterwards I didn't check it to avoid any prejudices. And I know that later this text was published, because my friend told me. It happens often. Who reviews - you know what, it depends on the magazine. There are journals where older professors actually review it. There are journals that are already in such desperation that they give it to anyone to review." (OP11)

"And I know that the editors actually polished my review and they deleted a few things. So that's why I felt like I said what I had to say." (OP02)

3.2.3. Special flavours of peer review and research evaluation in SSH

3.2.3.1. Publication fora are strongly associated with scholarly networks

This strong influence and intervention of editors and their role in building networks around publication venues (journals but also book series and online platforms) had been recognized in the interviews as a specificity of the SSH domain (OP10, OP05, OP09). Shaping and nurturing these networks often happens via invitations, another community practice reinforcing the central role of editorial curation and selection in SSH scholarly communication. The pattern of having a multitude of smaller disciplinary networks situated around a fragmented publication landscape also affects the anonymity expectation of the standard double-bind peer review. This phenomenon has been often reported in the interviews: many respondents highlight how it is not easy to achieve genuine anonymity in cases where publications are embedded in a smaller geographical, language or disciplinary context.

3.2.3.2. Deviations from the positivist tradition of peer review: the limitations of pass/fail approaches in SSH

Another domain-specific dimension of peer review that our respondents repeatedly mentioned, in contrast to the STEM fields, is the non-applicability of the positivist reviewing

practices (involving statistical sound check, trials, reproducibility) in certain fields of SSH. The respondent below clearly feels more comfortable articulating the value of peer review in physics or medical sciences than in their own field:

"*I would like to separate my own science, my own experiences from what I think actually peer review is for. Because I'm a very strong advocate of peer review in the sense that it separates pseudoscience from actual science. And there are a lot of tin pots and crackpot scientists out there. And I think that peer review has an essential function that should never, ever be abolished. And it is to keep bad science out of the respectability of good science, especially when it comes to medicine and when it comes to physics and all sorts of scholarly fields. We need to have to rely on really good data in order to decide whether this modality or that modality is good. (...) So the application processes for these do require some sort of statistically significant randomized controlled trials which have results. And I think the peer review does help in these issues. In terms of the humanities, the peer reviews would be better if the whole of the humanities would not be locked up in a kind of an obligation to protect our own interests and protect our own people against onslaught from the rationalization and the liberalization of education. If we were able to critique ourselves and to say more often that we are making a more selective journal and we are publishing fewer and fewer papers, but those are held to a much higher standard publication than I would be a much happier person than I am.*" (OP01)

Others make similar claims:

"*I think what peer review means to different communities is so interesting. I guess in the humanities, peer review provides an entirely different function to what it might do in other subject areas. And for me personally, peer review feels more like the dialogue. There are some technical attributes to the peer review process should pick up, referencing, specific specific reference to previous arguments and situating that in a longer intellectual conversation.*" (OP09)

"*And now, of course, I'm working in a discipline where, again, like I say, we're not dealing with facts in the same sense as the sciences or whatever. There are no lives at stake. So in my work as sort of studying peer review of scientists, it's a lot more formulaic and clearly a lot more based on qualification of your seniority. And editors do really intervene. And it's a much more active process. And I don't think that means that humanities peer review is worse. I just think it's so much more subjective that we're just sort of finding our way, I guess, which leads to bad outcomes and that leads to good outcomes, I suppose.*" (OP10)

A possible explanation of where this subjectivity lies could be is that beyond interdisciplinarity, disciplines themselves are not always internally coherent, and therefore what looks like the application of a perhaps willful subjectivity comes down to a crossing of unrecognised epistemic boundaries.

All these special flavours of evaluating publications on the SSH domain give rise to unique challenges and community practices to address them. These are discussed in the next chapters.

In the interviews, two further domain-specific specificities had been identified in the more specific context of Digital Humanities:

- There is a diversity of scholarly content types, often involving multimedia that remain out of the scope of formal peer review.

- The established traditions of post-publication book peer review are becoming extended to data and tool criticism.

These are discussed in detail under the 'Innovations' subchapter.

3.2.4. Summary

- Our respondents still trust peer reviewed-publications significantly more than non-peer reviewed ones, even if they are aware of flaws in the system, and even if the term *peer review* means different things to different individuals and communities.

- Peer review reportedly carries a multitude of functions in these communities, functions that may seem complementary some cases and conflicting in others.

- The three most frequently discussed and most controversial functions were:

    - Constrictive improvement of scholarly works

    - Gatekeeping and

    - Constructing/shaping disciplinary identities and boundaries.

- Gatekeeping and improvement mechanisms are sometimes seen as opposing processes, as gatekeeping often gives rise to strengthening established power positions.

- Other functions include: filtering the body of works to enter the peer reviewed spheres of scholarly communication; the validation and certification of research results and new forms of scholarship; aligning the language of the publications with the register of academic publications

- Special flavours of peer review in SSH as reflected in the interviews include the following:

    - Peer review has a crucial role in shaping disciplinary identities;

    - The central role of editorial curation in research evaluation (and also gatekeeping);

    - Publication fora are strongly associated with scholarly networks;

    - Peer review in SSH deviates from its positivist traditions;

    - There is a diversity of scholarly content types, often involving multimedia that remain out of the scope of formal peer review;

- The established traditions of post-publication book peer review are becoming extended to data and cool criticism.

3.2.5. Recommendations made based on these insights:

Recommendation 1: As a trust building instrument, transparent but labour-efficient communication of editorial policies and workflows (including how decisions are made and by whom, which kinds of pre-filtering mechanisms are in place, what is the average time frame of publications) is crucial in managing expectations both on the author, reviewer and reader sides. OPERAS could consider extending the Book Peer Review Certification Service in this direction.

Recommendation 2: Encouraging kindness and constructiveness in evaluation guidelines of publication venues could contribute to a healthier and more effective culture of peer review.

Recommendation 3: Publication venues awarding badges for their top reviewers not only on quantitative but also qualitative basis could serve as an incentive for constructive improvement.

Recommendation 4: To ease the burden of gatekeeping, publication venues should consider implementing a model of peer review similar to Plos One (see discussed in Eve 2013, 2014) where the scope of peer review is restricted to checking the integrity of scholarly processes and the soundness of the publication rather than making assumptions on their importance or innovation potential.

3.3. Challenges

3.3.1. Failures in expected functionality: the gatekeeping paradox and difficulties of recognizing excellence in a cross-disciplinary settings

The above cited interview segments already highlight various kinds of limitations of and problems with current peer review practices, especially around gatekeeping mechanisms. This included, among others, difficulties to achieve genuine anonymity, strengthening established in-group norms or practicing editorial power abuse via accepting publications

against negative reviews. On top of these, the input we received from the 32 scholars interviewed reveal an interesting paradox associated with gatekeeping. Namely, that the same community practice that pushed gatekeeping to the centre of scholarly communication, the publish or perish culture, is now forming the biggest obstacle in the efficiency of peer review. In simpler terms, as we saw in the introduction chapter, , the increased competition across research institutions, results in increased pressure on academics to publish more. Publishing more, in turn, made gatekeeping a crucially important scholarly practice that carries serious weight due to its repercussions in terms of rewards, career and the distribution of goods. However, the ever-increasing number of publications require more reviewing capacities, in the absence of which keeping high reviewing standards is becoming more and more difficult. And it turns a full circle. The excerpt below gives a clear summary of this paradox:

"*No. I think that there are issues there and issues have to do with the fact that publication and this has to do with the quantitative requirements that many decision-makers on tenure and promotion make. You need to make a number of publications every year, so there are quantitative things. That means that people are struggling to publish more and more so there is like this kind of race to how quickly you can publish, publish a lot. That means lots and lots of work that is out there for review. A lot of this work is very poor, I have to say because it's reasonable. If you just terrorize people that they need to publish in order to be able to get their first job or something and they need to publish a lot, it is not about quality. It's about quantity and then there's not enough peer-reviewers to do that work, especially since the work is free. So what happens sometimes is you get people saying "I've got a Ph.D. student here, can you do the review instead of me?" and you get like "Ok," then you don't get much. And it's pretty pretty clear for somebody who is an author to see who is the reviewer really and it is very disappointing to see sometimes that even good journals do that stuff with peer reviewers like that*." (OP15)

The gatekeeping paradox will be further discussed below, under '3.3.2.The shortage of evaluative labour' subchapter. Before turning to the systematic analysis of peer review challenges along dimensions of the *how* (3.3.2), the *who* (3.3.3.), and the *what* (3.3.4. And 3.3.5.), it is worth mentioning here another overarching challenge. Namely, that interdisciplinarity and the prevalence of small disciplines and their distinct epistemic and evaluation cultures challenge peer review in SSH. The following excerpt enumerates a range of difficulties Digital Humanities scholarship is facing: 1. The complex combination of knowledge areas necessary to make informed assessments 2. Cross-cutting disciplines, as interdisciplinarity is inherently present in Digital Humanities, and their distinct evaluative cultures 3. Language diversity.

"The way scholarly communication operates by default is still the most effective. I see quality assurance at the big publishers. So if we took this out of the system, that many self-nominated, lame, but damn hard-to-control publications would all get into the system. And in Digital Humanities, in a funny way, it would be especially bad to try to fight existing publishing systems against large publishers in the name of Open Access, because it is precisely these examples that show that I who don't think I'm stupid in Digital Humanities can't judge such texts that seem to fit everything. There are subtle disciplines that very few understand, and since they are also flooded with very non-European culture and an increasing percentage of the publication, we can't finally control it there. So I think this is all dangerous." (OP05)

3.3.2. The shortage of evaluative labour: capacity, time, recognition

Limited reviewing capacities, or, as Paul Martin Eve frames it (Eve 2020), the shortage of evaluative labour, turned out to be the by far most burning peer review issue in SSH according to the interviews. It is frequently portrayed as an overarching issue with complex interferences and repercussions that substantially affect scholarly communication at large.

Our printing and dissemination capacities, forming the original scarcity argument of reviewing, are not finite any more. But human attention is very much so. The excerpts below make very similar arguments to (OP15) above about how the publish or perish culture combined with the production and distribution affordances of the digital is exposing a nearly unmanageable amount of review labour on scholars and how it slows down the pace of publishing:

"*People refuse accepted reviews. So we are just flooded with a wave of publications and reviews. And in fact... In my opinion, the system of attracting reviewers is very good. The system of publishing and the amount of publishing - it is inefficient. And I wouldn't really look for how to encourage people to review even more. Well, you can't really.*" (OP13)

"*Since I'm also a reviewer I know how hard it's to find reviewers because there are more and more papers and people are just overwhelmed with requests for reviewing papers and it takes time. I just don't think that it can be, well in my mind it can hardly be improved in the contemporary circumstances.*" (OP31)

"*So that this is a very complicated thing, a very complicated system. I don't know how to hack it or optimize it. But there are too many journals and too many incoming texts and it's*

damn hard to find a peer reviewer and that hinders the whole publishing mechanism, for sure." (OP05)

The limited reviewing capacities are recognized as a major obstacle behind delays in publishing workflows. It is not unusual that scholars need to wait up to 9 months, or even more, for a desk rejection, similarly to what OP02 reports:

"*Oh, my, that's also a big thing why I'm so mad right now. The last article that got rejected, which I think should have been rejected because it's not a good fit for the journal. It would have been cool if it had been accepted, but I'm actually fine with it. It took them nine months to reject us, but it was a data paper and they don't know what a data paper is, obviously.*" (OP02)

Clearly, we saw very weak evidence for changes in rewards and incentives that could serve as a solution for the drainage of evaluative capacities. A vast majority of our respondents never received any rewards or credits: out of the 32 interviews, only in 6 cases reported any forms of rewards (monetary, in-kinds or formal recognition) and only one respondent, a Digital Humanist from The Netherlands reported formal recognition of reviewing activities:

"*Interviewer: And have you ever received any rewards from your review activities, either in terms of academic capital or anything? From the journals or from your institution?*

Respondent: It does count. But it doesn't count for much. I can't give you the exact numbers, I'm afraid, I should have looked that up, but we have a system where we have to report our annual research output and peer review is definitely one of the items, I do score that and it does deliver some points to me, but I'm not sure how many. It's definitely not as much as writing an article or anything. And I do think, but that is a long discussion and a long battle to fight, I do think that peer review should earn you more points. As I said, I do believe that it's almost more important than writing an article to help your colleagues to not to judge, but to validate the quality that they deliver and to give feedback so that the research can even improve." (OP08)

Still, in many cases respondents didn't even understand the question above and were asking for clarification, or indicated its absurdity simply by answering it with laughter. From a publisher point of view, the excerpt below showcases the conflict between having genuine intentions in place to give proper credit to reviewers but without ideas of how to implement it:

"Well, I think that's a topic that has been up in the air already for quite some time. But, you know, if researchers would get recognition for the review work that they do, I think that would probably already really help. It's now a bit of a thankless job, really. On the one hand, it's part of the research process. But on the other hand, you know, you cannot show it, you cannot put it on your curriculum, etc. So if there would be some changes there, that would be a good start.

Interviewer: But I guess it's hard for the publishers to actually make these changes?

Respondent: Yes, it is, although there are some initiatives now, and that's something that we really try to be involved in. But we do see now, with the bigger publishers, that they're starting these initiatives. We are following that, and if there were an opportunity for us also to tap into that, then that would be good. But it is difficult because right now there is not really a model for it yet. And I think that the research community would need to be more aware, to say: "OK, we have these things, and apparently people are getting credit for it. So maybe we can use that also in the evaluation". If you are a researcher who wants tenure and this is not something that is important, then we can do whatever we want, but it won't ever really work. With initiatives like DORA as well, for instance, there is definitely more awareness, and maybe also change." (OP26

The solutions implemented by other publishers will be discussed together with other emerging good credit-giving mechanisms in the 'Incentives' subchapter.

An important consequence of the prestige economy introduced in the introduction chapter is that due to their perceived higher scarcity value and source of prestige, reviewers are certainly more attracted to dedicate their limited availability to well-established journals and publishers rather than to players who are newcomers to the field - as reflected in the excerpt below:

"But I've learned about Open Access journals more recently. And, you know, there's one or two that the name of the journal itself is recognized by the community of people who contributed to it. And then there's other ones where it's Open Access...but I find that just purely by design and layout of the publication and the small number of people on the review board, it makes it look like it's not reputable. So it's not about the Open Access aspect of it. I think it's the amount of professionalism that's put into it. So it could be maybe there's three or five people on the board or the editors or that review. But you're just like, well, if three or five people, instead of a huge network of reviewers, particular to the expertise and stuff. So it's just I think it's a matter of image almost with the current Open

Access that I've seen. So I think I don't know how we could do better as an academic group to make it." (OP06)

We will see in the next subchapters how this affects the re-harmonization of peer review practices with the increasingly digital research workflows and outputs in SSH.

3.3.3. Challenges around the pressing re-harmonization of peer review with digital research realities

The tendency of established, high-prestige journals with conservative networks of norms more likely to attract reviewers has many consequences on what types of scholarship can enter official peer review and research assessment and what has to remain out of it. In many cases, this encourages cautious scholarship that conforms/reproduces the norms of excellence that are already out there. As Jusdanis (2011), puts it, "It forces scholars, particularly younger ones, to conform literally to what sells. That is, to the reigning assumptions about knowledge in that particular field." The excerpt below, coming from a PhD candidate in Digital Humanities and Literature studies, showcases this exact same tendency and highlight one's struggles to get digital scholarship legitimized in the prestige game:

"*OK, I feel like this is important to stress for me. But if it doesn't concern me, the interview, I could just stop but I really have to stress something out. Because I work on digital and literature studies. So my presentation was very much in the middle. But as I was drafting my first draft, I received a clear indication from the publisher that the digital part, the part where I discussed the software or code, it needs to be as small as possible.*" (OP07)

Peer review still seems to be an absolute prerequisite for the inclusion of digital scholarship into the formal systems of research assessment and its administration, that is rooted in the conventions of print scholarship and traditional publication venues. What remains out of its scope remains invisible from rewarding systems, as the excerpt below also clearly voices, in response to the question of 'What is a scholarly text?':

"*For me, the barrier comes with the question: what is recognized as scholarly writing in academia, and let you obtain a position? Until recently (but maybe it is changing) the digital, and especially what is not peer-reviewed, does not count as scholarly writing, at least not for career advancement. But if we take out these considerations, there are lots of formats. For instance, I did a lot of different analyses on websites about the First World War. I looked at 150 websites and how they told the History on the web. I could identify a*

series of trends: for instance asking for the users to participate, the growing presence of images, the personalization of narratives around people or around the user (such as: "tell me where you live, what your surname is, and I'll tell you a story about it"). (OP22)

The problem is even more clearly articulated here:

"*Absolutely. That will be essential for a project like this, because it's so new. You almost need the imprimatur of peer review to say: "this is a legitimate thing". Particularly for me, I'm a young unknown scholar, so it's important. If part of my argument is: "this is a new way of doing a thing we've been doing for 2000 years", you cannot make that argument without having peer review to support it.*" (OP24)

From the polyphony of the interview collection, the excerpt below can be read as a comment, or even response, to this phenomenon from the point of view of a senior publishing executive at a big publishing house:

"*If there's a new idea or a new way of doing something that comes through, it's really hard for editors to find reviewers because they might be outside of the normal scope for the journal.*" (OP08)

This seemingly paradoxical statement, which can be taken as clear evidence of the confirmation bias and conservatism encoded in the institution of traditional peer review, also points to the chicken and egg problem in the inclusivity potential of evaluation proxies. While it must indeed be hard to find reviewers who are thinking out of the box for journals whose scope clearly exists *inside* the box, the lack of capacity, combination of skills and emerging evaluative frameworks that would enable the confident quality assessment of innovative scholarly genres and content types is portrayed as in short supply. It seems that building capacities to review the body of traditional scholarship (published in established venues that are more attractive due to their perceived prestige) is a big enough challenge in the ever-expanding landscape of scholarly communication. The large-scale extension to a wide range of novel digital scholarly objects seems to be unrealistic, especially considering that the proper evaluation of these complex scholarly outputs requires very specific knowledge, usually coming from the intersection of different knowledge areas: a specific Humanities discipline, Information Technology, Data science or Infrastructure engineering. These difficulties around integrating digital scholarly artefacts into conventional research assessment mechanisms are clearly reflected in the interviews:

"*The problem is connected with the bottleneck of peer review. Peer reviewers are researchers and are just humans. Some of them are familiar with the new ways of preparing and distributing knowledge or research results, but others are not. The question*

is if someone is capable of reviewing someone's paper that could be very innovative and creative with the way technology is used, is that person capable of actually following the idea, so we have the discrepancy." (OP32)

"*And really the labor involved in evaluating these things just goes through the roof. And I just don't think people are going to have time to do that kind of evaluation for every piece of digital scholarship that emerges in the next few years. So I think there's a looming crisis for the labour of peer review.*" (OP03)

"*The other thing, this is also a very good example, I love it. So that if I get old I will surely include it in my memoir. I asked the IT specialist to look at the text, which was a sociological media analysis, for New Zealand. To check the technical part. And he said that the formulas are the same as they used to be. That the numbers seem to be fine. Then I gave it to a sociologist who, in turn, was strictly against publication as he identified a range of very specific methodological errors from the sociology point of view. Things, I as a humanist would have never thought of. I liked its conclusions, but I had never studied sociology, I would have passed it smoothly, the computer scientist would have passed it because he said that it looks mathematically correct. And then it eventually failed at the sociologist who strictly rejected it. So there are research topics that very few scholars can understand.*" (OP05)

These points take us back to the capacity building issues, more precisely, to the questions of capacity-building *to whom and by whom*.

3.3.4. Social biases and challenges including career stage and gender

The previous section already gave some insights into how prestige economy and the expansion of scholarly communications shape the most precious aspect of the gatekeeping machinery, namely the human filtering system. Even though in the questionnaire, we did not put a great emphasis on explicitly eliciting social biases, apart from maybe the optional question of '2.3.3. Do you think that peer review is effectively conducted by the best experts? Are they rather early career researchers or senior staff?'; the interviews provided rich insights in this respect as well. Although for the sake of analysis, we call the different social variables *biases,* it is important to clarify that, as emphasized by Lamont (2009:246-47), since the quality assessment processes are "genuinely social" (246–247), the plurality of influences in terms of underlying ideologies, epistemological and cultural influences are fundamental to the peer review process. The

question is rather whether this plurality that is so essential for maintaining healthy and democratic evaluation proxies is reflected in reality, in the pool of reviewers.

3.3.4.1. Career biases

Interestingly, the limitations in capacity building for reviewing the ever expanding body of scholarship opens the pool of reviewers along the career dimension and gives possibilities to Early Career Researchers to enter the game by accepting invitations that their professors are too busy to accept. In the words of a female postdoc linguist:

"*Oh, I mean, if everyone was saying I'm not reviewing your shit anymore, we will have a big problem. But I think that's what many professors are doing and it's actually impacting us, early career researchers.*" (OP02)

The same tendency had been confirmed in many other conversations (OP04, OP05, OP13, OP16, OP18, OP20, OP32). In addition to the observation that young scholars are easier to incentivize by giving them possibilities to have their voice and shape their field as part of their own professional establishment (OP13, OP18, OP05), our respondents repeatedly voice the need to support them in becoming good reviewers:

"*It's very hard to say because sometimes senior people just don't have time or even when they say yes they would just do a paragraph of comment and then some younger people take it much more seriously… feel a larger responsibility so they can give much better feedback… so… I'm not sure how to answer this question. I would say it depends on many factors but I would think that this is already done in many places and I definitely think that in good doctoral programs candidates should be taught how to do a review and be supervised in reviewing. In a sense, early career scientists should do the reviews but should also be educated and at least for a little bit of time supervised…*" (OP31)

"*Reviews are done by those who have time - it is so brutal. There are many good journals with good reviewers. Often they are young, inexperienced people who need to gain experience. And they take their time. It is also important to remember that an editor has to bring up reviewers. So if he appoints three reviewers-one experienced, one medium, one young- he gets balanced reviews. But these young people must also start reviewing one day. Because no one is born a reviewer. So it is often the case that the most experienced ones do not have time and write 1-2-sentence reviews, the editor trusts them. The less experienced ones try to be very productive reviewers, they try to say certain things. From my perspective as a reviewer - because I also observe how I review the text... I often like to watch other reviewers review, in some journals this is possible. I can see that generally*

the reviews are fine. However, there are some topics where it is simply difficult to find a reviewer." (OP13)

This of course does not automatically entail that young scholars have equal opportunities to gain experience in reviewing and enter a gatekeeping position. One's networks and institutional prestige can be a gamechanger here. As a senior scholar recalls, speaking about her first reviewing experiences:

"*It happened because my supervisor was the editor of a journal. And he knew I was, you know, an expert on this topic. So, yeah, it was a very tailored review on a very specific area that I was qualified to comment on. I see more so that it wasn't a senior. You know, that he put through, so I guess it's a question I have, what is appearing in that respect?*" (OP03)

Others were more explicit about the interrelatedness of prestige, inequalities and the reproduction of norms of excellence:

"*For example, if you look at the reviewers in the big magazines, there is a much wider recruitment than it was 20 years ago. Nevertheless, there are hierarchies, there are power structures, there are gatekeepers who play a role, but at the same time of course they also play the role that they can promote younger people by lifting them into certain media.*" (OP20)

"*But I also think that, you know, that those characteristics that make a scholar known for their work can work against the diversity of the reviewer pool and of the perspectives that are brought in to review, because I think...scholars who have gone to extremely prestigious PhD programs, for instance, and have very prestigious advisers when there were PhDs, have a tendency to have connections into publications earlier rather than later. And so they tend to get published a little earlier and therefore become known a little earlier. And that kind of prestige sort of, what it ripples out, it has effects on that entire dynamic, and so I think that there are many women scholars, scholars of color and early career researchers, researchers who are coming from less prestigious programs, for instance, that aren't approached to do peer reviews quite as frequently and so don't have the opportunity to do the same kind of work of shaping the field that the the more privileged scholars do. So I think I mean there are huge issues with diversity within academic fields, broadly speaking, that we have done a terrible job of attempting to rectify. And part of the reason is the ways that both within graduate school, within PhD programs and then within departments in the pre tenure process...And then what we're talking about now in publications and how publications develop their their pool of authors and their pool of reviewers, we have a*

tendency to reproduce ourselves and sort of bring in people who are like us and therefore not to produce the kinds of diversity of opinion or diversity of fields or social diversity that that might benefit our fields much more." (OP04)

3.3.4.2. Language and geographical biases

While the shortage of evaluative labour certainly brings more inclusiveness along the career dimension, we could not uncover similar tendencies along other variables such as linguistic or gender diversity. As an editor respondent admits, the difficulties around finding reviewers does not help but even prevents the implementation of policies that would ensure diversity in the pool of reviewers along social dimensions.

"*Sometimes we look for reviewers for months! We just take whoever we can get (and who is qualified of course). When possible, I try to get a balance, but sometimes it's a "luxury" we can't afford.*" (OP23)

Along the geographical and language dimension, our findings seem to confirm that of Kulczycki et al. (2018), who argue that due to recent historical reasons, in Central and Eastern European countries publication patterns are still less internationally oriented. As a reflection of this, Eastern European respondents reported difficulties in terms of international inclusion in multiple cases. The examples below include both reviewer and reviewed perspectives:

"*I think that I myself would be judged by the fact that I come from Hungary and I have a Hungarian name and therefore I'm not part of the Euro Atlantic region. And also, if it were known that I come from a particular research group or whether I'm published as an independent scholar, much of an impact on how reviewers assess me. But at the same time, I know that I myself would be prejudiced towards certain kinds of scholars and scholarship coming from certain kinds of learning. So I think that transparency is a silver bullet to solve all these problems that we have in the peer review system and from the publication process in general.*" (OP01)

"*Now if you look at what I have published about in recent years I have published a lot [name of a German philosopher] a Hungarian will no longer be asked, but will be asked from a German university in a native German in the first place. So they don't really invite me for that.*" (OP05)

3.3.4.3. Gender biases

Discussions around the overrepresentation of male over female (and non-binary) scholars came up only in two cases out of the 32 analyzed interviews, where the respondents were senior male scholars in both cases One of them carries so complex and rich insights about the challenges around gender-balance, academic hierarchies, self-censorship and the sometimes paradoxical effort to change the situation for the better, that we decided to publish the excerpt in its full length.

"Interviewer: About reviewers, do you try to have some diversity in terms of gender, career stage, etc?

Respondent: So this is a question I've asked myself quite often. I must say that given the difficulty – we still have a certain number of viewing refusals – it's true that the criterion of proximity and competence in relation to the subject clearly takes precedence over the criterion of gender and generations, to which we are very attentive. On the other hand, for authors, we try to counterbalance the massive gender bias, and generation bias. But the generation bias kind of compensates itself, we have a majority of submissions from early researchers. On the other hand, the gender bias is very sensitive. I did some work on the question of gender for the submissions of [journal X], I can forward it to you. It is a common experience for publishers that spontaneous submissions are in a large majority from men. The biggest bias comes at the entry point, in the degree of self-censorship in young women compared to young men. After the peer reviewing and board discussions, the rebalancing in favor of women is quite strong. But on the other hand, at first, we start with gender imbalances which, in certain categories, are from 1 to 5 between men and women. That is to say that a young male doctor always thinks that we are waiting for his paper, whereas a young female doctor will always hesitate to submit if there is not someone in a workshop or in a corridor who will tell her: "it's really good, you really should submit your paper". So, counting is interesting, I am sure that a quick count would show that the reviewing is also biased towards men. Anyway, we have a system where there are more men in academic positions, except in a few fields, and since we need to quickly replace those who refuse to do a review, it has the effect of reinforcing gender bias. Women tend to refuse more often to review, because they are more solicited for theses and at the same time, thesis juries in France are supposed to be parity, but there are disciplines in which there are few women. However, it is a job that is less valued. It's a very heavy job, and so there comes a time when the protection of women's careers is, I would say, protected by forms of refusal which, paradoxically, will nevertheless bias the system. If you put equal juries in math, it means that women math teachers in France, who have to

be 20% of the body, have spent their entire end of year reading math theses instead of writing their articles while their male colleagues will do it. We have to remain attentive to a certain extent, but that in the field of expertise, in any case, we are less attentive than in other fields to correcting these biases. But we have to reply quickly to authors, they are pressing for an answer. I understand that young authors need to publish their theses to advance their academic career. But we can't do miracles." (OP25)

Self-censorship may be one reason that explains why gender bias has not been mentioned in female scholars commentaries. Not independently from the issue of self-censorship: although our sample is far from being representative for qualitative analysis, it is interesting to note here that similarly to (Lendák-Kabók and Ochsner 2020)'s findings, our male respondents proved to be much more critical towards peer review. All reported encounters with explicit interventions in the quality assessment and publication workflow (e.g. reporting unpleasant reviews to editors, openly voicing critiques in the formal assessment systems etc.) are coming from male scholars.
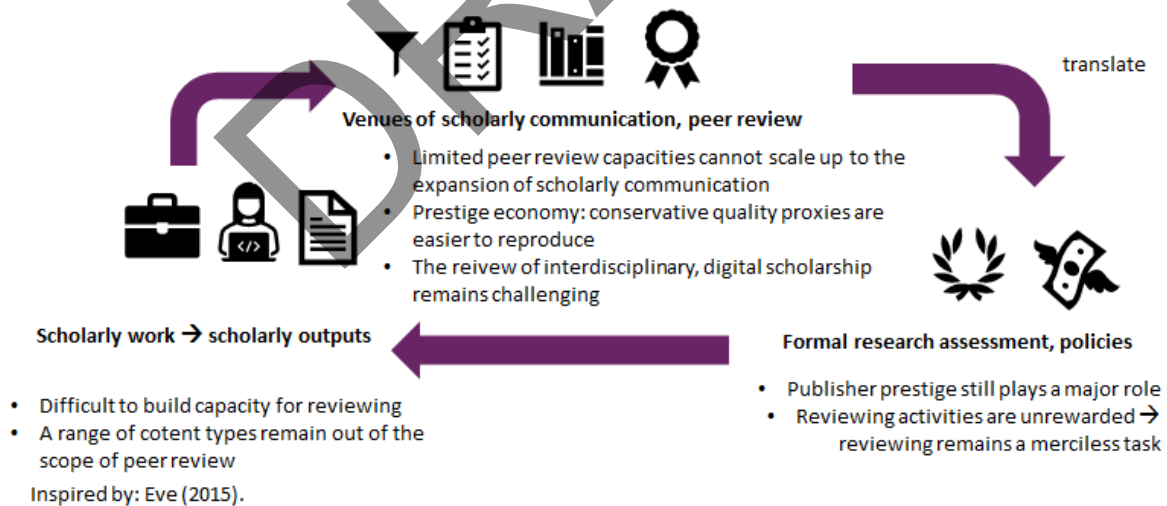
3.3.5. Summary

Fig. 5. *Visual summary of challenges around peer review practices as reported in the 32 interviews.*

- The publish or perish culture that once pushed peer review and gatekeeping to the centre of scholarly communication, is now forming the biggest obstacle in its efficiency.

- Reviewing work had been generally seen as an unrewarded scholarly duty. The lack of credits prevents scaling up capacities to the extent needed for the sufficient, vital and non-delayed functioning of the ever expanding fora of scholarly communication.

- The shortage of evaluative labor is recognized as the key challenge the institution of formal peer review needs to overcome. It affects and shapes both the pool of reviewers, the publishing workflows (including of course the peer review process itself) and the range of scholarship that is eligible for peer review.

- In this dry climate of reviewing capacities, prestigious, well-established journals attract more reviewers, not only more authors. As a result, established proxies of excellence are easily becoming reproduced. This poses difficulties for the evaluation of interdisciplinary research and also challenges the inclusion of (born-)digital outputs to formal assessment systems. This goes against the pressing need for re-harmonizing reviewing practices and research realities.

- The shortage of reviewing capacities opens the floor for young scholars to establish themselves as reviewers. This of course does not automatically entail that young scholars have equal opportunities to gain experience in reviewing and enter a gatekeeping position. One's networks and institutional prestige can be a gamechanger here.   Besides, our respondents repeatedly voiced the need to support PhD students and early career researchers in becoming thoughtful reviewers.

- Another consequence of the difficulties in finding/attracting reviewers is that it makes it impossible for editors to implement social inclusivity policies regarding their pool of reviewers. In terms of the geographical and linguistic diversity, our Eastern European respondents repeatedly reported inclusivity issues. By contrast, we uncovered much less discussion around gender issues, except from one long and thoughtful comment on the complexities of gender-balance, academic hierarchies, and self-censorship. Self-censorship may be one reason

that explains why gender bias has not been mentioned in female scholars commentaries.

3.3.6. Recommendations made based on these insights

Recommendation 1: To facilitate fair and thoughtful reviewing practices, peer review training and education should be part of doctoral school's curricula along with academic writing. Similarly, a proven track of at least one completed peer review should be among the criteria of awarding doctoral titles.

Recommendation 2: Enabling reviewers to claim, register their reviewing activities for administration, formal assessment and promotion documentation is an essential prerequisite of rewarding them, even if they are anonymous. Although there are attempts to provide a platform for this that is independent from publication venues (Publons), in a case study that will be reported complementary to the present report, we saw a certain degree of resistance in our communities to use it. Instead, we recommend: 1. For editorial boards to make reviewer efforts visible in ways that are above the level of papers, e.g. via setting up profiles to them in the website of the platform/journal/book series and award badges for fair, constructive reviews (emphasis on qualitative variables rather than quantitative ones) or list them in the volume-level metadata. Another possible implementation would be for publication venues to systematically issue certificates claiming the reviewer activity of a person in question. This could be a practice that would also be transferable to other forms of reviewing - conferences, funding schemes, tenure processes, external reviewing of programmes, of theses, etc. One could build up an evidenced dossier that way.

Recommendation 3 Today's technology enables new approaches to sharing, reusing and assessing in terms of the integrity of processes, rather than only as products. This paves the way toward pilot frameworks put forward by disciplinary communities for the appropriate crediting of new contribution types relevant to their activities. Having publicly owned scholarly information management and discovery services in place that are inclusive with a range of content type beyond research papers is crucial in extending the range of content types that are eligible for quality assessment.

Recommendation 4: Still, as we see, the need for a cultural shift in research evaluation is currently stuck in a vicious circle. As long as scholarly communication practices are trapped by research evaluation criteria dominated by prestige economy, such

community-driven innovations and efforts will remain strongly counterincentivied. As a result, they will not grow sufficiently to inform research-performing organisations, funders and policy-makers about alternative proxies that could replace the current harmful system. We recommend identifying yet informal but proven community practices of peer revaluation (those happening in social media or online scholarly platforms, see analyzed in the '3.6. Informal evaluation practices' subchapter) and build bridges for their inclusion or partial inclusion in formal evaluation practices (e.g. journals accepting reviews happening in these platforms as formal peer review; reaching out to scholars who are active in social media and inviting to turn their tweets, blogs into formal peer review of topically relevant articles etc.)

3.4. Incentives, rewards

In the light of the enormous shortage of capacities and the barely existent formal rewarding mechanisms for reviewing activities, the question of what incentives still keep scholars in the peer review game and drive them to contribute with their voluntary work, usually on top of their core tasks, looks especially important to ask.

3.4.1. Incentives

The list below sums up our respondents' most frequent responses to the questions of what circumstances help them to decide whether to accept an invitation for peer review.

Incentives and the value of peer review

Top incentives: *

1. **Advancing one's field, curiosity, chances to contribute to the knowledge commons**

2. **"The insitution itself": networks, favours**

3. **Power and prestige**

4. **Reciprocity**

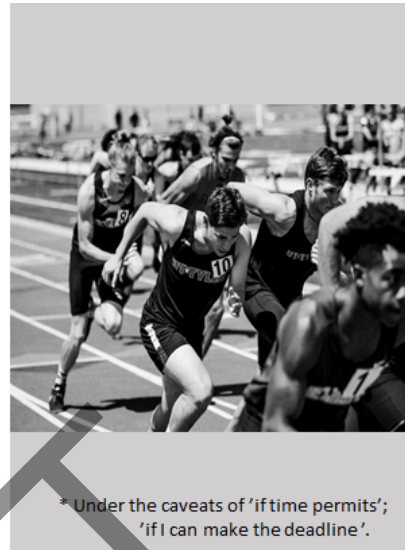** Under the caveats of 'if time permits'; 'if I can make the deadline'.*

Fig. 6. *Top incentives report in the 32 interviews.*

3.4.1.1. Advancing one's field or knowledge

In line with (Lamont 2009)'s and (Brembs 2016)'s findings, the main incentives are purely scholarly in nature, not monetary or other in-kind rewards (APC discounts, vouchers etc). Respondents are more likely to accept a review invitation if the topic is something they are truly interested in and can keep them on the top of literature, or, similarly, is about a study they feel they can meaningfully contribute to and advance. Like in the example below:

"*Interviewer: Tell me - what helps you in deciding to accept [the review offers]?*

Respondent: That I know about the subject matter and can help someone to improve the text. Or I don't know about the subject matter, but I'm just curious about the text and want to know something. Third thing - from some magazines I take in blank. Because it's a very wide field, because I want to know what's going on and I'm learning. So if it's from my field, but I don't know the method, the research area exactly - then as a reviewer I'm still able to help the author improve something or see the shortcomings." (OP13)

"*Interviewer: So what are your criteria for accepting or declining these invitations, if you have any?*

Respondent: Well, so it has to be a thing that I'm interested in. That's the first thing now really, I tend to decline reviews where I don't think it's going to be of any interest to me whatsoever, even if I am technically competent to review it." (OP03)

3.4.1.2. The social economy of reviewing

Many also highlighted the role of networks in the sense that if the invitation is coming from a close colleague, it is natural that they are more likely to accept:

"*I have several journals that I work as a peer reviewer in and colleagues from research networks sometimes, knowing my research topic, asked me to review some of the articles of their journals where they work in the editorial board, something like that.*" (OP18)

"*Interviewer: And so when you received these invitations, and like probably in the future, you will be bombarded with many more, what do you think, what are your criteria or what will be your criteria regarding whether to accept or decline such an invitation?*

Respondent: That's a good one. I think probably it would be first of all, do I know the person who's asking me? Because a lot of the times you would know them and so you know what their research is. And so if they need a favor or if you already kind of know the domain that they're in, you automatically know it'd be something that's probably of interest to you if they're approaching you personally and then...yeah, if it's for conferences or other journals: do I read these journals? Would I attend this conference? Like, how close of a match is this? Because it's also about making sure you are valuable as a reviewer, but also that you are getting value in terms of seeing what's coming up as a reviewer." (OP06)

From a chief editor's point of view:

"*And I feel so grateful when a busy researcher writes a thorough, long review text, even pointing out language issues such as 'you are misusing that word in line 32'. And then I think he does it for free, there's no academic recognition for that. In part, I feel that for me as editor-in-chief I'm asking a favor here that I can't really reciprocate, it's a nuisance, and the whole system is built on that.*" (OP05)

3.4.1.3. The prestige economy of reviewing

In close connection to this social side of peer review engagements, others pointed out that the invitation itself, that one's knowledge being recognized and deemed sufficient and relevant to review others' work carries a sense of prestige in itself.

"I mean, the main reward is the fact that you're being asked, I think and so that's what so to that extent, the thing that would increase. My kind of interest in peer review would be stuff that matches my expertise, and I assume that the more, the longer an academic career I have, hopefully I have one, I will end up being given more peer reviews that are outside my area of expertise, in which case, yeah, that would be a problem for me and I wouldn't wouldn't like to start doing that. And so as long as it matches my area, I'm kind of happy to do it. I don't feel in any way that I need to be rewarded for it. The reward is this is seeing what's being published, I suppose." (OP10)

Journal prestige can add an extra layer to that. As we already pointed out elsewhere in this report ('3.1.2. Peer review and prestige'), the prestige economy is not only present in the context of authorship but it also makes easier for prestigious journals to attract reviewers:

"To be very honest, the prestige of the magazine is by far the most important criterion for me at the moment. I still don't feel like I'm joining this international elite of scientists, but I would love to. Therefore, I want to get to know my environment somehow. So if this is an international journal, of high rank and, for example, someone there, the editor who writes is such an authority for me - then I decide. But of course, I also have in mind... Because I don't know, I got some texts to review, which were not in my discipline at all. If this is absolutely beyond my knowledge, then I don't [accept]. (OP11)

"So these are the two most major parameters, the parameter of whether the paper is... yes, of course, it plays a role if it's a good journal, if it's a strong journal, certainly plays a role. I would cut off... journals that are published but have something like Advances in the Arts or Sciences or something like that or The Journal of Astronomy and Digital Humanities, sorry but I will not do this journal. So there's all these... Because there's many of them now, everyone is... and everyone says, "Oh, you got expertise on that, can you review something for us that is a little different?" and we receive these invitations." (OP15)

In one conversation, however, our respondent revealed a personal reviewing policy that explicitly goes against this prestige economy:

"And then the third one, and this is becoming increasingly important to me. There are… hhh… Commercial publishers for whom I will not review. I just won't because it's I mean, this is volunteer labor on my part and the degree to which those publishers are… making enormous profits on the backs of volunteer labor and on the backs of our universities budgets, I can't support. So increasingly there are publishers for whom I just simply won't review." (OP04)

3.4.1.4. Reviewing as a collective scholarly duty

Finally, in line with (Brembs 2016)'s point, reviewing activity is also seen as a collective scholarly duty that one needs to perform to become a peer, as the name suggests, and therefore doing peer reviews is implicitly or explicitly forming a part of one's academic job description.

"Interviewer: So that makes sense and coming back to... You mentioned that you've been peer reviewing recently. What motivates your decision whether to peer review something or not? If someone asks you.

Respondent: Yeah, well, I have to look to not have to ask myself that. I need to rephrase, but I've been looking at all the articles that were sent to me, were interesting, within my research topics and sent from people that I quite like. So I hadn't any reservations towards participating. Yeah.

Interviewer: And do you feel that you are rewarded in your academic career and, you know, if you review some other people's work in a formal or informal way?

Respondent: I think it's give and take, you can't expect to be evaluated and not evaluate. It's called peer review. If you want to be a peer, you have to review at some point." (OP17)

Or, in another account:

"Interviewer: And do you receive any rewards for it, either from your institution or from the journal?

Respondent: Absolutely nothing. This is absolutely free labor.

Interviewer: Is it part of your CV?

Respondent: I don't write it in my CV either. I just think it's an essential part of the research. And I have benefited so much from the scholarly community and receiving peer review. So I feel like this is something that I should do because that's that's part of the game, right? I should be contributing to the knowledge. And as long as I'm employed somewhere, I will most likely to think that if I don't have any other job to do, because first of all, it's interesting to read what other people have to write and make an impact and make sure that a piece of research is being put out there and is better for my contributions, which I really hope it is, then, yeah, that's great.." (OP01)

That said, the presence of a collective scholarly sovereignty should not be underestimated if one aims to understand how peer review can still be operated by publishers building on voluntary labour.

3.4.2. Rewards

Mainly because of the lack of formal rewarding criteria, it was not easy for our respondents to associate their reviewing activities with rewards. In the conversations, it was not infrequent that respondents were asking for clarification when it came to the question of "Have you ever been rewarded for the reviewing activity?"

"*Interviewer: Have you ever been rewarded to the review activity?*

Respondent: Financially rewarded, you mean?

Interviewer: Yes.

Respondent: Is this a joke question or is it a...?

Interviewer: No, no. If it's a real question." (OP15: 59 - 70)

This segment unfortunately also sheds light on how much the knowledge and inner assumptions of the interviewers shaped the conversations to certain directions. In this case, of course our intention was very far from reducing rewards to monetary rewards only. Speaking of this latter, however, 6 respondents said to have received monetary rewards for certain special types of reviewing but most of them found this form of compensation problematic (for instance, because of the heavy administrative burden coming with the relatively small amount of money) or simply unsuitable for the activity as it would generate undesirable interests.

"*Interviewer: And have you ever been rewarded for your review?*

Respondent: In journals, yes... In a Polish journal I was rewarded. I regretted it, I didn't want to, I really didn't want to - because it was 100 PLN... And I got such a pile of papers, because it was [a large statistical institution] that really wanted a contract for it. It caused me a lot of problems." (OP13)

"*Interviewer: And do you think a more open or transparent peer review system could change that?*

Respondent: Well, it could be changed with either academic or financial recognition. I remember there was a project 20 years ago, 15 years ago, I had to write very short reviews of literary texts, I was given 50 euros for each. So I wrote a lot! [both laughing] If a reviewer were to receive € 100, a good PhD student or an early career researcher would be much more willing to write. I would consider this to be a good solution, as it is a hundred euros anyway independently of whether you reject the article in question or not. On the other hand, the problem is that you really need a professional insider to judge certain issues and I have seen that ... To put it bluntly, so it is mainly senior researchers who write good reviews. For them, a hundred eur, compared to Western European salaries doesn't matter much. It matters a lot to Eastern European salaries. On the other hand, if someone has already on the top of their career, that is, whether he or she is either the head of a department or an institute, he or she has reached a point in his or her career where he or she is no longer in danger or something or does not have to calculate their h-index , they don't even need such recognition. So that this is a very complicated thing, a very complicated system. I don't know how to hack it or optimize it. But that there are too many journals and too many incoming texts and it's damn hard to find a peer reviewer and that hinders the whole publishing mechanism, for sure." (OP05)

Of course, monetary or in-kind reviews are not the only possible means of rewards. As discussed in the '3.5. Innovations' subchapter, the need for transparent administration of one's review record, open or closed, had been recurrently voiced in the interviews.

"Of course, there should be no condition on what kind of recommendation you end up writing but generally, I think it's work that should be rewarded and I actually registered on Publons as well because I think the review work is invisible so I thought that was an interesting idea, to keep track of the reviews." (OP16)

The need for such infrastructure that allows publishers, scholars, their employers and research funders to keep track of one's reviewing activities and connect this information to the rest of the scholarly information management systems such as ORCID is beyond question.

Still, in essence, the scholars we have been talking with recognized interpersonal or purely scholarly rewards as most important. These include authorship recognition (as reviewer) and opportunities for the continuation of dialogue with the author; defining one's place in their discipline or being confirmed that their reviews actually push forward and advance scholarship.

"Interviewer: That's very interesting. When you receive the invitation for peer-reviewing of some scholarly object, what are the circumstances which help you decide whether you will accept or decline?

Respondent: First, it's very important that that object is in the area I feel very competent in. And the second is the deadline. I don't care who's asking me. I simply think it's my duty to do it and I have to contribute to this process. The only issue is whether I'm competent and can I really judge on that thing. And what is the deadline, that is, if I have time.

Interviewer: Have you ever been rewarded for the reviewing activity?

Respondent: No.

Interviewer: What would increase your motivation to peer-review?

Respondent: If my review would be published along with the paper. And if there would be some mechanisms for other people to comment both on the paper and on my review. That would encourage me to do it more often and more vigorously.

Interviewer: It's the answer I've expected from you." (OP30)

"Beyond that... I want to say, and I'm trying to remember there have been at least a couple of peer reviews that I've done that have resulted in… sort of acknowledgements from the author. Whether it's in like a footnote or an acknowledgment section, I tend to sign my peer reviews because I don't I don't like them to be anonymous. I want the author to be able to come back and talk to me if they have questions. So I've had a couple of authors who have noted, you know, in some place that they have been that they benefited from my review. So that I would say, that has been a bit of a benefit." (OP04)

"So for me, this is really as an author, the big value of peer review is that I would have never asked these people directly because they are more senior researchers. I would have never trusted myself. I would have you know, I would end through the editor, the editor for me is like a bridge who builds the connection to these people." (OP02: 92 - 92)

3.4.3. Summary

- In the light of the enormous crisis in peer review labour, uncovering motivations that still keep scholars in the peer review game and drive them to contribute with

their voluntary work, usually on top of their core tasks, looks especially important to ask.

- In line with Lamont (2009)'s findings, the main incentives reported by our respondents are purely scholarly in nature, not monetary or other in-kind rewards (APC discounts, vouchers etc).

- Respondents are more likely to accept a review invitation if the topic is something they are truly interested in and can keep them on the top of literature, or, similarly, is about a study they feel they can meaningfully contribute to and advance.

- The presence of this collective scholarly sovereignty should not be underestimated if one aims to understand how peer review can still be operated by publishers building on voluntary labour. If anything, scholars deserved to be recognized for that.

3.4.4. Recommendations made based on these insights

Recommendation 1: A crucial step towards capacity building would be if all European countries would follow the Dutch formal assessment policies that reward reviewing activities. Even though we are well aware of the 'one size doesn't fit all' golden rule in EU-level research policies, we cannot see any specific contextual issue that would prevent its implementation in a diversity of national contexts across Europe. We recommend for OPERAS to further investigate any possible infrastructural or policy obstacles.

Recommendation 2: Enabling the administration on one's reviewing record in a publicly owned information management system is an absolute prerequisite of appropriately rewarding peer review activities. Based on previous experience gained through the Open Access Book Peer Review Certification service, OPERAS should explore possibilities to build such an infrastructure that is operating with minimum possible administrative costs on both the publisher and the author, institution side. (Maybe in collaboration with the CRIS system and its various implementations in the OPERAS member countries? Building on previous work on SSH research assessment within the ENRESSH project could be a good starting point for that.)

3.5. Innovations

Gaining a perspective on innovative peer review activities within the SSH domain was in the forefront of our curiosity. Apart from simply landscaping emerging trends and experiments and their outcomes, we wanted to understand in depth:

- How these innovations respond to the challenges discussed above

- How they facilitate re-harmonization of digital research realties with research evaluation practices

- How our respondents reflect on them and ground them within their own publication practices

- And what are the underlying reasons behind the persistence of certain proxies in the system that serve as obstacles that prevent the implementation of innovations at scale or even give rise to resistance against them.

To elicit both episodic and semantic knowledge about peer review innovations in the interviews, we included questions in the 'Traditional and innovative forms and genres' block (What are the difficulties of evaluating innovative genres in existing peer review processes? Should all innovative genres be peer-reviewed? Are there any differences?) as well as in the 'Peer review' block (Should the peer review be published together with the paper? Have you ever heard about open peer review? Openness in peer preview can take many forms from open interaction between the reviewers, through publishing review reports anonymously or signing reports and openly publishing them. What do you think about it? Have you ever taken part in it as an author or reviewer? If so, what were your impressions? In your opinion, is it easy or difficult to find researchers willing to participate in innovative peer-review practices? E.g. open-peer review, transferable (or portable) peer review, post publication review, cascade peer-review, open identity review).

As a clear indication of the strong presence of these topics in our discussion, we analyzed 87 interview segments from 32 conversations in the context of peer review innovations and another 66 segments in the context of the many shades of openness, forming a subtopic within innovations. Similarly to the topic of challenges, the key strands of discussion around peer review innovations concerned the *what* (i.e. emerging peer review practices around multimedia content types and expanding the scope of peer review to born digital scholarly artefacts); the *who* (different flavours of openness in terms of disclosing identities and broadening participation in the review process), and the *how* (how to optimize the review process in the increasingly digital, noisy and specialized scholarly

communication environment of our days, how different forms transparency can be accommodated in them).

To showcase the diversity and richness of innovative peer review practices that our respondents encountered, below we give an overview of them in a chart coming with the same structure as we used to summarize open peer review practices in the introduction.

Overarching aim	Method	Description	Reported in	Comment
Broadening the scope of peer review; testing its inclusiveness potential with born-digital content tapes	Including data, code to journal or book publications and reviewing them together	Interlinking publications with the corpora that served as a basis for the analysis. This corpora had been published in a data repository.	OP02	"*So we did that, for instance, and it was really cool because I think the data is never made available and you're basically claiming a lot of stuff in your papers and will never get access to the data. And it was really, really, really cool because during the review process, someone actually looked into the data and was like, hey, you're saying this? But I see I read this differently. And it was so cool because it's impossible to say that if you're only quoting the one example or excerpt that actually fits your analysis perfectly. And then we had a small discussion and I still think our interpretation was right because so...* " (OP02)
		Interlinking publications with data, software in a book project (OP03), in a dissertation (OP07) and in a review article published in the Digital Medievalist	OP07; OP08; OP03	"*Well, so I mean, the software and the data were provided to the peer reviewers of my book, and one of them was specifically commissioned to review the data and to try and replicate the findings. And actually, that was Ted Underwood. He did that. And, you know, he said, 'Yes, I could do this'. It works. So that was helpful.(...)And really the labor involved in evaluating these things just goes through the roof. And I just don't think people are gonna have time to do that kind of evaluation for every*

	(OP08)		*piece of digital scholarship that emerges in the next few years.* " (OP03)
Review of non-textual/multi media scholarship	Review of film essays submitted to a dedicated journal called In Transition	OP04	"*I think there are many scholars who would look at it, so I have a set of colleagues who have worked for a while on a journal in cinema and media studies, In Transition is the name of the journal, and the journal publishes video graphic criticism. And so it's all film criticism, but done in the form of videos. So you can make a video essay about the thing instead of writing an essay. And I think that there are a lot of first time reviewers asked to take a look at one of these videos who feel like they don't know how to evaluate it, where the same argument written in text they would be completely fine with. Right. But I think that's becoming easier. And I think it's becoming easier in part because of more outreach work that's happening in peer review and in like tenure evaluations and things like that, really attempting to help scholars become more comfortable with evaluating those kinds of multimedia works.*" (OP04)
	Review of websites in a digital book	OP22	"*(...)then still as an editor, we created this format of digital anthology, that we called [Living Books]; and we have this large website [Platform] (and as curator/editor, I think it does count as publication), in which there are several formats actually(...) We added recently website reviews as well, that we are writing ourselves.*" (OP22)
Review of multimedia scholarship	Evaluation of art projects as conference	OP06	"*I have seen people write or present conference pieces that would have been reviewed in order to get a spot in*

	outside of the scope of formal journal/book peer review	submissions or publications		*the conference, you know, normally in the arts, they would write an abstract for a conference presentation and that would be peer reviewed to even get in. So there would be a level of peer review. But in terms of reviewing the entire creative work, it's more rare. I currently have my creative peace under peer review, though it will be interesting to see if I get reviews back or how it goes, because it didn't say that you're going to get feedback. It just said 1send it and we'll consider it for an exhibition.' So we'll see what this process looks like. But I know that there is a panel of people reviewing it, so... "* (OP06)
		Post publication evaluation of software or evaluation of software for conferences	OP05	*"So there are sites like that that look at publications from the code point of view, which is very correct anyway, only meaningless in the sense that no one will be able to try and run all that conference code. It would be real if someone tested it. I do not even know of an example of this type of quality assurance. It's one thing to have the code, but in many cases, either the person who wrote the code can't or doesn't want to publish the accompanying data. This is a problem anyway, a complex problem on its own."* (OP05)
Decoupling peer review from publication venues	Open pre-review manuscripts: Manuscripts are made immediately available (e.g., via pre-print	Comments on preprints	OP05	*"Obviously, in our profession, lives don't depend on it, I may publish [topic of his research] when I publish it,* *now or half a year from now. But it's an emerging trend. Whether you like it or not, you have to*

servers) in advance of any formal peer review procedures.			*reckon with the fact that the more IT you have in digital humanities, the stronger preprint and* *rapid sharing gets, they push you out right away.*" (OP05)
Open administration of peer review contributions	Registering reviews (both open and closed) on the Publons platform	OP09 OP11 OP13 OP16	"*Some people have a system for recognising that you're reviewing - for example, the Publons, which confirms expertly that you have actually done these reviews. I, on the other hand, think that the system of encouragement as it is, is good. But we just write too much. And now, especially in a pandemic, it's very clear.*" (OP13)
Open platforms ("decoupled review"): Review is facilitated by a different organizational entity than the venue of publication.	The rest of the instances see discussed below.		

Decoupling peer review from gatekeeping	A wider community are able to contribute to the review process	Review performed in focus group discussions either pre publication (as in (OP23) or post publication (as in OP18 or OP01)	(OP23:)	"*But sometimes, if it's possible for the author, we do focus groups. We get together a collective of experts and the author, and have all the experts obviously read the manuscript and then get together in one room (or mostly now in one zoom meeting), and talk about it. Usually that's really productive, they are all very open, very constructive, and very friendly with each other. Sometimes friendships develop over that… but still, most of the "old school" academics prefer the double-blind. And what they always tell me is whom *not* to approach!*" (OP23: 31 - 31)
		Sharing manuscripts on an online platform and open them up for public commenting (a project from Munich by Hubertus Kohle was mentioned in 0:37:18.0 (OP20) (OP22)	OP22 OP20	"*I don't know if an invitation is needed. That way you can read the text before it is published, and then you can comment if you want. We tried for the living books to give the option to suggest a contribution, so it's not exactly a comment, but there is not a lot of participation unfortunately. I've seen online publications where everyone can comment.*" (OP22)
		Peer review as microtransaction through crowd intelligence	OP15	"*So we need mechanisms in order to identify these things and in order to then somehow evaluate them through processes that we know from other fields, we know this from E-Commerce, for instance, we've got this whole notion of microtransactions and what I would*

				like to see is a situation in which we would legitimize these scholarly microtransactions and with microtransactions there would be ways, either through peer review or some mechanism of crowd intelligence we would be able to evaluate them to some extent. But the challenge is also to be able to review them altogether." (OP15)
	Post-publication peer review and informal peer review	Post-publication review of non-textual scholarship	See above	
		Book reviews as an established form post-publication review in SSH	OP03	"*I mean, the weird thing is we kind of already have a system of open review in the humanities for monographs, in the form of publishing book reviews. This is an opportunity for others to, you know, write openly under their own identity about work that has already been published, to critique it and so on. I often find that those are quite bland, though. They don't really give the kind of strong critical angle because the networks of people who are qualified to comment on these books are so small and insular that they end up you know, you don't want to say that X's work was absolutely dreadful because you're going to run into x at the conference in a week's time.*" (OP03)
		Post-publication commenting on papers	See above	See above

	Informal peer review mechanisms (e.g. on social media), pre-or post publication	Book reviews in a podcast series	OP17	"*Well, I mentioned interactive publications, I should also mention podcasts, some of my colleagues have started during lockdown. They've started to record not only lectures, but sometimes a review of an article or a book. One of my colleagues started. It was just like a side project. And he's actually in his 12th or 13th episode now of conversations with the paper. And I think that format is quite engaging because I don't know about other people, but I listen to radio and podcasts all the time.*"(OP17)
		Receiving feedback on blog posts before turning them into papers	OP02; OP04	"*So the peer review for me almost always begins on the blog, because whenever I have an idea, it usually starts there, something that I've written just as a little thought process and I'll get feedback that way. And so the peer review process starts there and it lets me know whether there's something more that I should develop.*" (OP04)
		Beta testing games as a form of digital peer review	OP28	"*That's a good question, because it depends on the format. Something like a podcast, yes, someone should check the accuracy of the research. But if it's a virtual game, for instance, on our website, the research behind it should always be checked. The product itself, sometimes it's not possible to do that. You always have beta testers. I guess that's a part of it. You could call that a sort of digital peer review, I guess.*" (OP28)

		Crowdsourcing reviews via social media	OP24	"*We'll talk a little bit more probably about the open peer review process or kind of crowdsourcing peer review. I think this idea of social media as the initial stage of peer view, for kind of inchoate ideas, is a really interesting and important one, but I have not been a part of that.*" (OP24)
		Sharing, commenting on academic Twitter	OP13	"*Sharing interesting texts on Twitter... I know that I'm going back to this Twitter, but this is in my opinion a kind of review - that something is recommended. And an absolutely fading form - that's writing book reviews. This is, in my opinion, a very valuable form of reviewing some works, but it disappears radically in most plots.*" (OP13)
Opening the black box of peer review	Open pre-review manuscripts:	See above		
	Open final-version commenting:	See above (including also book peer reviews)		
	Open participation	See above		
	Open identities	Open peer review performed in the in Digital	OP08	"*And I have to admit that the reviewers did a really good job. What you often get is the reviewer actually did his or her job and gives you concrete and*

		Medievalist journal (OP08)	OP16	*constructive feedback. And that will be the second review that, yeah, well says that that's OK. And that's it. You know, you get a line of 'OK, I read it and I think it's OK." But in this case, both reviewers were really engaging with the article and clearly trying to give constructive feedback. So I was actually very satisfied with the review process."* (OP08)
		Open peer review for the Digital Humanities 2020 conference (OP16)	OP27	*"So in the DH Conference last year they actually switched to open review and it's definitely tricky for me as a reviewer because if I receive a paper that I thought wasn't very good, it was more difficult for me to be critical in the review. So those are some downsides. It's a trade off, right?"* (OP16)
		Open peer review of books (OP27)		
	Open publication of the review reports	Publishing reviews in a journal alongside the research paper	OP31: 111 - 130	"*I think that one of my reviews was published in a journal that publishes reviews alongside the papers. I never checked it later but I remember when I was revisiting this journal web page that I saw it and it didn't look bad actually… I mean it made sense at that time to have the paper and also the reviewers' comments to the previous version…*" (OP31: 111 - 130)

3.5.1. Emerging evaluation practices around non-traditional content types

The summary chart above clearly reflects that our respondents put a much bigger emphasis on the *'what'* elements of innovating peer review than on the *'how'* or '*who'* aspects or on issues around openness. One reason for that is that as discussed above in '3.2.2. Functions of peer review', accommodating scholarly artefacts in formal peer review process is still an absolute prerequisite of making them visible and eligible for formal

assessment and promotion documentation. In simpler words: only peer reviewed content 'counts' for research assessment, and all content that is out of the scope of peer review will remain marginal or in some cases, even invisible from academic rewarding systems. The excerpt below showcases the struggles of an early careers scholar:

"*Absolutely. That will be essential for a project like this, because it's so new. You almost need the imprimatur of peer review to say: "this is a legitimate thing". Particularly for me, I'm a young unknown scholar, so it's important. If part of my argument is: "this is a new way of doing a thing we've been doing for 2000 years", you cannot make that argument without having peer review to support it.*" (OP24)

The need to extend the scope of peer review beyond papers and accommodate all types of scholarship that support or form the basis of a scholarly argument (data, code, software, corpora, arts installations, annotations, digital critical editions etc.) had been almost univocally voiced in the interviews. Ideally, these content types would be published with the same standards of rigor as traditional academic publications. However, their peer-review on the large scale raises an enormous challenge both in terms of skills and workload in an environment where even traditional reviewing demands are hard to satisfy in terms of labour.

One serious, but all probably only temporary, obstacle is coming with the digital divide. That is,   currently very few scholars possess the complex combination of computational and field-specific skills that are required to read and competently review innovative, digital content types:

"*The problem is connected with the bottleneck of peer review. Peer reviewers are researchers and are just humans. Some of them are familiar with the new ways of preparing and distributing knowledge or research results, but others are not. The question is if someone is capable of reviewing someone's paper that could be very innovative and creative with the way technology is used, is that person capable of actually following the idea, so we have the discrepancy.*" (OP32)

The firm integration of these skills into higher-education curricula had been frequently mentioned as a solution, for instance:

"*First of all, it will go nowhere if we don't improve our curriculum for that. I have to say this, I'm talking from the Dutch context, as it were. And although we now have some more formal masters, Digital Humanities masters and undergraduate curriculums, we are still not anywhere near, you know, training and educating people to do this type of work. And as long as we don't, there's no chance that this will take off. So that's a very negative,*

disappointing message I have to point out at this point in time. However, if we succeed in training people better, as you know, using digital means, digital technology, code, software more as a normal part of their research process, then all kinds of interesting things are possible because you don't have to peer review code by reading it. It's one of the things you can do. But the more interesting thing is to write your own code to test it. It takes a few steps, a few leaps of belief, still trying to picture a peer review ecosystem that would function like that, but is very imaginable that you would get libraries that can sort of test particular standardized things that you use in your code to do the research. And then peer review will become this interesting mix between reading the article and testing the code or testing the data that was delivered together with the article." (OP08)

As the chart above shows, another form of capacity building for the formal evaluation of digital, multimedia content is to integrate them with the research paper via interlinking as we saw in the chart above (OP02) or through a networked publication, (OP03, OP06 and OP08), where code segments had been integrated in the body of text. This latter is of course a stronger form of integration. It will be interesting to see how the increasing popularity of open data mandates both on the policy/funder side[28] and, as a result, on the publisher side [29] results in incremental capacity building for the review of born-digital, multimedia scholarship.

The summary table above shows yet another strategy to make these content types eligible for formal peer review and academic reward systems, namely, accommodating them into the established, main track of scholarly communication, and establishing journals around them, as we saw in the example with the film essay journal *In Transition* (OP04). The question is, whether the form of peer review that this legacy format imposes is the most appropriate for born-digital scholarship. We are going to discuss this in the next subchapter, focussing on innovations in the processes themselves.

Although this was only implicitly discussed in the interviews, it would be interesting to explore whether the SSH native format of post publication book reviews had a role to play in establishing similar, post-publication traditions in the context of tool criticism (that is, establishing review journals for Digital Humanities tools like RIDE or OpenMethods).

A final remark that is worth mentioning is that our respondents tend to draw a clear line in regarding the selection of content types entering formal quality assessment. Multimedia or digital content types that are not created to support or convey a scholarly argument but

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[28] https://dariahopen.hypotheses.org/968
[29] https://librarycarpentry.org/Top-10-FAIR//2018/12/01/historical-research/

rather serve as pretexts or auxiliaries to them, such as blogs, YouTube videos or podcasts are not expected to undergo peer review:

"*But at the same time, I don't think that everything should be peer reviewed, even if it does promote a scientific argument. So it would be, I think, really stupid to see that a YouTube video says, OK, here's my academic argument, but it's a visual argument and I'm producing it in the form of let's play, I'm just able to make these kind of comments because I've learned about these things at university, but here is what Dr X and Y and Dr X and Z wrote about these things, and because they have checked everything, now we're good to go.*" (OP01)

"*The equivalent of peer review for a podcast to me would be other podcasters. So it's tied to the medium you're using because people have to evaluate not just the content but the adequacy of the presentation with regards to the rules of the format, expectations tied to the format, and so all the rest can be pushed back to annotation and commenting, I think. But yeah, peer review for all these formats would be nice in the same way you reach out to a colleague that's particularly good with project management and design when you are trying to get something funded and you ask somebody who's competent with that particular sort of documents process. I think, yeah, if you're producing podcasts, you want to have the advice of some people who do the same.*" (OP17)

3.5.2. Innovations in peer review/evaluation processes

Importantly, gaining recognition to digital scholarly objects on their own terms entails establishing and strengthening evaluation mechanisms, frameworks around them that take the specificities of these content types and their creation into consideration. In other words, changing the scope of '*what*' inevitably changes the '*how*', too. The continuously evolving nature of digital scholarship is only one of these specificities, compared to the established and well-known life cycle of a research paper:

"*Another major challenge with innovative forms, is that the text is not fixed, but evolving. However the peer-review, as we practice it, is offering an evaluation of a frozen version of the text. With the digital medium it becomes very easy to make changes to the text. So that must also be clear for the review process. If there are changes, should the publication be re-evaluated after a certain amount of time?*" (OP21)

Especially in Digital Humanities oriented discourses, specific evaluation practices around software as scholarship came up repeatedly. These discussions reflect experiments (in

some cases, only thought experiments) to evaluate the maturity, sustainability and most importantly the reusability potential of tools, services, and code as research outputs. These conversations also aim to explore the notion and feasibility of reproducibility, which is increasingly portrayed in Open Science and policy discussions as a guarantor of quality in Digital Humanities practices:

"*So, what I definitely think is that given more people that are comfortable with using digital technology and code as a tool, we will see and for example, packages like R and statistics stuff, I think that people will generally, as part of their peer review already, you know, do a few simple tests, maybe if the data is available and they say they did this in R, and this is a data. Well, can I do the simplest thing they did and I repeat that? And that already is a small step in that long journey and... So in general, yes, I think there's definitely going to be a place in Digital Humanities and humanities research for increased usage of reproducing parts of the research that is reported on. Of course, we're not very good at this time in supporting that kind of reading.*" (OP08)

"*I don't know because the system is complicated, but I would say something else, which we didn't talk about, and which is very important in this whole topic, and the discourse about it would be so important or set standards for reproducibility. Computer stylistics or any type of distant reading would provide machine checkability or reproducibility. But that I would consider the discourse on this very important. For journals, for example, to be able to control and check them in some form, it would cost a lot of money to actually run certain codes on certain corpora. This kind of repeatability and controllability is one of those things that we talk little about right now. Although there is clearly a move in that direction in the natural sciences, in Digital Humanities, it would also be good for almost everyone.*" (OP05)

Pursuing possibilities for reproducibility in SSH fields (e.g. statistical reproducibility for Social Sciences, replicate studies in Psychology or reusing analysis, data visualization etc. tools in different research settings in Digital Humanities is certainly an important thread in the future of research evaluation The paradox of these approaches in terms of evaluative labour is that in order to realise their potential to make evaluation of born-digital scholarship easier at scale, an enormous amount of prior, manual investment is needed first. Although it has not been covered in the interviews, it is a relevant future question whether peer review is the most appropriate framework for the critical engagement with research tools and software. In the last couple of years, especially on the European

research policy horizon, we see the appearance of certification frameworks as an emerging alternative.[30]

Other efforts to innovate the process either aim to address the looming crisis of peer review labour or aim to disentangle the many functions of peer review and ease the currently enormous weight it carries in terms of gatekeeping. For instance, as an alternative to writing full-blown reports that thoroughly assess the whole body of research reported in scholarly papers, a senior information scientist suggests embracing the possibility of evaluating smaller units through the mechanisms of crowd intelligence:

"*So we need mechanisms in order to identify these things and in order to then somehow evaluate them through processes that we know from other fields, we know this from E-Commerce, for instance, we've got this whole notion of microtransactions and what I would like to see is a situation in which we would legitimize these scholarly microtransactions and with microtransactions there would be ways, either through peer review or some mechanism of crowd intelligence we would be able to evaluate them to some extent. But the challenge is also to be able to review them altogether.*" (OP15)

Another alternative, replacing the lonely, merciless task of writing review reports by organizing group discussions where the assessment work, similarly to the grant panels studied by (Lamont 2009), happens in deliberations, had been reported several times in the interviews, as in the segment below that reports an informal instance of focus group peer review. In the summary chart above, we quoted another instance where focus group peer review happened within the framework of a scholarly journal.

"*Or members of the research group present their research for internal review discussion. And these are very, very productive discussions. And part of what I've published here in Paradoxa was also circulated during one of these research times.[...] And once you have the ear for that, it really helped me to focus my argument and to put easier to understand terms and also to make it more legible for people who might be interested in the topic but are outside of the field.*" (OP01)

These emerging new practices or, in some cases, ideas, still leave the the most frequently reported, most pressing issues around earning credit via reviewing activities unaddressed.

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[30] Probably the most well known of these is the CoreTrustSeal framework but recent ongoing work around FAIR maturity matrices (Wilkinson et al. 2019) also pointing to the direction of elaborated and standardized, multiple-tier certification systems for research funders to use as assessment tools in the future. In the context of Humanities, (Baillot 2006) and (Romary, Mertens, and Baillot 2015) also put forward exploring certification frameworks for the evaluation of digital critical editions and other digital scholarly artefacts.

In one conversation, this challenge had been approached by focussing on an absolute precondition of crediting, namely authorship. The discussion below suggests finding ways to better connect reviews with authorship, even if they are not necessarily open:

"*Interviewer: So what do you think about open peer-review?*

OP29: Well… I'm still not completely convinced either way. I think there is something to be said about having your name.. and you know… because you are exposed then… you say "I said this paper is good and then if it turns out later that the paper was crap, and I was not systematic enough in detecting the faults of the paper then I'm also to blame partly for that paper being published." That doesn't exist nowadays. Now is absolutely no...nothing could be pinned to the reviewers. On the other hand in that case I think it would be much harder to find people who would be into review… especially for free.

Interviewer: We don't consider a review to be an authored publication?

OP29: Exactly.

Interviewer: We have authors responsible.

OP29: Exactly. Open peer-review would only work I think and it would only make sense if you would pay the reviewers or review would be something..for the advancement of their careers or something like that. Somebody would say "Okay you are reviewed ten papers. Your reviews are really good. You are helpful...

Interviewer: Just to clarify this. So for you, open peer-review basically means in attributing authorship to the reviewers?

OP29: Not just that. It means much more but this is one aspect I think. Or maybe I'm mistaken. Maybe that's not the necessary condition for being open peer-review but open peer-review means that people have..readers have some sort of insight into the review process... one of the aspects being that it's not anonymous but maybe I'm mistaken. I don't know. It's not a topic that I have greatly explored." (OP31)

One solution to that issue that enables the administration of one's review record regardless of whether they are open or not is to register them on Publons, a platform that allows both reviewers and journal editors to keep track of and give/earn recognition for reviewing activities and link them to reviewers' ORCID profiles.. A publisher respondent from a big publishing house, OP09 reported experiences with working with the Publons

system and three scholars, OP11, OP13 and OP16 also reported personal experiences with using Publons. For instance:

"*Of course, there should be no condition on what kind of recommendation you end up writing but generally, I think it's work that should be rewarded and I actually registered on Publons as well because I think the review work is invisible so I thought that was an interesting idea, to keep track of the reviews.*" (OP16)

Our interviewees univocally reported experiences with Publons as positive and remarked on its uniqueness (that is, neither the respondents, nor the interviewers were aware of any alternative platforms coming with the same functionality). However, in both workshops organized by T 6.6., Publons became the subject of heavy discussions. In one instance, the commercial ownership of the platform had been criticised (Publons had started out as a grassroot endeavour but in 2012, Clarivate Analytics bought it up[31]). In the other occasion, the negative gamification potential of the platform design had been flagged, that is, having built on quantitative metrics, the number of reviews written by individuals, makes it easy to game the system and end up as a review champion by submitting large quantities of very badly written evaluation reports. The distortion effect of such perverse incentives is beyond question. What is clear from these comments (from the endorsement in the interviews and from the critical voices from the workshops together) is that there is a strong need for publicly owned services that enable platform-independent administration of one's review record in an inclusive manner but it is not easy to implement it in a truly sensible design that does not carry the potential of creating perverse or distorting incentives.

3.5.3. Shades of openness in peer review practices

The subchapers above also highlight how deeply peer review innovations are intertwined with striving for some sort of increased transparency and accountability throughout the process. Going beyond the level of papers and taking underlying data and code into consideration allows for the in-depth assessment of the processes. Opening up for broader participation in reviewing mitigates the shortage of capacities and opening identities of reviewers allows for easy attribution and recognition of this currently non-rewarded scholarly task. Still, as the '1.4.5. Open peer review practices remain on the level of experiments' subchapter in the introduction clearly reminds us that, in SSH fields, double or single blind peer review is still the norm and encounters with different forms of openness usually remain on the level of experiments. Therefore, in this section, we read

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[31] https://en.wikipedia.org/wiki/Publons

the openness-relevant interview segments - constituting a rich pool of personal experiences, behavioural patterns, suggestions and judgements - with the aim of better understanding which forms of openness fit best the epistemic cultures of SSH and what are the underlying reasons for resistance against other forms of it.

The summary below gives a generic proportion-based assessment of respondents' attitudes towards open peer review practices, from a birds eyes' view.

Transparency, openness

Double blind peer-review is still often applied in SSH. *What are the underlying reasons behind the persistence of certain proxies in the system?*

Respndents' sentiments towards open peer review practices:

48% negative (even those who are in favour of other open reseach practices)

28.5% positive

14% mixed

9.5 % N/A

"*I think the moment when you say that peer-review is going to become open in the sense of for everyone to see all the comments, these comments are never going to be as earnest and as candid and as helpful as they should be. I don't believe this is a good thing, so that's why I mean.*" (M, Senior researcher in Digital Humanities, Cultural Heritage and Information Science)

Fig. 7 *Respondents' sentiments towards open peer review practices*.

Of course, the actual conversations reveal many in-between shades and greater complexities.

3.5.3.1. Openness also manifests itself in some quite traditional, established SSH community practices

Starting from the ground up, respondents repeatedly point out that certain manifestations of open peer review are in fact quite prevalent in established SSH community practices. Reviewing the body of scholarship openly in the introduction section of one's own paper, the evaluation of doctoral theses, or the long tradition of post-publication book reviews (being scholarly outputs on their own) clearly carry the traits of open peer review. Interestingly, these examples more tend to be contrasted against the non-viability of open peer review in SSH rather than being recognized as precedents of it. See, for instance, ones below:

"These reviewers would probably die of shame, at least some of them. I don't know, I never thought about it. A bit like showing you making sausage. [...] Just as you have, for example, public reviews for your PhDs or habitation. Some of the things that are done between the editor, the author and the reviewers are such secret, closed negotiations. If we opened this formula, it would look completely different. This could change the way these reviews take place in a fundamental way." (OP12)

"But being completely open would obviously rewrite the whole logic, because if you know it's going to be made public, you're writing differently. It might be counterproductive, because in some places they are cruelly honest with the authors, but the author has a bit of wit, then they understand that it's much better to improve their text this way, keeping the review reports unpublished and publishing only the improved final text. That's how I approach it. So I think publishing in this form is not good in my opinion. However, a good example of this is say PhD opponents' reviews, which are public. So there is an example of this that may work well within scholarly discourse, but peer review is better if it's personal, I think, thinking about it now, because I see it as useful if both the writer and the reader know that no one else will." (OP05)

"When it comes to open peer reviewing someone - I have no idea where I would do it now. And even more so, I don't feel like doing it. Because if I want to review someone - I will either keep it quiet, because it's not worth it, or I will review it in my publication." (OP13)

"I mean, the weird thing is we kind of already have a system of open review in the humanities for monographs, in the form of publishing book reviews. This is an opportunity for others to, you know, write openly under their own identity about work that has already been published, to critique it and so on. I often find that those are quite bland, though. They don't really give the kind of strong critical angle because the networks of people who are qualified to comment on these books are so small and insular that they end up you know, you don't want to say that X's work was absolutely dreadful because you're going to run into x at the conference in a week's time." (OP03)

3.5.3.2. Open identities and self-censorship

The segment above uncovers an issue around publishing reviews with open identities that very frequently came up in our conversations about openness, namely, self-censorship and bypassing sharp confrontations in such settings. The comment below reports this same experience from engaging with the open peer review campaign organized in the context of the Digital Humanities 2020 conference:

"So in the DH Conference last year they actually switched to open review and it's definitely tricky for me as a reviewer because if I receive a paper that I thought wasn't very good, it was more difficult for me to be critical in the review. So those are some downsides. It's a trade off, right?" (OP16)

Similarly:

"I would think so because again if I would be asked to do a review which would be published later under my name...um…I would tend to be more careful about how I phrase and I would probably give it more time to think over whether everything that I suggested and criticized is really meaningful."(OP31)

"I have the feeling that – and it is not only related to OPR, but also to transparent review processes where the reviewer and the author have a direct contact – if there is a direct contact, if you reveal your identity (usually people know each other from the field), I have the feeling that advice and suggestions are more productive and constructive than if it's just blind. This is what I experience in general." (OP23)

Interestingly, other scholars tend to turn this argument upside down and point out, how much this increased accountability coming with open identities is an absolute precondition of a richer,, fairer, and more civilized reviewing culture:

"I think reviewers will have to learn some new processes, right? They'll have to think differently about what it is they do, because right now, you know, when reviewers are anonymous and when their reviews are not published sometimes people can be rude and they can just say, you know, this is no good and it needs to be completely revised. And why didn't you cite this? And, you know, and kinds of things that are face to face or in an open exchange in which, you know, you and I are talking about your work, we would never say those kinds of things. Right. So. And I think a lot of reviewers who have only ever done conventional anonymous peer review look at open processes and say, well, I won't be able to be honest or I won't be able to be as critical as I'm supposed to be in order to make the work good. And I don't think that's true. I think you can be honest and I think you can be critical. But in the same way that, you know, in an ideal world, you would approach your students and helping give comments on their work in a way that's empathetic and that's supportive and that's constructive and that helps them do better rather than telling them that their idea is stupid and that they need to start over again. I mean, in that same way, I think we can find ways to be empathetic and supportive and constructive in peer review and still get across the critical ideas that we need to help that work become better. And so I think it's sort of a mind shift that scholars are going to have to undergo to start thinking

about the function of peer review as being critical, but being helpful first and foremost. And if we can undergo that sort of shift of perspective, then, yes, I think it can become a reality that we can start moving toward a world in which the process of peer review becomes much more open and much more visible and much more useful to all of us. I mean, I think everybody has had a bad experience with reviewer two that lets them know why the current system doesn't work. And yet everybody as a reviewer still clings to the way that it works. And so I think it's going to take that mind shift. It's going to take some time. But I think the more that scholars are able to see how productive an open process can be, I think it can make inroads." (OP04)

3.5.3.3. Open identities and power relations

Another consequence of openly revealing identities of reviewers, also widely recognized in the literature (Rodríguez-Bravo et al. 2017) is that such mechanisms easily expose vulnerability of certain, less privileged groups of academia. As a result of this, even scholars who are strongly committed to the open research culture and are themselves practitioners of it (sharing preprints, data, publishing Open Access, working in collaborative settings etc.) otherwise have reservations against (or difficulties with) open peer review. This is portrayed in the first-hand experiences of the early career researchers both of them are champions of Open Science in other respects, below.

"I mean, it is very difficult to criticize people kind of in an online forum when they know your identity. That might just be me being kind of British and reserved, but it might just be that it's tough to do that. So we did this with a hypothes.Is annotation, which I guess I should have mentioned as one of the tools..., but it was just a standard HTML document with hypothes.is, which I was then just commenting out and saying this could be better, et cetera, or whatever. And I do have a distinct memory of it being more stressful because I was at the time just finishing my Ph.D. I don't really have much of a name. But I didn't think the article was particularly good, so I had to kind of suggest a few comments. So, there's definitely value that there's a power structure again. If you're a junior researcher, critiquing a senior researcher's work they might remember you as that person who tore their work to pieces, academia is rife with these kind of backstabbing and, yeah, that kind of stuff, so, yeah, so so I think the moment you leave out on the open web, then people can refer back to that in the future." (OP10)

"Interviewer: And how do you feel about signing your own peer review reports?

Respondent: I don't want it, but it's because I need to feel safe as an early career researcher. If I'm reviewing older scholars and saying things they don't like, I don't want them to come back at me and I think it's too dangerous for me." (OP02)

Making early career researchers' vulnerability in an open peer review setting should not to be underestimated, especially in the context of the comments above about opening up the reviewer pool to more ECRs.

A similar reservation voiced from the author side:

"*Actually I must have left a comment at least once on an open peer-review. But I have never had any of my publications being openly peer-reviewed. It must be more stressful, if anyone can write a comment on your own article…"* (OP22)

On the other hand, as another respondent pointed out, collaborative authorship naturally mitigates this angst:

"*And so I guess the corollary to that is that the stuff which you make openly available, there's a lot of value to sort of open peer review when you can get beyond that sort of secrecy aspect, of that kind of need for secrecy. That's why you often see open peer review being practiced in biology, for instance, because you have five or six authors and you've all read the piece and you know that there's a degree of accuracy there.*" (OP10)

3.5.3.4. The crisis of evaluative capacities is exacerbated in open and post-publication peer review settings

Uncovering the challenges that largely explain community members' resistance to working with open identities leads to a paradox. That is, although signing and publishing reports indeed comes with the possibility of better crediting and rewarding their creators and thus increasing value for reviewing, in reality, engaging scholars to open and post publication reviewing practices is even more difficult. The comments below represent only a very small portion of those voicing such engagement challenges:

"*Maybe another way to get more people involved in OPR is to make sure they know that they can comment on chapters, and don't have to look at the whole book. As I said, they don't have time to do that, they barely have time to do their own reading. If they just have to read, I don't know, ten pages…"* (OP23)

"Sometimes I see an invitation on academia.edu. Now you can open an article for your contacts to comment on it, but I never participated. I also saw an online system for monographs, sometimes authors open their monograph for user comments. I don't know if

an invitation is needed. That way you can read the text before it is published, and then you can comment if you want. We tried for the living books to give the option to suggest a contribution, so it's not exactly a comment, but there is not a lot of participation unfortunately. I've seen online publications where everyone can comment." (OP22)

"*So you actually read more stuff than you can actually read printed material, because you get bombarded with it, and accordingly, the idea that people just voluntarily comment on a text on the Internet a little bit, it just doesn't work, nobody has that much time to let off steam.*" (OP20)

"*Yes, I think "engage" is the keyword, yes. Uploading everything on the website is one thing, but then getting people to actually comment on it is the hard part. Even if it's such a good chance for early career researchers to get their name out there and into a conversation, as we said before, this is also problematic for them because they always fear some kind of backlash. Even if the comment is somehow constructive and good, it can always backfire as well, I think. And the older, more established researchers have difficulties because of time issues: they don't want to spend time going over this again.*" (OP23: 61 - 62)

3.5.3.5. Working examples

Contrary to the dominant skepticism and cautiousness against open peer review practices, the summary chart above showcases a diversity of value statements and good personal experiences with using open identities, or opening up participation to a broader community. All in all, it was the anonymous but open publication of review reports alongside the publications that resonated with respondents the most. For instance:

"*Interviewer: Have you heard about open peer review? Openness in peer preview can take many forms from open interaction between the reviewers, through publishing review reports anonymously or signing reports and openly publishing them. What do you think about it?*

Respondent: I already said it has some pros and some cons. My stance is that peer review should be open but anonymised." (OP32)

"*I think that's maybe sort of like a nice balance but maybe the process can still be anonymous but yeah, I think that's sort of something I tend to support. I think that makes sense to see the peer reviews alongside the papers. We were talking about it, not just the publication of the text itself but the whole package of information that goes alongside it so*

the data, the code and also the reviews could be published as well so I think that is, sort of, maybe working compromise." (OP16)

"*I would love to see more peer reviewed reports published partially because I think it might make peer reviewers focus more on that helpful side of peer review and really think about what can I contribute to the development of this piece? But also, I think it could be really good because then...you know, you read a journal article now and you never really know what that process looked like behind the scenes, right, how many of the ways that connections are made or how many of the ideas in the article may have been suggested by a reviewer and having the ability to see that engagement between the reviewer and the author could give us a whole different sort of view of how scholarship is produced and help us recognize that it's not just the single author genius who sits down and writes a brilliant article and we publish it and go, 'Oh, look, it's perfect and it's from that author', but that it's always been in dialogue with readers and and in that dialogue, the ideas become richer. So I would love to see more peer reviews published.*" (OP04)

3.5.4. Summary

- The table at the beginning of the chapter gives an overview of the diversity and richness of innovative peer review practices reported in the 32 interviews.

- We found that when it comes to innovations, the 'what' aspect, that is, efforts for broadening the scope of formal peer review and making it more inclusive with artworks, born-digital content types, data, software etc. proven to be more important to our respondents than the 'how'.

- Opening up the peer review processes turned out to be especially challenging in these research contexts, with strong and complex but not univocal community resistance against them.

- The main concerns regarding open peer review practices were recognized in self-censorship and exposing the vulnerability of certain non-privileged groups, such as early career researchers.

- At the same time, openness also manifests itself in some quite traditional, established SSH community practices such as post publication book reviews or the open review of PhD theses. Interestingly, these examples more tend to be

contrasted against the non-viability of open peer review in SSH rather than being recognized as precedents of it.

- Publishing the review texts anonymously alongside the publications turned out to be the flavour of openness that enjoyed the most support and even endorsement by our respondents.

- Still, overall, the biggest challenge we experienced is along the dimension of the 'who'. Paradoxically, the crisis of evaluative capacities is exacerbated in open and post-publication peer review settings that would otherwise enable the proper recognition of reviewers' effort and thus could mitigate the crisis.

3.5.5. Recommendations made based on these insights:

Recommendation 1: As long as peer review serves a necessary legitimizing tool for innovative forms of scholarship to enter formal recognition, extending its inclusivity potential is an absolute priority. To re-harmonize research realities with evaluation practices, communities around novel digital content types (data publications of different kinds, creators of digital critical editions, VCREs etc.) should be encouraged to propose, solidify, negotiate and re-negotiate assessment and certification frameworks around these scholarly objects, based on criteria that are not rooted in the print culture. OPERAS and DARIAH could serve as incubators for such efforts. A potential output could be a practical guide peer review of complex scholarly objects that, similarly to the guides to marking students' work, would consist of rubrics to ensure we cover all the relevant aspects responsibly.

Recommendation 2: We recommend journals and other publishing venues raise awareness of the different possible shades of openness in reviewing practice (that is, open peer review is a much more diverse practice than just signing the reports), make open contributions more visible (e.g. highlighting them in a dedicated section) and once reviewers made a commitment to review, offer them the flexibility to practice openness in a format they are comfortable with (e.g. enabling discussion with the author, publishing reports anonymously).

Recommendation 3: The input we received from the interviews can be read as an endorsement for the open publication of anonymous reviews.

Recommendation 4: Since as we saw, certain forms of openness already reside in

established community practices, we recommend bringing more transparency to peer review by exploring possibilities to naturally extend established practices step by step, starting out from examining why openness is unproblematic in these cases.

3.6. Informal evaluation practices

As the excerpt below compellingly illustrates, assessing the quality of scholarship and continuing the discussion around them is a much more abundant and prevalent activity than what is channeled in formal peer review discourses.

"It depends on the topics. I already saw that a peer-review is not a guarantee of quality. Sometimes I read texts on the internet (blog, etc.). I think I can evaluate myself their quality if it is in my field. But if I get away from my area of expertise, I feel less confident and I trust more what is peer-reviewed. It also depends on what we consider peer-review is. For instance if I see an article shared 50 times by my colleagues, it's also a form of peer-review for me." (OP21)

On one hand, we saw the difficulties in engaging communities in novel pre-or post publication evaluation practices that are not associated with gatekeeping. On the other hand, though,, sharing opinions and commenting on pieces of scholarship naturally occurs in certain streams of discourses: in literature reviews, private exchanges, mailing lists, or on social media. Our respondents generally recognized the value of such informal evaluation practices. One frequently reported added value of them was that having been liberated from the heavy burden of gatekeeping, these informal assessments can focus purely on improvement, without any other interests or branding complications. As a postdoc in Sociology puts it:

"I think it is great, even if the paper is published but somebody tells you the figure could be done differently and I think it's a great thing and the next time you write a new paper, you will remember this. I think the discussions under articles or the Twitter discussions about published research or about preprints definitely improved things. It's like I would say that there is a third role for university, so I would say like the third role of peer review or improvement through these informal channels... because the whole point of peer review should be just making sure that the research is solid, the research has been done right and that it's presented in the best light possible so the sort of formal peer review is in place to make sure that at least, something gets done but any of these informal forms work towards the same purpose so I think it's just fine." (OP16)

In response to the question of "*Did you submit this output for other kinds of evaluation i.e. formal or informal feedback, comments or review? How did that process look? Why did you choose this form of evaluation*?" all respondents reported a form of early sharing, be it just sending around their manuscript to their professors and close colleagues (as in OP06 and OP07), discussing them in small groups (as in OP01 and OP13) or collecting/receiving forms of feedback from a broader audience via open dissemination. The remainder of this subchapter draws on patterns of this latter.

3.6.1. Blogging

Blogging turned out to be a form of scholarly writing regularly practised by more than the third of our respondents. The sibling publication of the present study, the D6.5 '*Report on the future of scholarly writing in SSH*' gives a detailed analysis of blogging as a form of scholarly writing. What is interesting from the assessment point of view is that in many cases, sharing research ideas or preliminary findings serves as a pilot that informs authors about the strength of resonance it generates within their peer community. As a female senior scholar states:

"*So the peer review for me almost always begins on the blog, because whenever I have an idea, it usually starts there, something that I've written just as a little thought process and I'll get feedback that way. And so the peer review process starts there and it lets me know whether there's something more that I should develop.*" (OP04)

The interviews reveal positive attitudes towards this form of early sharing both from the author side and from the reader side (that is, even though the lack of long-term preservation of blogs had been reported repeatedly, it seems, citing blogs is increasingly part of the formal, mainstream tracks of academic writing too.) In the light of these positive attitudes towards blogging, it was especially surprising to come across ONE instance where the blogging activity caused conflicts in an institutional formal assessment setting:

"*Interviewer: And what do you think, what are the biggest challenges in publishing Open Access in your field, if there are any?*

Respondent: I think it's basically intellectual theft, I also have a strange incident about this. So I had my examination, so to speak. It's the confirmation exam. And at the interview, I told the examination board that I generated a lot of my best, I considered, ideas in my online blog and I had been asked to take it down, if possible.

Interviewer: Huhh, that's interesting.

Respondent: Well, I do understand that they were trying to protect me and by proxy, they were also trying to protect their own intellectual property because I am very much part of the university's intellectual property, so to speak. It may sound funny, but I've seen a lot of different documentations proving that my work is basically copyrighted under [name of the institution she is affiliated with].

Interviewer: Yes, yes. Sometimes there are such institutional policies in place. So their concern was, if I understand it right, that if you share your intermediary findings on your blog, then the intellectual property attributed to your institution slips out of their hand and will not be properly taken care of, right?

Respondent: I think so. Yes.

Interviewer: And so you had no other choice, but like taking them down from your blog, if I understand, right.

Respondent: Oh, well, I mean, I'm just a beginner, so I don't think it generated a lot of clout on the Web server itself. I don't think people were that much interested in the work. But I realized that what I got from the blog was the generation of ideas and just knowing that I'm publishing something, so to speak. I try to... I wanted to try extra hard with my ideas and cross it, whereas just writing for myself, it's a little different. And I noticed that that's what's going on. And I had to search for the same spark somewhere else. So it was mostly for idea generation rather than publication." (OP07)

3.6.2. Social media

Similarly to blogging, social media had been portrayed as a rich source of and an organic venue for informal open peer review,especially academic Twitter:

"*Sharing interesting texts on Twitter... I know that I'm going back to this Twitter, but this is in my opinion a kind of review - that something is recommended. And an absolutely fading form - that's writing book reviews. This is, in my opinion, a very valuable form of reviewing some works, but it disappears radically in most plots.*" (OP13)

"*The thing is, I see that all the time when I annotate a text or respond to a tweet or comment. So a sort of evaluation or my take on something and the content is going to be public. When I do that, I'm very careful about my wording. Maybe because it's me,*

because I know some colleagues will just send a comment and they will not worry. But if it's public, I will work on the advice I'm giving a little bit more, you know, not to come off as too abrupt or anything. So that could be a way to improve. That could be a way to improve peer review significantly, would be to make the advice public, because most of the time, if there's no concept, there would be consequences to the advice being public. It would be just part of the history of the revisions." (OP17)

"*That's hard to do these days. I think people increasingly use social media, at least from the standpoint of researchers publicizing, but also getting feedback on their work. We'll talk a little bit more probably about the open peer review process or kind of crowdsourcing peer review. I think this idea of social media as the initial stage of peer view, for kind of inchoate ideas, is a really interesting and important one, but I have not been a part of that.*" (OP24)

3.6.3. Multimedia

A less prevalent but equally interesting manifestation of informal peer review happens in the same media as the content itself, as below:

"Interviewer: And should this innovative format be peer reviewed?

Respondent: That's a good question, because it depends on the format. Something like a podcast, yes, someone should check the accuracy of the research. But if it's a virtual game, for instance, on our website, the research behind it should always be checked. The product itself, sometimes it's not possible to do that. You always have beta testers. I guess that's a part of it. You could call that a sort of digital peer review, I guess." (OP28: 98 - 99)

Finally, as another contemporary manifestation of book reviews, one respondent mentioned podcasting about academic books: a practice that includes both peer revaluation and opening up the reviewed content to a broader audience:

"Well, I mentioned interactive publications, I should also mention podcasts, some of my colleagues have started during lockdown. They've started to record not only lectures, but sometimes a review of an article or a book. One of my colleagues started. It was just like a side project. And he's actually in his 12th or 13th episode now of conversations with the paper. And I think that format is quite engaging because I don't know about other people, but I listen to radio and podcasts all the time." (OP17)

3.6.4. Summary

- Assessing the quality of scholarship and continuing the discussion around them is a much more abundant and prevalent activity than what is channeled in formal peer review discourses.

- The most frequently reported informal evaluation practices happen in blogs and social media (especially Twitter). In addition to them, we saw examples of informal peer review embedded in the same born-digital medium as the scholarly output, for instance, beta testing of a computer game or program had been considered as an instance of peer review. One continuation of the book review tradition is a podcast series dedicated to scholarly book reviews.

- These informal evaluation practices are organically growing out of community practices, contrary to the very limited capacities of pre- or post-publication peer review.

- These spontaneous evaluation practices are performed with the sole intention of continuing a meaningful scholarly dialogue and advancing one's field in mind.

3.6.5. Recommendations made based on these insights

Recommendation 1: Building innovative peer review practices on top of these already established, proven instances of informal evaluation practices rather than designing them from scratch can be taken as an assurance for community uptake.

Recommendation 2: We recommend publishing venues seek ways to better connect or channel these informal evaluation practices into formal peer review systems. For instance, to invite authors of review blog posts to upgrade or turn their text into a formal peer review.

4. Conclusions

Peer review is a central scholarly practice that carries within it fundamental paradoxes derived from the time of its inception. On the one hand, it is very difficult to isolate and expose peer review for the sake of empirical analysis, as it usually happens in closed

black boxes of publishing and other gatekeeping workflows that are embedded in a myriad of disciplinary cultures, each of which comes with very different, and often competing, notions of excellence. On the other hand, contrary to the ideal that peer review serve as a boundary object between scholarly communities able to define inherently elusive concepts such as excellence, it is a instead practice that divides more than it combines, carrying an enormous weight in terms of gatekeeping; shaping disciplines, publication patterns and academic power relations, and governing the (re)distribution of resources such as research grants, promotions, tenures and even larger institutional budgets. This central role of peer review in scholarly communication and in the working mechanisms of academia explains why it is crucial to study and to better understand situated evaluation practices, and to continually rethink them to strive for the deployment of their best, and least imperfect versions.

Our task, '*T 6.6. Quality assessment of SSH research: innovations and challenges'* aimed better understand the ways in which peer review works in actual SSH practices and to analyze key aspects of peer review that normally remain hidden from analysis. This work aims to support the development of the relevant OPERAS activities and services by informing them about current trends, gaps and community needs in research evaluation. This entails 1. teasing out the underlying reasons behind the persistence of certain proxies in the system (such as the 'impact factors of the mind' that continue to assign tacit prestige to certain publishers and forms of scholarship) and 2. the analysis of emerging trends and future innovation in peer review activities within the SSH domain. This comprises two areas: innovation in peer review workflows (different flavours of openness, novel practices and tools) and the peer review of digital scholarly objects (such as digital critical editions, data, software etc.).

To gain an in-depth understanding of how the notion of excellence and other peer review proxies are constructed and (re)negotiated in everyday practices across the SSH disciplines; who are involved in the processes and who remain out; what are the boundaries of peer review in terms of inclusiveness with content types; and how the processes are aligned or misaligned to research realities, we analyzed 32 in-depth interviews with scholars about their motivations, challenges and experiences with novel practices in scholarly writing and in peer-review. The selection of the respondents for the study unavoidably reflects inherent bias in our own networks to a certain extent but nevertheless, we implemented diversity proxies in terms of disciplinary coverage (with an intentionally strong emphasis on Digital Humanities), career stage, gender, and nationality. A central ambition of the present analysis was to showcase the beautiful poliphony and to extract overarching patterns from this diversity of voices that showcase the special

flavours of peer review in SSH and account for the whos, the whats, and the hows of peer review together with the underlying beliefs, value systems, commitments and behaviours that give rise to certain peer review practices and create resistance to others. This input, the encoded and pseudonymized interview transcripts, will be shared as open data in a certified data repository together with a rich documentation of the process so that our interpretations, conclusions and the resulting recommendations are clearly delineable from the rich input we had been working with and which are thus openly reusable for other purposes.

The first, introduction chapter provides a summary of the status quo of research on peer review with special focus on SSH, serving as a background against which we analyzed our interview data. To frame our analysis, it was foundationally important to understand how deeply peer review is embedded into broader systems of academic power structures, commonly referred as the prestige economy. Due to its essential embeddedness into academic power structures, it is almost impossible to discuss the topic of peer review only, in isolation, without its entailments for formal assessment and the economics of scholarly communication.

The vicious circle of 1. selecting and filtering scholarly work that is eligible to peer review → 2. finding a balance in the many functions peer review takes and keeping a sufficiently diverse participation → 3. translating the body of scholarship that passed peer review into a set of metrics that informs formal assessment in academia → 4. translating these metrics into reward and incentive criteria → 5. letting this criteria define and confirm disciplinary norms of excellence and 6. incentivizing certain types of scholarship against others served as a complex frame against which we read the conversations collected in the interviews and against which we put forward practical recommendations to change the culture of peer review in SSH disciplines for the better.

We began our analysis from this overall frame (3.1. Placing peer review in the complex dynamics of quality assessment) from which we gradually refined our focus through the general functions and special flavours of peer review in SSH disciplines (3.2. Peer review - as defined by SSH practice) to 3.3. Challenges, 3.4. Innovations and 3.5. Informal peer review practices and finally, 3.6. Incentives and rewards. For the ease of overview, each chapter concludes with a summary and a set of recommendations based on them.

Although as part of our mission to inform future OPERAS services, we make recommendations that are technical/infrastructural in nature, our results confirm Fitzpatrick (2011)'s basic premise that the major challenges around peer review are rather social then technical. The vicious circle of peer review, its deep intertwinedness with broader and quite

rigid sets of power structures together with its inherently social nature (a practice to pass on from one generation of academics to the other) explain why "it is very, very hard to change ingrained behaviours, even when you ask academics to behave differently." (Eve 2021)

It seems, as a scholarly community, we collectively depend on a rigid, colour-blind system that rewards beaten (and narrow) tracks of conventional content types, published in established venues over creativity, innovation and diversity. There is a crucial need to break the vicious circle of peer reviews and better align research evaluation with research realities. Our results give an idea about the community priorities in this re-alignment. In certain respects/aspects, these priorities significantly differ from the vision of open, reproducibility-driven peer review put forward within the dominant Open Science paradigm. The special flavours of peer review in SSH as reflected in the interviews partially account for these differences. These are:

- Peer review in SSH deviates from its positivist traditions that allow pass/fail validation and replicability. Instead, peer review has a crucial role in shaping disciplinary identities.

- The central role of editorial curation in research evaluation (and also gatekeeping).

- Publication fora are strongly associated with scholarly networks.

- There is a diversity of scholarly content types, often involving multimedia that remain out of the scope of formal peer review.

- The established traditions of post-publication book peer review is becoming extended to data and tool criticism.

Further, we found that when it comes to innovations, the 'what' aspect, that is, efforts for broadening the scope of formal peer review and making it more inclusive with artworks, born-digital content types, data, software etc. proven to be more important to our respondents than the 'how'. Opening up the peer review processes turned out to be especially challenging in these research contexts, with strong and complex but not univocal community resistance to them. Publishing the review texts anonymously alongside the publications turned out to be the flavour of openness that enjoyed the most support and even endorsement by our respondents. Still, overall, the biggest challenge we experienced is along the dimension of the 'who'.

The crisis in reviewing capacity turned out to be an overarching challenge that impacts the efficiency of peer review, prevents open and other innovative reviewing practices, such as post-publication peer review, from becoming genuine community practices and also contributes to strengthening the prestige economy, not only in terms of publishing but also in attracting reviewers. Implementing mechanisms that enable appropriate crediting of reviewing activities, be it open or closed, is therefore an absolute priority. Breaking the vicious circle in which research evaluation appears to be trapped is a complex task that comes with equally important infrastructural, policy and disciplinary cultural entailments. As long as scholarly communication practices are constrained by research evaluation criteria dominated by a prestige economy, such community-driven innovations and efforts will remain strongly disincentivized. As a result, they will not grow sufficient enough to inform research-performing organisations, funders and policy-makers about alternative proxies that could replace the current harmful system. Only through synchronous action coordinated between national ministries, institutions, disciplinary communities and infrastructure providers can research evaluation be changed to the better.

On the other hand, assessing the quality of scholarship and continuing the discussion around it is a much more abundant and prevalent activity that is not limited to formal peer review discourses. Our analysis offers a detailed perspective of where and how these are organically growing out of community practices and who are engaged in them. Taking these practices that happen independently from gatekeeping and contrary to the very limited capacities of scholars to review into consideration is the right path for building innovations on top of them and better connecting them with formal evaluation systems. These organic and spontaneous evaluation practices are performed with the sole intentions of continuing a meaningful scholarly dialogue and advancing one's field in mind. In essence, the scholars we have been talking with recognized these interpersonal or purely scholarly rewards and incentives as the most important values in peer review. The presence of this collective scholarly sovereignty should not be underestimated if one aims to understand how peer review can still be operated by publishers building on voluntary labour. If anything, scholars deserve to be recognized for that.

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Annexes

Annex 1: Codes and demographic information about the interviewees

Code	Gender	Career stage	Discipline / area of research:	Country
OP01	Male	Post-doc/ECR	Cultural studies, gaming studies	Hungary
OP02	Female	Post-doc/ECR	Linguistics	France/Germany
OP03	Male	Post-doc/ECR	Literature, Scholarly communication, DH	UK
OP04	Female	Senior researcher	English studies	USA
OP05	Male	Senior researcher	Digital Humanities	Hungary
OP06	Female	PhD student	Digital Humanities	Ireland
OP07	Female	PhD student	Digital Humanities	Ireland
OP08	Male	Senior Researcher	Digital Humanities	The Netherlands
OP09	Female	Publisher	Arts, Humanities, Media	UK
OP10	Male	Post-doc/ECR	Information studies	UK
OP11	Female	Post-doc/ECR	communication, information science	Poland
OP12	Female	Post-doc/ECR	Sociology	Poland

OP13	Male	Post-doc/ECR	Philosophy	Poland
OP14	Male	Senior Researcher	cultural studies, literary anthropology, cognitive semantics	Poland
OP15	Male	Senior Researcher	Information; digital humanities; digital heritage	Canada
OP16	Male	Post-doc/ECR	science studies	Czech Republic
OP17	Male	PhD Student	Information & Communication Science	France
OP18	Female	Senior Researcher	narrative studies, digital humanities	Latvia
OP19	Female	Senior Researcher	cultural memory studies	Bulgaria
OP20	Male	Senior Researcher	Early modern history, regional history	Germany
OP21	Female	Post-doc/ECR	Biblical studies ,Digital Humanities	Switzerland
OP22	Male	PhD Student	History	Switzerland
OP23	2 x Female	2 x Other	Religious Studies / Global History	Germany
OP24	Male	Post-doc/ECR	Biblical Studies and digital humanities	USA
OP25	Male	Senior Researcher	History	France
OP26	Female	Publisher	SSH	The Netherlands
OP27	Male	Senior Researcher	History	Luxembourg
OP28	Female	Post-doc/ECR	History	Luxembourg
OP29	Male	Post-doc/ECR	Psychology, statistics	Croatia
OP30	Male	Senior Researcher	Electronic Systems and Information Processing, Education	Croatia
OP31	Male	Senior Researcher	Sociology	Croatia
OP32	Male	Senior Researcher	Information & Communication Science	Croatia

Annex 2: Interview questionnaire

1. Episodic knowledge

1.1. Writing

1.1.1. Which digital technologies do you use when writing academic texts? Please, describe the process from the idea formation to the final draft and provide some examples of tools.

1.1.2. Do you use any digital tools enabling workflow planning and monitoring? Give examples.

1.1.3. For how long have you been using these tools?

    1.1.3.1. How did you learn to use them?

1.2. Publishing

1.2.1. What types of scholarly outputs have you published in the course of the past two years? (It could be in the form of a journal article, book or book chapter, paper in an edited volume or conference proceedings, SSH blogs/platforms, data source, software, multimedia)

1.2.2. Which ones did you write individually and which ones were co-written in collaboration?

1.2.3. Now I would like you to choose one output which you'd find most interesting for our discussion in terms of form (If applicable, it could be an example of an innovative genre of scholarly communication, like blog post, project website, multimedia scholarly edition, social-media post, etc.) We will talk about this output in more detail.

The interviewee chooses one output for further discussion.

    1.2.3.1. Why did you choose this particular form for this output?

    1.2.3.2. What were the main challenges in finding the appropriate publisher or publication channel?

1.2.3.3. When choosing a publishing venue are you attentive to bibliometrics (h-index, open/new metrics)?

1.2.3.4. What are the advantages and disadvantages of using that form?

1.2.3.5. How long did the publication process take from the moment of finishing the draft?

1.2.3.6. Which parts of the publication process were the most time-consuming?

1.2.3.7. What could have been done more efficiently? How?

If this subject didn't surface in the responses so far, we ask about the cooperation with the publisher/editors and the reviewing process in case of the chosen output (1.2.4, 1.2.5).

1.2.4. Please, tell us more about the cooperation with your publisher/editors?

1.2.4.1. What could be done more efficiently? How?

1.2.5. What did the reviewing process look like?

1.2.5.1. How long the peer review period took?

1.2.5.2. Who made decisions about approving your output for publications?

1.2.5.3. Were you involved in finding/referring reviewers to your submission? Did you have any difficulties?

1.2.5.4. Did you submit this output for other kinds of evaluation i.e. formal or informal feedback, comments or review? How did that process look? Why did you choose this form of evaluation?

1.2.5.5. Did your work benefit from this process and/or peer-review?

1.2.5.6. What could have been done more efficiently? How?

1.2.6. Do you perceive any difference between papers which resulted from collaboration as opposed to individual pieces?

Additional questions for respondents who indicated experience with collaborative writing.

1.2.7. Have you used any digital tools enabling collaborative writing?

    1.2.7.1. For how long have you been using them?

    1.2.7.2. How did you learn about them?

1.2.8. Who was in charge of the writing process? Did you have a "leading" author or was it an equal collaboration?

1.3. Evaluating

1.3.1. When discovering new scholarship or doing literature review, how do you make decisions about trustability and quality?

    1.3.1.1. Do you trust work more if it has been peer reviewed? Why?

1.3.2. When you receive an invitation to peer review a scholarly object, what are the circumstances that help you to decide whether to accept or decline?

    1.3.2.1. Have you ever been rewarded for the reviewing activity?

    1.3.2.2. What would increase your motivation to peer-review?

1.4. Communicating

We are still discussing the chosen output.

1.4.1. Is the output you have chosen for this discussion available openly online?

    1.4.1.1. If yes, where and why did you choose this dissemination venue? [*Prompt: possible options may include: OA journal, repository, website (institutional, private, publisher's), scholarly social networks (Academia.edu, Researchgate)*]

    1.4.1.2. Are you a part of any online group or network for researchers?

1.4.2. What other methods of communication about this research did you use? Here we ask about communicating your outputs through diverse forms in various phases of the research process.

    1.4.2.1. Did anyone help you with that?

1.4.3. Which communication channels are useful and appropriate for communicating with the audience in SSH?

1.4.4. Do you see a need for changes in the field of communication about scientific papers in SSH? What could be improved from your perspective?

    2.   **Semantic knowledge**

    2.1.   **Traditional and innovative forms and genres**

2.1.1. When you hear "scholarly text" what comes to your mind?

    2.1.1.1. What role do other materials (data, images, software, etc.) play in the process of writing and publishing?

    2.1.1.2. What is your opinion about publishing the entire material from a given study in SSH (E.g. whole interviews, annotated texts, annotation schemas, corpora, research protocols, data collected in the research process etc.)?

    2.1.1.3. Do existing metadata schemes cover the needs of scholarly writing and integrating various metadata: publication metadata, research data metadata, non-textual content metadata?

2.1.2. What is innovation in scholarly communication?

    2.1.2.1. Which innovative genres and formats of scholarly communication are you familiar with? (e.g. website, software, blog, social media posts, etc)

    2.1.2.2. What are the advantages and disadvantages of using innovative genres and formats?

    2.1.2.3. Which innovative forms and genres of scholarly communication are the most useful for SSH researchers?

    2.1.2.4. What is the audience of innovative forms and genres? Does it overlap with

the audience of more traditional forms of scholarly communication?

2.1.2.5.   How to assess the impact of new genres in comparison to bibliometric impact factor of traditional communication? E.g. alt-metrics (number of downloads, mentions in social media).

2.1.3. What are the difficulties of evaluating innovative genres in existing peer review processes?

2.1.3.1.   Should all innovative genres be peer-reviewed? Are there any differences?

2.1.3.2.   What do you think about citing new writing forms when writing an academic publication?

2.2.   Prestige

2.2.1. Do you think there are publication types that count more in your career assessment/academic profile than others? What are these and why?

2.2.2. Could writing for the non-scholarly audience be a source of academic prestige?

2.2.3. What are the elements that make up the prestige of a publication?

2.2.4. Are some innovative forms and genres of scholarly communication considered to be more prestigious than others?

2.2.5. What do you think about the prestige of OA publications?

2.3.   Power structures

2.3.1. Which actors have currently the strongest influence on publishing: policy-makers, funders, research institutions, publishers, early career researchers, senior researchers. Why?

2.3.2. Who are gatekeepers in scholarly communications? Reviewers, editors, editor in chief? (Can the editor-in-chief make a decision contradictory to the reviews?)

2.3.3. Do you think that peer review is effectively conducted by the best experts? Are they rather early career researchers or senior staff?

2.3.4. Are early career researchers and (or) scholars with no stable employment more vulnerable when engaging in innovative forms of scholarship (open data sharing, preprints sharing, open peer review)?

2.4. Peer-review

2.4.1. What are the main functions of peer review? (gatekeeping, improving scholarly work, filtering?)

    2.4.1.1.   Should the peer review be published together with the paper?

    2.4.1.2.   Is peer review always organized by journals and publishers or do you know any other forms of peer review that happens outside of the traditional publication workflow? Do you know any other practices of assessing and improving the output? (e.g. commenting on drafts, or code, participation in recommendation networks or twitter discussions etc.)

2.4.2. Have you ever heard about open peer review? Openness in peer preview can take many forms from open interaction between the reviewers, through publishing review reports anonymously or signing reports and openly publishing them.

    2.4.2.1.   What do you think about it?

    2.4.2.2.   Have you ever taken part in it as an author or reviewer? If so, what were your impressions?

2.4.3. In your opinion, is it easy or difficult to find researchers willing to participate in innovative peer-review practices? E.g. open-peer review, transferable (or portable) peer review, post publication review, cascade peer-review, open identity review.

2.5. Publishing costs

2.5.1. How does a budget influence or limit the horizon of choice with regards to publishing venue or format? What would a scholar with low-budget do?

    2.5.1.1.   Is there any institutional or national support for covering the publication fees.

    2.5.1.2.   Is it possible to obtain financial support from beyond academia, like crowdfunding?

3. **Synthesis**

3.1. What are the tools or services that you really miss from the current landscape, that would make the publication process much easier? (Here you can think of anything from writing, collaboration tools through services finding publishing venues for your work to post-publication or dissemination tools/services.)

3.2. What is the most important thing that should be changed in order to improve the current scholarly communication system?

3.3. Do you know any innovative publishing projects that we should examine?