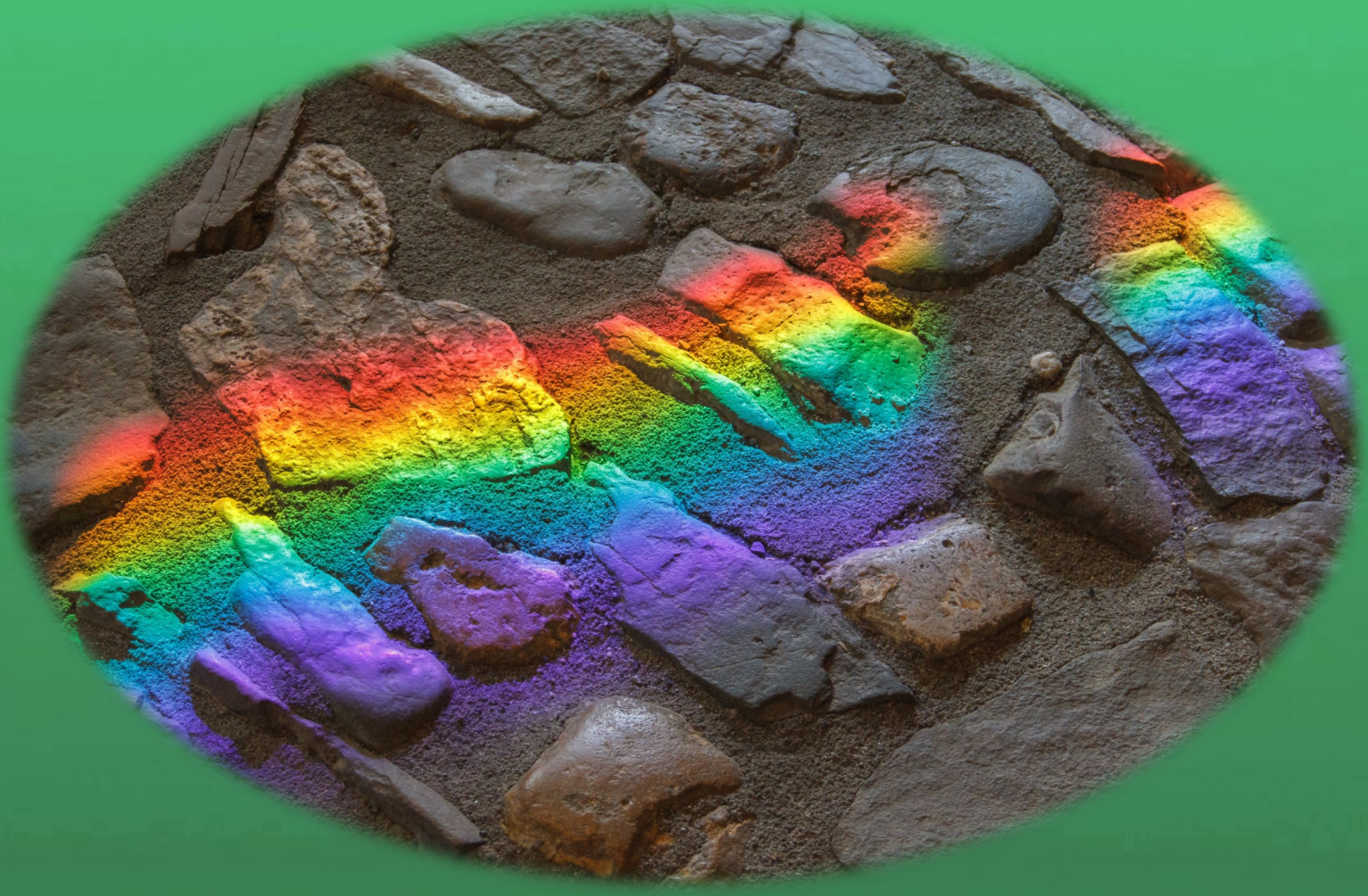
Exchanges

The Interdisciplinary Research Journal

Volume 9, Issue 1 (Autumn, 2021)



Issue Highlights:

- Agency & authorship in Samuel Beckett's *The Unnamable*
- Autoethnographic revelations for teacher training
- Inflexibility, challenges and the early career scholar
- Microbial rivers, the Anthropocene, and renewal
- Reflections on Routine Dynamics

ISSN 2053-9665

Exchanges: The Interdisciplinary Research Journal

Volume 9, Issue 1 (Autumn 2021)

ISSN 2053-9665

Published by

The Institute of Advanced Study, Zeeman Building
University of Warwick, Coventry, Warwickshire,
CV4 7AL, UK

Editor-in-Chief

Dr Gareth J Johnson (**exchangesjournal@warwick.ac.uk)**

Exchanges is a scholar-led, peer-reviewed, diamond open access, interdisciplinary, online-only journal dedicated to the publication of high-quality work by researchers in all disciplines for a broad scholarly audience. No author fees or subscription charges are levied, and contributors retain their author rights. Since 2013, the title has attracted innovative research articles, critical essays and interviews from emerging domain experts and early career researchers globally. The title also publishes scholarly work by practitioner authors and independent scholars.

A Managing Editor-in-Chief based at the University of Warwick oversees development, policy and production, while an international Editorial Board comprised of early career researchers provide advice and practically contribute to editorial work. Associate editors are recruited to participate in producing specific special themed issues. Exchanges usually publishes two issues annually, although additional special themed issues are periodically commissioned in collaboration with other scholars.

Exchanges' twin missions are to encourage intellectual exchange and debate across disparate research communities, along with developing academic authorial and editorial expertise. These are achieved through providing a quality assured platform for disseminating research publications for and by explicitly cross-disciplinary audience, alongside ensuring a supportive editorial environment helping authors and editors develop superior academic writing and publishing skills. Achieving enhanced contributor esteem, visibility and recognition within these broader scholarly communities is a further goal.

Submissions: **exchanges.warwick.ac.uk/about/submissions**

Editorial Board: **exchanges.warwick.ac.uk/about/editorialTeam**

Social Media

@ExchangesIAS

anchor.fm/exchangesias

linkedin.com/groups/12162247

blogs.warwick.ac.uk/changesias/

WARWICK
THE UNIVERSITY OF WARWICK

Twenty is Plenty: Editorial, Volume 9, Part 1

Gareth J Johnson

Institute of Advanced Study, University of Warwick, UK
Correspondence: gareth.johnson@warwick.ac.uk
Twitter: @llordllama
ORCID: 0000-0003-3953-6155

> *One day I shall come back. Yes, I shall come back. Until then, there must be no regrets, no tears, no anxieties. Just go forward in all your beliefs and prove to me that I am not mistaken in mine.* (William Hartnell in **Flashpoint, 1964**)

Introduction

Welcome to the twentieth edition of *Exchanges: The Interdisciplinary Research Journal*, and our fourth issue of 2021. If this is the first issue of *Exchanges* you have read, then you are most welcome, as it is always a pleasure for us to have new readers. Naturally, you are just as welcome if you are part of our ever-growing community of regular readers.

Twenty (Twenty One) Vision

This is something of a celebratory edition, and not simply because we have reached a round-number of issues. I came aboard to run the journal back in the gloriously pre-pandemic days of early 2018 with the publication of volume 5(2), which also happened in a spooky coincidence to be the journal's tenth issue.

You won't need me to point out how very different the world was those scant few years previously. For our part, *Exchanges* was then based out of Warwick's Millburn House complex in a first-floor corner office overlooking a car park ringed by a magnificent collection of trees. When our host department relocated the following September to be closer to central campus, naturally *Exchanges* followed close behind. There were trees to admire there too, and rather more wildfowl camped outside the front of the building than in our previous residence. Today, I find myself still looking out at trees from desk, but they are the foliage in and around my garden rather than campus ones. To paraphrase Hartnell's character, at some point, hopefully soon, I may return to campus: just not quite yet.

Despite not being on campus for the past couple of years, as chief editor I have still continued to enjoy many and frequent discussions with authors and other contributors to the journal throughout. This very morning I found myself debating the finer points of reviewing protocol with a new

reviewer for example. Last week, there was more of an author focus answering queries about potential submissions and the challenge of adapting longer works into articles. Certainly the main lesson I have been able to takeaway from my time on the journal to date, is there is no quotidian routine expectation of what each day will throw at me. Doubtless change, challenge and serendipitous delight will continue to frame the journal editorial experience as we move closer to celebrating our tenth anniversary of publication in 2023.

If there is one constant, it is perhaps the ways in which our various contributors and their myriad needs are rarely far from my mind as *Exchanges* editor-in-chief (EIC). In particular, over the past couple of months I have been delighted to contribute to a British Academy (**2021**) funded project which is offering support for early career scholars' authorial skills. *Exchanges'* ongoing participation in this *Anthropocene and More-Than-Human World* project, is helping the principal investigators meet their aims to 'foster knowledge exchange' relating to publishing and academic writing in a 'supportive environment' (**Johnson & Price, 2021**; **Price & Dennis, 2021**). Moreover, my workshop contributions have been squarely focussed on assisting the authors convert their outline abstracts into fully-realised academic articles. Hopefully, once the dust has settled from our busy 2021, I will have the opportunity to share some of the outputs and reflections from my endeavours in that regard.

What has been clear to me throughout participation in this latest authorial outreach, is how these endeavours continue to strengthen and support what I consider are among *Exchanges* most crucial contributions to scholarly communications. That is, alongside the doubtless invaluable provision of a quality-assured publication platform, the reification of our core ideology and dedication to assisting in the development of emerging academic authors. Since my very first issue, this has been underlying element I fervently believe is essential for demarketing the journal's brand alongside raising its value and perceptions across our disparate contributor and reader audiences. If anything, eleven issues into my tenancy as EIC, I feel more passionately about this element of the title today than I did back in those early, non-face-mask wearing days.

Papers

Enough reflections as it is now time to move on to introduce the main content of this journal issue. I am pleased to present a very varied selection of work from across the disciplinary spectrum, which myself and the Board hope will interest our disparate readership communities.

Articles

In our first article, **Catherine Price** seeks to answer the question of improving public engagement in the genetically modified organism debate. Price's article starts by clarifying models relating to public understanding and engagement with science. The piece then moves to look how they can be deployed at creating better relationships between science and members of the public through an educational approach. Finally, it proposes a route to successfully achieving these goals through discourse and the formation of a consortial body (1).

Moving to our second article which comes from **Serena Zanzu**, this draws on interviews and theory relating to environmental studies. Zanzu seeks to argue for the significance of thinking 'with rivers' as a counter to the existential challenges of the Anthropocene. Proposing the concept of 'microbial rivers', the article partially draws on the lived experiences of another environmental scientist to help frame the complicated dynamics of fluid communities and the impact from adverse human interventions. In this light, Zanzu concludes by offering ways to reconsider the capacity for environmental renewal in the face of pollution and other human-originated impacts on rivers (24).

In our third article **Afeez Babatunde Siyanbola** and **Adedola Olayinka Adeyemi** consider the appropriateness of major brands' logos and their resonance within the public sphere. Exploring the logos' visual components, the authors present the summation of their analysis drawn from a cross section of design sector professionals impressions of these images. Through a statistical analysis, they argue ways in which corporations can strengthen their brand image and public impact through following proposed simple design guidelines (45).

For our fourth article this issue, **Monica Mastrantonio** takes a look at *The Question of Time for Norbert Elias*. Initially highlighting Elias' work in drawing attending to applied interdisciplinary work, Mastrantonio moves to explore how 'figurational sociology' can be employed to study human relations in a 'processual way'. Considering how civilisation's underlying processes enforced various activities and social dependencies upon people, the paper exposes and explores the role 'time' as a common, regularity element plays in modulating such relationships. As such the author calls for more work within this framing, in order to develop a more authentic picture of society's human relations and interdependencies (67).

We turn next to an article from **Jaime Teixeira da Silva** which speaks to Exchanges' core audience, in considering the challenges faced by early career scholars within research and publishing in a time of COVID. In this piece, the author explores these various struggles and considers how the

impacts from the pandemic have exacerbated many of them. The paper argues how the inflexibility of scholarly publishing and its underlying structures continues to offer a particular barrier to new scholars' career development outside of a normative and conservative framing. The piece concludes by extolling the particular role mentoring academics can play in helping to guide and support newly emerging scholars to better overcome some of these challenges within a career development context (77)

Shifting modes entirely, **Arya Aryan**'s paper presents us with is a rich and deeply contextualised exploration of agency and authorship within on Samuel Beckett's seminal work *The Unnamable*. Within this context, Aryan explores the resonances of Beckett's writing with the breakdown of the 'Cartesian Cogito' within a weary post-war world. Through its narrative, the paper argues how The Unnamable substantiates a myriad of voices, with the book's discourse seemingly teetering between playing an intermediary role and giving a greater specific agency to those self-same-voices (107).

Our final peer-reviewed paper this issue tackles a method dear to my own heart in an eye-opening and revelatory way. **Kamal Nasrollahi** and colleagues deploy a collaborative autoethnography method through which they aim to better understand their own lived experience as educators. Hence, in their paper they explore how teachers' lifelong experiences shape and influence their perceptions of education itself. In turn these perceptions they suggest reframes how trainee teachers engage with their own pedagogical training. Through offering insightful and deeply personal revelations, a significance is derived which they argue could be employed in reshaping teacher educational training to be more effective (124).

Critical Reflections

Our final work this issue is a critical reflective piece. In *A Tasty Encounter with Routine Dynamics Ideas* **Huayi Huang** reflects on the Routine Dynamics conference hosted earlier in 2021. Alongside exploring what the conference was about, the author especially considers the imperative and inspiration the encounter conferred on their research and thinking. Moreover, they conclude by proposing how embracing such reflexive self-analysis could benefit fellow scholars professional and career development (145).

Plurality of Translation: Call for Abstracts

Currently we have a call for abstracts open for a future special issue (**Exchanges, 2021a**). For this special issue we are seeking contributions from students at master's and doctoral level as well as from early career academics, who prioritise an interdisciplinary perspective in their research projects. With the desire to make space for reflections on plurilingual diversity and the challenges arising therefrom for translation, this special issue is intended to constitute a collection of articles in which knowledge and ideas are shared for the purpose of improving practices of reading, writing, teaching, and translating.

In his commentary to Walter Benjamin's seminal text 'The Task of the Translator', Jacques Derrida comments on the limits of translation theories and philosophies, declaring that they too often remain committed to a bilingual conceptualisation of interlingual translation. Derrida asks how the 'effect of plurality' in translation may be fruitfully accounted for, especially in texts using more than two languages:

> *…Let us note one of the limits of theories of translation: all too often they treat the passing from one language to another and do not sufficiently consider the possibility for languages to be implicated more than two in a text. How is a text written in several languages at a time to be translated? How is the effect of plurality to be 'rendered'?* (**Derrida, 1992**)

In the original French of this passage, Derrida formulates this question using the verb rendre, which may be translated into English as 'to render', meaning 'to provide/give a service', 'to represent', 'to perform', and even 'to translate'. However, the French language reveals another important meaning: rendre also means to return something that is duly expected or owed. This type of critical reflection and research on translation, therefore, is understood as a work of righteous restoration, accounting for the plurilingual reality in which we live. In scholarship, the concept of multilingualism has been beneficial to describe and explain cultural products and phenomena of language in more than one language. Yet Derrida's notion of plurality affirms the multiple, going beyond the binary. Derrida's plurilingual approach to translation favours a position of (political) responsibility, eager to mediate between the languages of writers, translators, and readers. This endeavour honours the inclusion of works of more than two languages.

For this special issue we aim to incorporate thought-provoking contributions addressing the possible effects of plurality in linguistic, conceptual, and cultural translation. Suggested areas of focus might include, but not be limited to, the following aspects:

- Choices and strategies to translate plurilingual texts
- Philosophical and theoretical approaches for translating the effects of more than two languages
- Plurilingual writers, thinkers, and translators, their histories and identities
- Teaching bilingual texts in a plurilingual classroom
- Teaching plurilingual text in a bilingual classroom
- Translating one concept into multiple languages

Deadline

To be considered as a contributor for this issue, please submit a 300-word abstract, accompanied by your name and institutional affiliation via email to Melissa Pawelski (melissa.pawelski@warwick.ac.uk) by **Monday 1st November 2021**. Should your contribution be accepted, you will be asked to submit your full paper, by Monday, 14th March 2022.

While the abstract deadline is close at hand, Melissa and myself are open to discussions with anyone who might need a few extra days to for their submission to be ready.

Open Calls for Paper

Additionally, if this issue has whetted your appetite to consider contributing to *Exchanges* then you will be pleased to know the journal welcomes submissions throughout the year on any subject, with no deadline. Articles which pass our review processes and are accepted for publication will subsequently appear in the next available issue of the journal. In all cases, the EIC welcomes discussions with authors ahead of submission to discuss their manuscripts' suitability for consideration, although this is not a mandatory requriement.

As *Exchanges* has a mission to support the development and dissemination of research by early career and post-graduate researchers, we are especially pleased to receive manuscripts from emerging scholars or first-time authors.

Peer-Reviewed Articles

Exchanges is delighted to welcome submissions of research or review articles to be considered for peer-reviewed publication. Articles can be submitted on any topic, ideally written for a multi and interdisciplinary audience. We are especially pleased to consider work which incorporates elements of interdisciplinary methods, methodology or thinking. Peer-reviewed pieces should normally be between 4,000-6,000 words in length at submission.[i]

Critical Reflections & Conversations

Additionally, *Exchanges* also welcomes submissions of interviews with key scholars or critical reflections on important scholarly events, conferences or crucial new texts. These works undergo a briefer internal, editorial review, scrutiny only, but should still be written to the highest standard. Along with their briefer wordcounts, this generally allows for a shorter lead time to publication than the peer-reviewed submissions.

Both critical reflections and conversation pieces are popular articles with our broader readership both within and beyond the academy, due to their innate wider accessibility. They are also an excellent format to consider especially for first-time authors, looking to get a piece into publication in the near future. Both conversations and critical reflection pieces should typically be between 1,000-3,000 words in length.

Deadlines

Unlike our special issue and themed calls, there are no deadlines for these submissions. However, authors should be mindful of our spring/autumn publication schedule in terms of considering when their final publication may be likely to appear.

Advice for Prospective Authors

As an interdisciplinary journal with a wide scholarly readership, authors should seek to write their manuscripts to be suitable for a general academic audience. Wherever possible, consideration should be given to unpack, delineate and expand on any potentially 'disciplinary niche' language, terms or acronyms used. Ideally, authors' manuscripts should seek to incorporate some elements of interdisciplinary thinking or perspective, or outline the broader scholarly relevance of their work.

Exchanges has an expressly multidisciplinary, global and largely academic readership which have strong interests in work encompassing or straddling disciplinary boundaries. Manuscripts providing an introduction, overview or useful entry point to key disciplinary trends, discovery and discourse are often among the most frequently accessed publications in the journal.

Therefore, prospective authors are strongly encouraged to consider tailoring their narrative, thought and analysis in a mode which addresses this broad audience's interests. For interviews and critical reflections, authors are advised to highlight the importance of disciplinary discourse or interviewees' scholarly contributions to the global academy, society and public at large.

The EIC welcomes approaches from authors via email, or video-call, to discuss prospective submissions. However, abstract submission or

editorial discussions ahead of a submission are not a requirement, and authors are welcome to formally submit their full manuscript without prior communication. Wherever possible, authors should include a note to editor indicating the format of their work (e.g. article, critical reflection etc.).

All submitted manuscripts will undergo editorial review, with those seeking publication as research articles additionally undergoing formal peer-review by external assessors. Editorial decisions on manuscript acceptance are final, although unsuccessful authors are normally encouraged to consider revising their work for reconsideration at a later date.

More information on article formats, wordcounts and other submission requirements are detailed in our author guidelines (**Exchanges, 2021b**). All manuscript submissions must be made by their lead author via our online submission portal. *Exchanges* is a diamond open access, scholar-led journal, meaning there are no author fees or reader subscription charges (**Fuchs & Sandoval, 2013; Bosman, et al, 2021**). Authors retain copyright over their work but grant the journal first publication rights as a submission requirement.

Forthcoming Issues

After four issues this year, I am glad things will be quieting down for a little while – if only to allow me to catch up on some much neglected behind the scenes work! That said for 2022 we are looking at potentially another four, or possibly five, issues being published.

Our regular issues are scheduled for spring and autumn 2022, roughly late April and October respectively, although this is always subject to slight variance. These issues will host articles, reflections and conversations submitted outside our special issues and themed calls. See the open call for publications above, on the website, or contact myself to discuss ways in which your work might be featured in them.

In terms of special issues, there are now three of these under active development, of which I would hope at least two will see publication next year (**Exchanges, 2021c**). The most well developed is the *Cultural Representations of Nerds* issue, for which the constituent papers are now all under review or revision. The second special issue of 2022 will ideally comprise the outputs of the *Anthropocene and More-Than-Human World* workshops, although as these are not expected to be submitted until late 2021/early 2022, it is far too early to suggest when the issue might appear.

Finally, as you will have seen above, our call for *The Effect of Plurality in Translation* is currently live, with a prospective submission deadline for final articles early in 2022. Whether this or the Anthropocene special appears first is, for now, very much in the lap of the gods. Or perhaps more accurately, in the lap of the contributing authors.

I should note, there are two further special issues currently under very preliminary discussion too.[ii] However, under our current arrangements, I would not envisage these would be making an appearance until 2023 unless our operations significantly change. I do however always welcome further approaches and exploratory discussions for further special issues from our contributor community.

Consequently, *for Exchanges* 2022 and beyond continues to be filled with developments and prospective publications aplenty. I do hope you will be continuing to join us for each issue!

Acknowledgements

My thanks as always to all our authors and reviewers for their vital intellectual contributions towards this issue. Without you, producing a quality-assured, peer-reviewed, scholar-led publication would not be possible. Thanks to our reader community and attendees at the recent Accolade session on Exchanges too for helping develop the debates and insights around the journal and its contents.

My continued thanks to the members of our **Editorial Board** and associate editor community for their insights on matters of publishing policy, operations and ethics. Naturally, I am especially indebted to them for all their editorial labour contributions, particularly in maintaining an ongoing interaction with authors and reviewers alike.

My gratitude too goes to **Rob Talbot** at the Warwick University Library for his continued technical support. My thanks as well to the IAS' **Dr John Burden** for his perennial role as a sounding board and advisor on related journal developments, and occasional cross-country hiking companion!

Finally, my grateful thanks as always to our publisher, the Institute of Advanced Study at the University of Warwick for their unceasing financial and strategic backing for *Exchanges* and our related activities.

Continuing the Conversation

Exchanges has a range of routes for keeping abreast of our latest news, developments and calls for papers. In-between issues you may wish to listen to our growing range of podcasts or read our blog posts, to continue the interdisciplinary exchange of experience underlying our operations. Please do contribute or amplify the conversation whenever and wherever you can, as we always value hearing the thoughts of our author and readership communities.

Editorial Blog:	blogs.warwick.ac.uk/exchangesias/
Linked.In:	www.linkedin.com/groups/12162247/
Twitter:	@ExchangesIAS

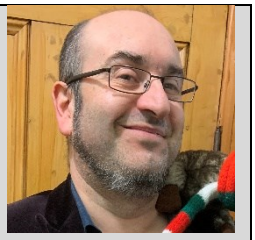
As Editor-in-Chief I am also pleased to discuss potential publications, collaborative opportunities or invites to talk further about *Exchanges* and our activities. Contact me via the email or via the social media platforms if you would like to arrange a video-consultation.

The Exchanges Discourse

More new episodes of the companion podcast series, *The Exchanges Discourse*, have been published over the summer and autumn months. As always, a focus on advice for new academic authors continues to play a key part of these episodes. With the publication of this issue, I am will be inviting a few of the authors whose work has appeared in recent issues of the journal to appear over the next few months.

I heartily encourage all readers of the journal, and especially first-time authors, to seek out past and future episodes: available on all major podcast platforms, and specifically hosted on the *Anchor.fm* site.[iii] All episodes are free to stream or download and listen to at your leisure. Naturally, we also welcome approaches from potential future guests or suggestions for topics we could address as part of future episodes too. Contact me as above.

Podcast:	anchor.fm/exchangesias



Gareth has been the Editor-in-Chief of *Exchanges* since 2018. Along with a doctorate in cultural academic publishing practices (Nottingham Trent), he also possesses various other degrees in biomedical technology (Sheffield Hallam), information management (Sheffield) and research practice (NTU). His varied career includes extensive experience in academic libraries, project management and applied research roles. Currently, he is also the Chief Operating Officer of the Mercian Collaboration academic library consortium, and a Fellow of the Higher Education Academy. His professional and research interests focus on power-relationships within and evolution of scholarly academic publication practice, viewed from within social theory and political economic frameworks. He is an outspoken proponent for greater academic agency through scholar-led publishing, and an expert in distributed team management and effective communication practices. He is also the creator and host of a number of podcasts, including *The Exchanges Discourse*.

References

Bosman, J., Frantsvåg, J.E., Kramer, B., Langlais, P.C., & Proudman, V., 2021. *The OA Diamond Journals Study: Exploring collaborative community-driven publishing models for Open Access, Part 1: Findings*. Science Europe/cOAlition S, March 2021. DOI: 10.5281/zenodo.4558704 [Accessed: 22 June 2021].

British Academy, 2021. *The British Academy awards seed funding to support UK-Netherlands collaborative research*. The British Academy News, 5 March. Available at: https://www.thebritishacademy.ac.uk/news/the-british-academy-awards-seed-funding-to-support-uk-netherlands-collaborative-research/ [Accessed: 26 October 2021].

Derrida, J., 1992. From Des Tours de Babel, transl. Joseph F. Graham. In: *Theories of Translation*. An Anthology of Essays from Dryden to Derrida, eds. R. Schulze and J. Biguenet. Chicago: Chicago University Press.

Exchanges, 2020. *Do you want to build a Special Issue?* The Exchanges Discourse, Season 01 Episode 06. https://anchor.fm/exchangesias/episodes/Do-you-want-to-build-a-Special-Issue-ekm794 [Accessed: 22 June 2021].

Exchanges, 2021a. *Call for Abstracts: The Effect of Plurality in Translation*. Available at: https://exchanges.warwick.ac.uk/index.php/exchanges/announcement/view/32 [Accessed: 26 October 2021].

Exchanges, 2021b. *Author Guidelines*. Available at: https://exchanges.warwick.ac.uk/guidance [Accessed: 20 October 2021].

Exchanges, 2021c. *Special Issues*. Available at: https://exchanges.warwick.ac.uk/index.php/exchanges/special-issues [Accessed: 26 October 2021].

'Flashpoint', 1964. *Doctor Who*, Series 2: The Dalek Invasion of Earth, episode 6 [television] BBC, 26 December 1964.

Fuchs, C., & Sandoval, M., 2013. The Diamond Model of Open Access Publishing: Why Policy Makers, Scholars, Universities, Libraries, Labour Unions and the Publishing World Need to Take Non-Commercial, Non-Profit Open Access Serious. *tripleC*, 11(2). Profit Open Access Serious. *tripleC*, 11(2). DOI: 10.31269/triplec.v11i2.502 [Accessed: 26 October 2021].

Johnson, G.J., & Price, C., 2021. A Conversation with…Catherine Price. *The Exchanges Discourse*, Series 2, Episode 12, [podcast], 12 October 2021. Available at: https://anchor.fm/exchangesias/episodes/A-Conversation-with---Catherine-Price-e18m8j1 [Accessed: 26 October 2021].

Price, C., & Dennis, M., 2021. *The Workshops: The Anthropocene and More-Than-Human World Writing Workshop Series*. [blog]. Available at: https://anthropoceneandthemorethanhumanworldwritingworkshop.com/call-for-papers/ [Accessed: 26 October 2021].

Editorial Board Members

To cite this article:

Johnson, G.J., 2021. Twenty is Plenty: Editorial, Volume 9, Part 1. *Exchanges: The Interdisciplinary Research Journal*, 9(1), i-xiii. Available at: https://doi.org/10.31273/eirj.v9i1.921.

Endnotes

[i] **Word counts**: We do not include abstracts, references, endnotes or appendences for the purposes of establishing a submissions word count. While submissions just over or under their word count will still be initially considered for review, those significantly in excess of these numbers will be declined and returned to their authors with advice for revision.

[ii] **Initiating Special Issues:** If you are an established or early career academic, seeking a suitable home for a dedicated volume of the journal we do welcome outline discussions for the ways in which *Exchanges* could become your publication partner. While our facilities are modest, we have been excited to work with various scholars on special issues past and future (**Exchanges, 2021**). We are open to approaches to consider potential new special issue developments, and you are warmly invited to contact myself as Editor-in-Chief to discuss the prospect. You may also wish to listen to a past episode of *The Exchanges Discourse* (**Exchanges, 2020**) wherein I discuss the thinking and pragmatic concerns around initiating a special issue collaboration with our journal.

[iii] The podcast is also streamed on Spotify, Apple and Google Podcasts and other podcasting platforms. Search for it by name.

Genetic Food Futures: Increasing participation with the Genetically Modified Organism Consortium

Catherine Price

School of Geography, University of Nottingham, UK
Correspondence: catherine.price@nottingham.ac.uk
Twitter: @catherinejprice
ORCID: 0000-0003-1846-5407

Peer review: This article has been subject to a double-blind peer review process

Abstract

The aim of this article is to offer an answer to the question: How can we improve public engagement in the genetically modified organisms debate? It will describe the models of Public Understanding of Science and Public Engagement with Science. Public Understanding of Science dates back to the 1970s and is intended to create a relationship between science and people through education. The UK's House of Lords Select Committee on Science and Technology introduced the Public Engagement with Science model in 2000. Public Engagement with Science calls for a dialogue between scientists and society, enabling science to be questioned. These models have been used in the past with controversial issues such as GM organisms, although not always successfully. The article concludes by proposing the Genetically Modified Organism Consortium. This proposal is based on the idea of engaging more voices in the debate, and offers a global, national and local response.

Keywords: Genetically modified organisms; climate change; food security; environment; public engagement with science; public understanding of science; Genetically Modified Organism Consortium.

Introduction

The aim of this article is to offer an answer to the question: How can we improve public engagement in the genetically modified (GM) organisms debate? Before addressing this question, I briefly outline some of the current issues and problems facing the food system.

The environment is crucial for meeting our food needs. Growing inequalities, increasing urbanisation and exceeding the Earth's natural resources so they are no longer renewable, are all expected to contribute to food insecurity in the future. Whilst a growing global population needs to be mentioned because there will be more people to feed, this could be addressed by less waste, better distribution, and sustainable efficiencies in agriculture (**Lang, 2021**). However, tackling all of these issues will be challenging. As Godfray et al. explain:

> *A threefold challenge now faces the world: Match the rapidly changing demand for food from a larger and more affluent population to its supply; do so in ways that are environmentally and socially sustainable; and ensure that the world's poorest people are no longer hungry. This challenge requires changes in the way food is produced, stored, processed, distributed, and accessed that are as radical as those that occurred during the 18th- and 19th-century Industrial and Agricultural Revolutions and the 20th-century Green Revolution.* (**Godfray et al, 210: 812**).

As this statement illustrates, radical changes to the food system are required. These changes will need to take place whilst also dealing with stresses from climate change and environmental degradation. These two problems are fundamentally entangled with social justice as climate change and environmental degradation will disproportionately affect the poor (**Nixon, 2011**), along with indigenous communities (**Whyte, 2017**) and nonhuman animals (**Wright, 2017**). Natural hazards, extreme weather patterns, and shortages of food and water are threatening the lives of the poor and indigenous communities. With nonhuman animals, many of the world's most threatened species live in areas which are or will be severely affected by climate change. For these species, climate change is occurring too quickly for them to adapt. In responding to these threats, there is a need to look beyond science. This should not be impossible though as Duncan and Bailey (**2017a: 2**) suggest 'solutions to the myriad problems related to food systems are not only to be found in new scientific discoveries. They are being developed and implemented by people responding to challenges in their communities and in their countries'. As such, we need to reimagine and redesign the food system by drawing on the different knowledges available.

Climate change will bring new challenges for agriculture as more extreme weather conditions and patterns will increase crop yield volatility (**Roesch-McNally et al., 2017**). Farmers have always had to contend with some variability and volatility from year to year, but extreme weather events of recent years have heralded what is to come in the future (**Lang, 2016**). However, the problem with climate change is that it is speculative. Organisations such as the Intergovernmental Panel on Climate Change (IPCC) can make predictions as to what they believe will happen with climate change, but they can only do so with degrees of confidence (see **IPCC, 2019**). Other threats to the food system include environmental degradation from intensive agriculture [1], which has led to eroded, degraded and nutrient poor soil, and polluted and inadequate water supplies (**Lang & Heasman, 2015**). Science and technology is often turned to in order to address problems such as these. Rosi Braidotti uses the concept of the 'Fourth Industrial Revolution' to describe how biotechnology, nanotechnology, artificial intelligence, the Internet of Things[2], and robotics are increasingly being developed and used to solve problems that humanity faces (**Braidotti, 2019:2**). Braidotti goes on to explain how these technologies can create more problems than they solve by depleting the Earth's resources and creating social inequalities. Currently, we are positioned between the Fourth Industrial Revolution and the Sixth Extinction. Kolbert (**2014**) describes how the five extinctions which have gone before in the last half billion years, have occurred dramatically and suddenly. However, she explains that the Sixth Extinction is forecast to be more devastating and is a result of human activity. Humans are dependent on the Earth's biological and geochemical systems (**Kolbert, 2014; Wright, 2017**). As these systems are disrupted and altered through the cutting down of rainforests, the alteration of the composition of the atmosphere, and the acidification and warming of the oceans, the survival of humans and the more-than-human world are put at risk. By being positioned between the Fourth Industrial Revolution and the Sixth Extinction, we are subjected to the 'systemic accelerations of advanced capitalism and the great acceleration of climate change' (**Braidotti, 2019: 2**).

Food production is strongly linked to factors such as climate change. There have been significant changes in extreme temperatures, droughts and floods since the middle of the twentieth century, resulting in failing crops and reduced yields (**Lesk et al., 2016**). Extreme weather events pose new levels of risk and volatility for farmers (**Lang, 2016**), potentially leading to the failure of crops. Genetically modified crops have been proposed as a potential solution for crops which need to be drought tolerant or flood resistant.

Genetic technologies use artificial techniques instead of natural crossing and recombination. Genetic modification is where a gene from one species is inserted into the genome of another species (**Phillips, 2008**). Gene editing is where a gene is inserted from the same species or removed from the genome (**Shew et al, 2018**). Both plants and animals can be genetically modified or gene edited. For the purposes of this article, genetically modified will refer to organisms which can be genetically modified or gene edited. The use of the term organism is used to denote plants or animals.

It is important to note that GM organisms are controversial. The controversy surrounding GM organisms exemplifies why there is a need to engage people with science. In the next section, I discuss the Public Understanding of Science model and the problems associated with it, before examining the Public Engagement with Science model. These two models can help us understand and make sense of the controversial nature of GM organisms. I then move on to discuss genetically modified organisms and the debates which have taken place in the UK and Mexico. In the final section, I examine the concept of observatories and consortiums before introducing the Genetically Modified Organism Consortium.

Public Understanding of Science

Attempts to assess levels of public understanding of science date back to the 1970s when the US National Science Foundation conducted surveys to determine people's knowledge of scientific facts (**Stilgoe & Wilsdon, 2009; Irwin & Michael, 2003**). Walter Bodmer's *The Public Understanding of Science* report (**The Royal Society, 1985**) was influential in the UK. With the Public Understanding of Science (PUS) model, the emphasis is placed on scientists to inform the public about the value of science. The model is based on the idea that the public are ignorant about science, and once they understand it, they will trust it (**Stilgoe & Wilsdon, 2009**). This assumption is at the heart of what has become known as the 'deficit model', and is how the Public Understanding of Science perspective came into being. Irwin (**2009: 7**) describes the deficit model

as the assumption on the part of institutions and their science communicators that the public is ignorant about science – but that it (for this is a singular presentation of 'the public') would accept science readily if it only knew more (with 'science' similarly being singular rather than plural or heterogeneous). The deficit perspective suggests one-way communication with a passive audience soaking up 'the facts'.

The ideas on which the Public Understanding of Science model were based were intended to create a relationship between science and people. The intention for 'the public' to have a greater comprehension of science was widely regarded as advantageous by the scientific community and Government agencies in the UK.

The Public Understanding of Science model meant both 'the public' and the level of understanding or ignorance about science had to be generalised. However, this approach did not work. Science means different things to individuals depending on the situation they find themselves in. As scientists cannot reach a consensus as to what science is (**Holliman & Scanlon, 2009; Irwin & Michael, 2003**), it is not surprising that people face the same dilemma. Brian Wynne's research found that 'public uptake (or not) of science is not based upon *intellectual capability* as much as social-institutional factors having to do with social access, trust, and negotiation as opposed to imposed authority. When these motivational factors are positive, people show a remarkable capability to assimilate and use science or other knowledge derived (inter alia) from science' (**Wynne, 1991: 116**, emphasis in original). People can be educated about science, but they are unlikely to accept this if they do not trust the science being conducted. Wynne also found that 'people do not use, assimilate, or experience science separate from other elements of knowledge, judgment, or advice' (**Ibid: 114**). Education in the *Public Understanding of Science* report by The Royal Society (**1985**), is defined as: formal education; the media; public lectures, children's activities, museums, libraries; and scientists learning to communicate better with people. If science education is dismissed by people, this could be because 'public nonreceptivity to scientific information is often based on judgment that it is not *useful* or does not match public or personal experience' (**Wynne, 1991: 116,** emphasis in original). People may be dismissive of scientific developments if they run counter to their previous experiences. It should also be acknowledged that people will decide what types and kinds of knowledge they wish to acquire (**Irwin, 2009**).

The problem with the Public Understanding of Science model is that it fails to recognise that non-scientific experts can be knowledgeable and informed about everyday conditions of life. 'Science might have as much to learn as to communicate' (**Irwin, 2009: 7**) when it comes to understanding the social realities of controversial subjects such as GM organisms.

Public Engagement with Science

Publics still questioned and mistrusted science even though they were being informed by scientists. The assumption that to 'know science was to love science' was directly undermined by certain events during the 1990s (**Stilgoe & Wilsdon, 2009: 19**). This started with the crisis surrounding bovine spongiform encephalopathy (BSE) in cattle and the link to new variant Creutzfeldt-Jakob disease (nvCJD) in humans, and continued with GM crops, risks surrounding mobile phones, and concerns about the measles, mumps and rubella (MMR) vaccination (**Stilgoe & Wilsdon, 2009**). The 'people's relationship with science was far more active and sceptical than previously thought. People wanted to be able to ask questions of science and have their voices heard' (**Ibid: 20**). Even the then UK Chief Scientific Adviser, Sir Robert May, called Public Understanding of Science, 'a rather backward-looking vision' (**House of Lords Select Committee on Science and Society, 2000: paragraph 3.9**). Following the release of the *Science and Society* report by the UK's House of Lords Select Committee on Science and Technology (**Ibid**), non-experts were to be brought into the policy-making process surrounding scientific issues. The Select Committee introduced the Public Engagement with Science model.

Public Engagement with Science calls for a dialogue between scientists and society. Science should be questioned by society and there should be broader engagement with other experts, stakeholders and people. Irwin (**2015: 25**) argues that at the 'core of what has come to be defined as 'public engagement' there is generally an attempt to 'broaden' discussion, to identify new issues and to consult groups which might not otherwise be heard'. The aim is to bring science and people closer together.

According to Stilgoe and Wilsdon (**2009: 29**), 'public engagement provides a lens through which policy-makers can see issues differently, focusing on contexts, uncertainties, alternatives and local concerns'. Jasanoff (**2003: 239**) contends 'what is lacking is not just knowledge to fill the gaps, but also processes and methods to elicit what the public wants, and to use what is already known'. In the case of GM foods, there can be a number of responses. For example, some people perceive the manipulation of genes as unethical (**Shiva, 2016; Fitting, 2014**), whilst others perceive genetic modification as a means of addressing food security (**Lang, 2016; Cook, 2004**). If people are actively engaged with the development of a new area of science or a particular technology as opposed to being passive receivers of information, the dialogue can be shaped to consider the majority of people's values and beliefs. Obviously, this takes into account more than risk, but this type of conversation between science and society enables progress to occur in a more informed manner. A meaningful and productive dialogue between science and society can be achieved by:

- Undertaking deliberative activities with people
- Scientists improving the communication surrounding risk and uncertainty
- Ensuring it becomes normal to bring science and people into dialogue about new scientific developments at an early stage (**Irwin & Michael, 2003**)

For Jasanoff (**2003: 226**), the 'wider public responsibilities of science, as well as changes in modes of knowledge-making, demand new forms of public justification'. This may be ethics in genetic technologies or precaution in environmental assessments. Here, the questions we need to ask include: 'what is the purpose; who will be hurt; who benefits; and how can we know?' (**Ibid: 240**). Approaches to asking these questions include:

- Stakeholder dialogues
- Focus groups
- Citizens' juries
- Consultations at national level
- Consultations at local level
- Deliberative polling
- Standing consultative panels
- Consensus conferences
- Internet dialogues (**House of Lords Select Committee on Science and Society, 2000**).

By asking these questions, dialogue opens up and this allows people to talk about the issues they feel are important. People can have well-reasoned opinions even if they have limited scientific literacy as knowledge can be obtained from lived experience (**Horning-Priest, 2009; Irwin, 2009; Irwin & Michael, 2003**). The knowledge gained from lived experience is based on 'collective, culturally mediated' experiences, and as such, local knowledges are intertwined and are part of local cultural identities (**Irwin & Michael, 2003: 34**). Lived experiences can complement scientific knowledges. However, in order for public engagement to be effective, it has to become part of routine practice (**Stilgoe & Wilsdon, 2009**).

Having discussed the Public Understanding of Science and the Public Engagement with Science models, I now return to genetically modified organisms.

Genetically Modified Organisms

Genetic modification has been used commercially in agriculture since the 1990s, and has met with widespread resistance since (**Lang, 2016**). In part, some of this controversy has arisen from the 'control over the intellectual property of seeds, the regulatory approval needed (especially in terms of their environmental or human health impacts) in global markets and finally the corporate control over the GMOs and hence market power' (**Lang & Heasman 2015: 205**). Additionally, there have been competing claims in connection with the benefits and problems associated with genetic modification. The benefits can be described as follows: an increase in crop yields; a reduction in chemical use (pesticides, herbicides, and insecticides) on crops; the cultivation of crops able to withstand environmental stresses such as floods, pests and drought; an improvement in the nutritional qualities of foods; and the improved taste, appearance and texture of foods (adapted from **Lang & Heasman, 2015: 205**). The problems can be described as follows: GM plants might cause unforeseen issues and become invasive species; there may be unintended gene flows from GM plants into other crops and wild relatives; GM plants modified to be toxic may cause harm to biodiversity; and there may be unintended health impacts for humans (adapted from **Lang & Heasman, 2015: 205**).

The topic of GM organisms is inherently international with the European Union (EU) restricting their use (**Lang, 2021**), whilst countries such as the USA, Canada and Argentina were early adopters (**Macnaghten et al., 2015**). Different countries have very different experiences of GM organisms (**Ibid**). There is extensive literature on agricultural biotechnology and GM organisms, and how the controversy has unfolded in different nation states (for examples see **Burke, 2012; Durant et al., 1998; Grove-White, 2001; Harper, 2004; Jasanoff, 2000; Marris et al., 2001; Murcott, 2001; Shaw, 2002**). I will be exploring the controversies in the UK and Mexico in the following section. Both of these countries have had an unstable and unpredictable historical relationship with GM organisms (**Macnaghten et al., 2015**), but for different reasons.

The GM Organism Debate in the UK

In the UK, the debate about GM crops has been particularly heated, with the government pulled between differences at the national level as well as between European countries and the USA (Cook, 2004). No GM crops have ever been grown commercially in the UK, and as of April 2021, this continues to be the case (**UK Government, 2021**).

June 1998 saw the publication of a letter by Prince Charles in the *Daily Telegraph* in which he raised doubts about the safety of GM foods and questioned its expansion (**Howarth, 2012**). This was followed by a television documentary in August 1998 which included preliminary research by Dr A. Pusztai. He claimed rats fed on GM potatoes suffered from reduced immunity and stunted growth (**Burke, 2012; Howarth 2012**). The claims of harm by Dr Pusztai were more strongly voiced in the spring of 1999, although scientists from other institutions along with the Royal Society, strenuously criticised his experiments and analysis. Media coverage of these events spiralled, and the newspapers, the *Daily Mail*, the *Daily Express*, the *Independent on Sunday* and *The Mirror*, started campaigning against GM food as they were opposed to its introduction (**Howarth, 2012**). Howarth (**Ibid: 219**) describes these campaigns as 'a deliberate and self-conscious shift on the part of editors from classic liberal assumptions about ''impartial reporting'' to participatory arguments about the legitimacy of seeking to mobilize the public and influence policy in conditions of acute uncertainty, overwhelming public interest and the undemocratic tendencies of the government'. During this period, whilst the Government used the Public Understanding of Science model to discuss the introduction of GM crops, the newspapers appeared to be pushing for a more dialogic approach based on the Public Engagement with Science model. The campaigning stance by the news organisations was to encourage people to resist the introduction of GM crop cultivation and the sales of GM foods by retailers. An example is GM tomato paste which is described by Burke (**2012**). The tomato had been genetically modified by reducing levels of a pectin-degrading enzyme which decreased rates of rotting and enabled tomatoes to be picked ripe rather than green. These tomatoes were grown and processed into puree in California and then shipped to the UK. The tomato puree was clearly labelled as GM, and was sold by Safeway and Sainsbury's for 29p a can, outselling the non-GM equivalent by 2:1. As the campaigning by the newspapers reached its height, people stopped purchasing the GM tomato paste and retailers removed it from their shelves.

Along with the campaigning, it is useful to note the two terms which have been used by journalists to describe GM foods: 'Frankenfood' and 'Frankenstein foods'. The term 'Frankenfood' was coined by Paul Lewis, a professor in English at Boston College, USA, to describe GM food (**Lang, 2016**), whilst 'Frankenstein foods' was first used by the *Daily Mail* on 28 January 1999 (**Cook, 2004**). This terminology has been used extensively by news organisations campaigning against the introduction of GM crops. Journalists draw upon the 'Frankenfood' terminology because it often reflects consumer anxiety about the use of GM technology in food production, and the risk to the integrity of natural ecosystems by

transferring genes from one species to another (**Fitting, 2014**). 'Frankenstein food' and 'Frankenfood' implies a connection between Frankenstein's monster and GM crops due to the potential for them to escape into the wider countryside, cause damage, and become out of control (**Cook, 2004**).

During the summer of 2003, the UK Government's public consultation of *GM Nation?* took place. This was to be based on the Public Engagement with Science model. For Barbagallo and Nelson (**2005**), the purpose of this debate was to determine whether GM crops should be commercially grown in the UK by enabling the public to participate in the discussion. In addition to the public strand of the debate, there were also official expert forms of consultation in the economic and scientific strands. The economic strand provided an assessment of the costs and benefits of GM crops, whilst the science strand reviewed all available research concerning genetic modification. As Irwin (**2009**) explains, the economic and science strands fed into the decision-making process, whilst the opinions and viewpoints from the public strand were considered but effectively ignored. The UK Government's decision to proceed with GM crops on a case by case basis fitted more easily with the economic and science strands. He also states that one particular criticism of the debate was it came too late as GM crops were already close to coming to market. Furthermore, Burke (**2012**), who was present at some meetings, describes how the pro-GM and anti-GM groups talked past each other so no agreement could be reached. Additionally, he explains how a second attempt of this type of debate was made by the UK Government in 2009. The panel consisted of scientists, social scientists and members of environmental NGOs, but once again, no consensus was reached so the project ceased in 2010.

In the UK, GM organisms are likely to be considered as part of the technological solution to addressing food security in the time of climate uncertainties. Boris Johnson, the UK Prime Minister, has already suggested he will support GM organisms when he stated in a speech, 'let's liberate the UK's extraordinary bioscience sector from anti-GM rules. Let's develop the blight-resistant crops that will feed the world' (**Farmers Weekly, 2019**). On 7 January 2021, the UK Government's Department for Environment, Food and Rural Affairs (Defra) launched a 10 week long online public consultation in England only, into the deregulation of plants and animals using gene editing. At the time of writing, (**April 2021**), Defra is yet to report. The public consultation has received criticism from civil society groups such as Beyond GM and the Landworkers' Alliance. Both of these civil society groups believe Defra have already decided to proceed with the deregulation of gene editing, and they have raised concerns that the online consultation was too technical and inaccessible for people to respond to (**Beyond GM, 2021; Landworkers' Alliance, 2021**). The Food

Ethics Council also wrote an open letter to George Eustice, the Secretary of State for Environment, Food and Rural Affairs. In this, they state that:

The consultation is presented in a one-sided way, which is not desirable or appropriate, as it feels to lots of civil society organisations like a *fait accompli*. This is likely to lead to further polarisation. It also excludes a number of important aspects of the technology, as well as moral perspectives. Much of the consultation document uses technical language that is not appropriate for a non-specialist audience (**Food Ethics Council, 2021**).

Instead of using this as an opportunity to engage in a meaningful dialogue with the public, Defra have returned to the deficit approach and the Public Understanding of Science model.

The GM Organism Debate in Mexico

The situation in Mexico surrounding GM crops is different. The controversy largely focuses on GM maize with other genetically modified crops largely excluded from the debate (**Carro-Ripalda et al., 2015; Fitting, 2014**). This is because of the importance of maize to the Mexican people. Maize originated from Mexico and there is believed to be around 60 landraces and thousands of native varieties (**Carro-Ripalda et al., 2015**). Maize is cultivated on 20 million acres (**Fitting, 2014**) by around 2 million traditional smallholder farmers (**Carro-Ripalda et al., 2015**). It is cultivated on a small scale, the crop is rain-fed and is mainly grown for subsistence (**Carro-Ripalda et al., 2015; Fitting, 2014**). For Mexicans, maize is a fundamental component of rural and urban people's diets (**Carro-Ripalda et al., 2015; Fitting, 2014; Fitting 2006**). As maize is culturally important as a crop and food, the debate is highly polarised (**Carro-Ripalda & Astier, 2014**).

In 1998, a moratorium was placed on GM maize trials in Mexico by the General Directorate of Plant Health. There were two reasons for this. Firstly, GM maize was considered to be of little economic benefit to Mexico, and secondly, there were concerns about the mixing of GM maize with native landraces (**Carro-Ripalda et al., 2015**). In 1999, Greenpeace discovered GM maize in a shipment of maize from the USA to Veracruz. In response, Greenpeace launched a high-profile anti-GM campaign (**Carro-Ripalda et al., 2015; Fitting, 2014**). At the same time, concerned scientists called for greater regulation of GM crops, and this led to the establishment of the Inter-Ministerial Committee on Biosafety (**Carro-Ripalda et al., 2015**). Ignacio Quist and David Chapela published an article in *Nature* in 2001, and this claimed they had discovered cauliflower mosaic virus (used in most transgenic maize) in native maize fields in Oaxaca, Mexico (**Carro-Ripalda et al., 2015**). It was thought this originated in maize imported from the USA (**Fitting, 2014**). This unintended gene flow was seen as a threat to

the native maize varieties found in Mexico (**Carro-Ripalda et al., 2015; Fitting, 2014**) and to the culture of the Mexican people. In response to this, in 2002, the anti-GMO campaign and network, *In Defence of Maize* was established. Membership of the network consists of over 300 food activist, environmental, indigenous rights and peasant organisations, along with academics and scientists (**Fitting, 2014; Fitting, 2006**). With the scientists, Fitting (**2014: 181**, emphasis in original) explains that those 'who were involved in the network emphasised that they were not against agricultural biotechnology per se but rather against the testing and cultivation of transgenic corn *in Mexico*, where it is unsuitable and even a risk'. There were deep divisions over GM maize between the Government, the scientific community and the public. With little engagement during this period, the Public Understanding of Science model was used by the Mexican Government to discuss the introduction of GM maize.

In order to better understand the GM crop debate in Mexico, Carro-Ripalda et al. (**2015**) conducted a study, and they identified six issues. 1) Maize is an important crop for Mexican identity and culture. Communities claimed the introduction of GM maize was a form of imposed globalisation. Decisions taken by regulatory organisations about the introduction of the crop were viewed as compromised and lacking transparency. 2) Maize production was sustained by local community exchange and GM maize was viewed as an intrusion into traditional practices. GM maize was considered a threat to smallholder production, as well as being artificial and avoidable. 3) There was division between different groups. Smallholders, environmental NGOs, consumers and social scientists viewed traditional maize production as highly significant for Mexican culture and history. Large producers and seed companies claimed the introduction of GM maize would transform Mexican agricultural production. 4) There was division between scientists. Senior scientists were in favour of introducing GM maize, whilst junior scientists were cautious about its introduction. 5) Consumers negatively perceived GM maize and other GM crops. Issues raised included a lack of labelling, unreliable information, unknown dangers, a lack of proven need, and a lack of trust in the motives of those introducing GM crops. 6) There was a need to open up debate by giving smallholders a voice, as well as the need for a wider conversation about the production of native maize and food security. What these six points illustrate, was the lack of dialogue. This could have been addressed by deploying the Public Engagement with Science model.

On 31 December 2020, the Mexican Government banned the planting of GM maize along with the use of the chemical, glyphosate (**Greenpeace, 2021**). This is seen as a victory for the Mexican people. However, whilst there is also a ban on imports from the USA of GM maize for human

consumption, livestock feed containing GM maize is still allowed (**Farm Journal, 2021**). It remains to be seen if imported livestock feed containing GM maize causes problems for Mexico, such as with the unintended gene flow into native maize in 2001.

Where Next?

In order to be successful in the sense that a consensus is reached, all types of actors will need to be involved in the public engagement process. So how do we achieve this? One possibility is the introduction of an observatory or coordinating body for genetic modification. Three propositions have already been put forward for gene editing by Jasanoff and Hurlbut (**2018**), Burrall (**2018**), and Kofler et al. (**2018**), and these are described briefly.

Sheila Jasanoff and Benjamin Hurlbut (**2018**) propose a global observatory for gene editing. This will be an international network bringing together academics and organisations. The observatory will fulfil three roles: 1) global ethical and policy responses to genome editing and associated technologies will be made accessible to all; 2) tracking and analysis of the developments, conflicts, and consensus around gene editing will be conducted; and 3) international meetings will be convened to discuss results from the analysis. For Jasanoff and Hurlbut (**2018: 437**), deliberation is 'insufficient if the conversation is too quickly boxed into judgements of the pros and cons, risks and benefits, the permissibility or impermissibility of germline genome editing, and so on. Such an approach neglects important background questions – who sits at the table, what questions and concerns are sidelined, and what power asymmetrics are shaping the terms of the debate'. By bringing more voices to the table, a more diverse and enriched debate can occur. This will be achieved by the network of academics and organisations gathering information from scattered and dispersed sources. Neglected issues are also brought to the fore and are just as prominent as those which may remake our futures. Here, Jasanoff and Hurlbut (**2018: 437**) argue, that 'consensus might even mean agreeing not to proceed with some research until a more equitable approach to setting the terms of debate is achieved'. The observatory will allow the limits and directions of research to be established. However, it is not clear from the literature how the observatory will have the authority to do this.

Simon Burrall (**2018**) suggests a consortium requiring government support and input from ten to fifteen organisations, with a coordinating body. He suggests including organisations such as research institutes, national farmers unions, agricultural and pharmaceutical companies, activist groups, and civil society groups concerned about the environment. The consortium will fulfil two roles: 1) connect people to debates concerning

science and policy; and 2) connect scientists and policymakers to people. The consortium will both facilitate and promote debate.

Kofler et al. (**2018**) also propose a coordinating body to oversee gene editing. In their framework, the coordinating body will act as a neutral third party, and will include local communities, government, civil society groups, and NGOs. The coordinating body will fulfil four roles: 1) create a deliberative framework which includes diverse expertise including those from local, affected communities; 2) deliberation activities which feed into reports and produce recommendations; 3) the sharing of information to connect deliberation from around the world; and 4) reporting on the outcomes of deliberation to inform global governance of gene editing. Marginalised voices (women, children, ethnic minorities, and indigenous communities) and the needs of ecosystems will be included in deliberation activities.

All three propositions are different but their overarching aim is to engage more voices in the debate. However, there are some potential pitfalls. Sheila Jasanoff and Benjamin Hurlbut (**2018**), and Simon Burrall (**2018**) highlight the same issue which may be problematic with an observatory or consortium. There is a possibility that participants are those with dominant views which are often competing. These participants split into camps which are either for or against gene editing, and they start talking past one another without being heard. As inaudible voices are lacking, the range of debate is restricted and the richness in deliberation is not fulfilled. Burrall's (**2018: 439**) suggestion to address this problem is to ensure key stakeholders produce a 'statement of intent', so that the consortium has a specific role which members support. A further issue which Burrall (**2018**) highlights, is the significant investment in time and money. He estimates that funding for a consortium would be in the region of US$700,000 to $1.5 million per year. This is a significant hurdle which would need to be overcome. Kofler et al. (**2018**) suggest financing their coordinating body through a trust fund with contributions from governments, NGOs, and intergovernmental organisations. Both Burrall (2018) and Kofler et al. (**2018**) suggest that upfront investments are likely to be more cost effective than the improper use of gene editing.

As we have seen, the three suggestions put forward by Jasanoff and Hurlbut (**2018**), Burrall (**2018**), and Kofler et al. (**2018**), are slightly different in their approaches. In order to be effective, I argue that an organisation needs to be developed which incorporates aspects from all three propositions.

The Genetically Modified Organism Consortium

The Genetically Modified Organism Consortium needs to be global, national and local. By being global, responses to genetic modification can be compared from around the world. Each country will respond to the GM organism debate differently because each has its own particular set of circumstances. The GM organism debates particular to the UK and Mexico were described earlier in this article. A national network of observatories overseen by a global observatory, will enable each country to respond to its own individual needs with deliberative activities. Local deliberative activities with communities will feed into the national observatories, ensuring marginalised voices are heard. For example, in Mexico, the anti-GMO campaign and network, *In Defence of Maize* already exists. Involving a network such as this which is already established and aware of the issues facing its members, will be essential if public engagement is to be successful. Public engagement will be acknowledged as being successful if a consensus is reached. Consensus can mean *not* proceeding with research into GM organisms or the introduction of a GM organism, if this is the agreed course of action by participants.

In trying to reach a consensus, care needs to be taken when engaging local communities. If care is not taken, responsibility for the outcomes of the deliberative interventions is placed on the participating community as opposed to the organising consortium (**Henkel & Stirrat, 2001**). However, citizen engagement is important 'as it can elucidate certain aspects of the problem that have not been clarified through scientific evaluation. Analyses based strictly on science exclude certain social dimensions of risk, such as identity issues and societal choices – precisely the factors that lie at the heart of social controversies and conflicts' (**Poulain, 2017: 69**). Food and eating are central to subjectivity and our sense of self, so it is important that these aspects of identity are also considered. The earlier discussion about the importance of maize to Mexicans illustrates why care needs to be taken and why the debate needs to be widened out beyond science. As Duncan and Bailey (**2017b: 209**) argue, this 'does not mean that we reject science … It does mean that if we accept that all solution interventions are also social interventions, then we must find ways of ensuring that people, especially those most affected by these changes, can participate in decision-making'. Understanding societal impact becomes the main aim of the research because it involves those who will be affected by the research. It is important to acknowledge that in reality, some people will have a very sophisticated understanding of the science of genetic modification, whilst others have a more limited knowledge (**Burrall, 2018**). These different levels of knowledges should not be viewed as a barrier, but instead, should be seen as an opportunity to understand different perspectives. As the example with the UK illustrates, this is where the

opportunity has been missed with the latest gene editing consultation. Instead of deliberation activities, an inaccessible online consultation has taken place.

We need to move away from scientists such as those working for the large agri-biotechnology companies governing genetic modification. These scientists are those who will gain the most, as their livelihoods and legitimacy depend on the advancement of genetic modification (**Montenegro de Wit, 2019**). Stone (**2017**) argues that scientists are urgently needed as 'honest brokers' to help educate, to enrich and deepen debates, and to inform policy. Stone (**2017: 585**) defines 'honest brokers' as 'providing information to expand and clarify a scope of choice, but allowing others to make decisions according to their own values'. There are democratic, ecological and economic questions which need asking of genetic modification. By including scientists who are willing to be 'honest brokers' in the consortium, we may move towards receiving honest scientific answers about GM organisms. As the example with Mexico shows, there were scientists who were aware of the importance of maize, and understood why the introduction of GM maize was problematic. These scientists were already part of the *In Defence of Maize* network. Including scientists such as these, who are part of existing networks and who understand why there are concerns about genetic modification, will be invaluable to the engagement process. Scientists like these, will be able to put forward and discuss scientific perspectives, but at the same time, will not be dismissive of valid concerns.

Along with the scientific perspective, it is also important to consider how genetic modification interacts 'with other ideas in sustainable agriculture like agroecology or regenerative farming and what that will mean for future agricultural and food systems' (**Klerkx & Rose, 2020: 5**). There are different pathways for the future of agriculture (**Anderson & Maughan, 2021; Klerkx and Rose, 2020**), and genetic modification may or may not play a role. With the latest UK consultation, if deliberative activities had taken place, there could have been discussion between different actors about how they wished to see agriculture move forward in the UK. This could have also included a discussion about the role of GM organisms in that future.

The knowledge of indigenous peoples also needs to be brought into the deliberative activities of the consortium. This will be through both science and indigenous knowledge. As Kim TallBear contends, it is important to acknowledge that we 'live in a world in which nations govern through science. Indigenous peoples are no exception. Therefore science must be governed to ensure that it is ethical and that its benefits are distributed to wider sectors of society' (**TallBear, 2014: 189**). This is similar to Arun

Agrawal's thinking, in that we need to look beyond the supposed divide between indigenous knowledge and science for two reasons. Firstly, there are many domains and types of knowledges and the 'same knowledge can be classified one way or the other depending on the interests it serves, the purposes for which it is harnessed, or the manner in which it is generated' (**Agrawal, 1995: 31**). Secondly, a productive dialogue which safeguards all interests can only be achieved once scientific and indigenous knowledge are acknowledged and used simultaneously (**Agrawal, 1995**). Indigenous knowledges are important because indigenous peoples 'often see themselves as participating in cultural and political systems that, from hundreds even thousands of years of experience, are explicitly designed to adapt to environmental change' (**Whyte, 2017: 102**). Indigenous peoples work directly with ecosystems, adapting to the changing seasons. Using these types of knowledges in food production is essential, if we are to deal with the stresses from climate change and environmental degradation.

The Genetically Modified Organism Consortium is a starting point for better public engagement. There is a need to create robust organisations which create meaningful dialogue and consensus between all types of actors in the GM organism debate. I acknowledge that there are likely to be unanswered questions about the setting up and organising of a consortium such as this. These should be seen as a sign of the proposal potentially working. As Irwin (**2009: 12**, emphasis in original) argues, 'openness, transparency and engagement are beguiling concepts but they also provoke (or rather *should* provoke) profound questions about their meaning, formulation and practice (especially when applied to specific contexts and situations)'. If the Genetically Modified Organism Consortium provokes questions, then we are at a useful starting point.

Conclusion

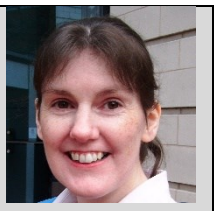
What I propose with the Genetically Modified Organism Consortium will be difficult. But it is a start. Moving to a sustainable food future means making the food system more resilient. This is not easy and I believe this means acknowledging food knowledge as 'knots of contradictions' (**Braidotti 2019: 15**). Contradictions often appear as binaries. The binaries which relate to food and the food system include local/global; small-scale farming/industrial farming; consumer/producer; and organic/GMO. For many 'good food would be organic, local, small-scale food production. The opposite would be framed as bad. Yet for others, industrial farming of genetically modified foods to feed a growing global population is what defines a good food system' (**Duncan & Bailey, 2017b: 207**). Only when we acknowledge and debate these contradictions can we move forward in addressing the problems we are collectively facing with the food system, especially in the light of climate change. If we are to achieve sustainable

food futures, then our solutions also need to be forward-thinking and this requires 'diligent and creative route planning' (**Duncan and Bailey, 2017a: 9**). Making our food system secure is important for the challenges which lie ahead with climate change and environmental degradation. GM organisms may provide one of the technological solutions. That said, it may be a technological solution too far, especially as technology is not always a silver-bullet. The Genetically Modified Organism Consortium is a starting point for better public engagement. There is a need to create robust organisations such as this, which create meaningful dialogue and consensus between all types of actors in the GM organism debate.

The question I set out to answer was: How can we improve public engagement in the genetically modified organisms debate? Here, I have shown how the concepts of observatories and consortiums can open up the spaces for debate in relation to genetically modified organisms. I also introduced the Genetically Modified Organism Consortium to illustrate how science and alternative knowledges can be drawn upon and used together. The Genetically Modified Organism Consortium is one approach in which we can decide how we collectively wish to proceed with GM organisms. It is time to draw on collective imaginations.

Acknowledgements

The author would like to thank the anonymous referees for their helpful feedback and advice.



Catherine Price is a Research Fellow in the School of Geography, University of Nottingham. Her research interests include agricultural technology adoption, the social and ethical impacts of agricultural technologies, relationships between humans and the more-than-human world, and the environment. She has previously held postdoctoral positions at the University of Warwick, the University of East Anglia, and the University of Reading. She leads the British Academy funded project *The Anthropocene and More-Than-Human World Writing Workshop Series*. [3]

References

Agrawal, A., 1995. Dismantling the Divide between Indigenous and Scientific Knowledge. *Development and Change*, 26 (3), pp. 413–439.

Anderson, C. R. and Maughan, C., 2021. "The Innovation Imperative": The Struggle Over Agroecology in the International Food Policy Arena. *Frontiers in Sustainable Food Systems*, 5, pp. 1–15.

Barbagallo, F. and Nelson, J., 2005. Report: UK GM Dialogue: Separating Social and Scientific Issues. *Science Communication,* 26 (3), pp. 318-325.

Beyond GM, 2021. *How to 'public consultation' – what Defra should have done*. Available at: https://beyond-gm.org/how-to-public-consultation-what-defra-should-have-done/ [Accessed: 7 April 2021].

Braidotti, R., 2019. *Posthuman Knowledge*. Cambridge: Polity Press.

Burall, S., 2018. Don't Wait for an Outcry about Gene Editing. *Nature*, 555, pp. 438–439.

Burke, D. C., 2012. There's a long, long trail a-winding: The complexities of GM foods regulation, a cautionary tale from the UK. *GM Crops & Food*, 3 (1), pp. 30-39.

Carro-Ripalda, S. and Astier, M., 2014. Silenced voices, vital arguments: smallholder farmers in the Mexican GM maize controversy. *Agriculture and Human Values*, 31, pp. 655–663.

Carro-Ripalda, S., Astier, M. and Artía, P., 2015. An Analysis of the GM Crop Debate in Mexico. *In* Macnaghten, P. and Carro-Ripalda, S., eds., *Governing Agricultural Sustainability: Global Lessons from GM Crops*. Abingdon: Routledge, pp. 33–73.

Cook, G., 2004. *Genetically Modified Language*, Abingdon, Routledge.

Dauvergne, P., 2020. *AI in the Wild: Sustainability in the Age of Artificial Intelligence*. Cambridge, Massachusetts: The MIT Press.

Duncan, J. and Bailey, M., 2017a. Sustainable Food Futures: Multidisciplinary Solutions. *In* Duncan, J. and Bailey, M., eds., *Sustainable Food Futures: Multidisciplinary Solutions*. Abingdon: Routledge, pp. 1-13.

Duncan, J. and Bailey, M., 2017b. Caution: Road work ahead. *In* Duncan, J. and Bailey, M., eds., *Sustainable Food Futures: Multidisciplinary Solutions*. Abingdon: Routledge, pp. 203-213.

Durant, J., Bauer, M. W., and Gaskell, G. (eds), 1998. *Biotechnology in the Public Sphere: A European Sourcebook*. London: Science Museum, pp. 217–227.

Farm Journal, 2021. *U.S. says Mexico plan to ban GMO corn imports does not apply to animal feed*. Available at: https://www.agweb.com/news/policy/politics/us-says-mexico-plan-ban-gmo-corn-imports-does-not-apply-animal-feed [Accessed: 7 April 2021].

Farmers Weekly, 2019. *Boris Johnson vows to 'liberate' UK from EU's GM crops stance*. Available at: https://www.fwi.co.uk/news/eu-referendum/boris-johnsons-vows-to-liberate-uk-from-eus-biotech-crops-stance [Accessed: 30 December 2019].

Fitting, E., 2006. The political uses of culture: Maize production and the GM corn debates in Mexico. *Focaal—European Journal of Anthropology*, 48, pp. 17–34.

Fitting, E., 2014. Cultures of Corn and Anti-GMO Activism in Mexico and Colombia, *In* Counihan, C. and Siniscalchi, V., eds., *Food Activism*. London: Bloomsbury Academic, pp. 175-192.

Food Ethics Council, 2021. *Open letter re: weakening regulation on genetic engineering*. Available at: https://www.foodethicscouncil.org/resource/open-letter-re-weakening-regulation-on-genetic-engineering/ [Accessed: 7 April 2021].

Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., Pretty, J., Robinson, S., Thomas, S. M. and Toulmin, C., 2010. Food Security: The Challenge of Feeding 9 Billion People. *Science*, 327, pp. 812-818.

Greenpeace, 2021. *Mexico banned GMOs. What are the next steps?* Available at: https://www.greenpeace.org/international/story/46310/mexico-banned-gmos-next-steps/ [Accessed: 7 April 2021].

Grove-White, R., 2001. New wine, old bottles? Personal reflections on the new biotechnology commissions. *Political Quarterly*, 72 (4), pp. 466–472.

Harper, K., 2004. The genius of a nation versus the gene-tech of a nation: Science, identity, and genetically modified food in Hungary. *Science as Culture*, 13 (4), pp. 471–492.

Henkel, H. and Stirrat, R., 2001. Participation as Spiritual Duty; Empowerment as Secular Subjection. *In* Cooke, B. and Kothari, U., eds., *Participation: The New Tyranny?* London: Zed Books, pp. 168–184.

Holliman, R. and Scanlon, E., 2009. Interpreting Contested Science: Media Influence and Scientific Citizenship. *In* Holliman, R., Whitelegg, E., Scanlon, E., Smidt, S., and Thomas, J., eds., *Investigating Science Communication in the Information Age*. Oxford: Oxford University Press, pp. 254–273.

Hornig Priest, S., 2009. Reinterpreting the audiences for media messages about science. *In* Holliman, R., Whitelegg, E., Scanlon, E., Smidt, S., and Thomas, J., eds., *Investigating Science Communication in the Information Age*. Oxford: Oxford University Press, pp. 223–236.

House of Lords Select Committee on Science and Society, 2000. *www.parliament.uk*. Available at: https://publications.parliament.uk/pa/ld199900/ldselect/ldsctech/38/3803.htm#a1 [Accessed: 29 December 2019].

Howarth, A., 2012. Participatory Politics, Environmental Journalism and Newspaper Campaigns. *Journalism Studies*, 13 (2), pp. 210–225.

IPCC, 2019. *Global warming of 1.5°C*. Available at: https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf [Accessed: 9 April 2021].

Irwin, A. and Michael, M., 2003. *Science, Social Theory and Public Knowledge*. Maidenhead: Open University Press.

Irwin, A., 2009. Moving forwards or in circles? Science communication and scientific governance in an age of innovation. *In* Holliman, R., Whitelegg, E., Scanlon, E., Smidt, S., and Thomas, J., eds., *Investigating Science Communication in the Information Age*. Oxford: Oxford University Press, pp. 3-17.

Irwin, A., 2015. On the local constitution of global futures. Science and democratic engagement in a decentred world. *Nordic Journal of Science and Technology Studies*, 3 (2), pp. 24-33.

Jasanoff, S. and Hurlbut, B., 2018. A Global Observatory for Gene Editing. *Nature*, 555, pp. 435–437.

Jasanoff, S., 2000. Commentary: Between risk and precaution - reassessing the future of GM crops. *Journal of Risk Research*, 3 (3), pp. 277–282.

Jasanoff, S., 2003. Technologies of humility: Citizen Participation in governing science. *Minerva*, 41 (3), pp. 223-244.

Klerkx, L. and Rose, D., 2020. Dealing with the game-changing technologies of Agriculture 4.0: How do we manage diversity and responsibility in food system transition pathways? *Global Food Security*, 24, pp. 1–7.

Kofler, N., Collins, J. P., Kuzma, J., Marris, E., Esvelt, K., Nelson, M. P., Newhouse, A., Rothschild, L. J., Vigliotti, V. S., Semenov, M., Jacobsen, R., Dahlman, J. E., Prince, S., Caccone, A., Brown, T. and Schmitz, O. J., 2018. Editing nature: Local roots of global governance. *Science*, 362 (6414), pp. 527–529.

Kolbert, E., 2014. *The Sixth Extinction: An Unnatural History*. New York: Picador.

Landworkers' Alliance, 2021. *Gene editing consultation (2021)*. Available at: https://landworkersalliance.org.uk/gene-editing-consultation/ [Accessed: 7 April 2021].

Lang, J. T., 2016. *What's So Controversial about Genetically Modified Food?* London: Reaktion Books Ltd.

Lang, T. and Heasman, M., 2015. *Food Wars: The global battle for mouths, minds and markets*. 2nd edn. Abingdon: Routledge.

Lang, T., 2021. *Feeding Britain: Our Food Problems and How to Fix Them*. London: Penguin.

Lesk, C., Rowhani, P. and Ramankutty, N., 2016. Influence of extreme weather disasters on global crop production. *Nature*, 529, pp. 84–87.

Macnaghten, P., Carro-Ripalda, S. and Burity, J., 2015. Researching GM Crops in a Global Context. *In* Macnaghten, P. and Carro-Ripalda, S., eds., *Governing Agricultural Sustainability: Global Lessons from GM Crops*. Abingdon: Routledge, pp. 5–32.

Marris, C., Wynne, B., Simmons, P. and Weldon, S., 2001. Public Perceptions of Agricultural Biotechnologies in Europe. *Final Report of the PABE research project*. Available at: https://www.lancaster.ac.uk/fss/projects/ieppp/pabe/docs/pabe_finalreport.pdf [Accessed: 10 August 2020].

Montenegro de Wit, M., 2019. Gene driving the farm: who decides, who owns, and who benefits? *Agroecology and Sustainable Food Systems*, 3 (9), pp. 1054–1074.

Murcott, A., 2001. Public beliefs about GM foods: more on the makings of a considered sociology. *Medical anthropology quarterly*, 15 (1), pp. 9–19.

Nixon, R., 2011. *Slow Violence and the Environmentalism of the Poor*. Cambridge, Massachusetts: Harvard University Press.

Pell, R., 2019. Glimpsing a golden spike: viewing early industrial agriculture. *In* Flood, C. and Rosenthal Sloan, M., eds., *Food: Bigger Than The Plate*. London: V & A Publishing, pp. 58–63.

Phillips, T., 2008. Genetically Modified Organisms (GMOs): Transgenic Crops and Recombinant DNA Technology. *Nature Education*, 1 (1), pp. 1.

Poulain, J.-P., 2017. *The Sociology of Food*. London: Bloomsbury Academic.

Roesch-McNally, G. E., Arbuckle, J. G. and Tyndall, J. C., 2017. What would farmers do? Adaptation intentions under a Corn Belt climate change scenario. *Agriculture and Human Values*, 34, pp. 333–346.

Shaw, A., 2002. "It just goes against the grain." Public understandings of genetically modified (GM) food in the UK. *Public Understanding of Science*, 11 (3), pp. 273–291.

Shew, A. M., Nalley, L. L., Snell, H. A., Nayga, R. M. and Dixon, B. L., 2018. CRISPR versus GMOs: Public acceptance and valuation. *Global Food Security*, 19, pp. 71–80.

Shiva, V., 2016. *Biopiracy: The Plunder of Nature and Knowledge*. Berkeley: North Atlantic Books.

Stilgoe, J. and Wilsdon, J., 2009. The New Politics of Public Engagement with Science. *In* Holliman, R., Whitelegg, E., Scanlon, E., Smidt, S., and Thomas, J., eds., *Investigating Science Communication in the Information Age*. Oxford: Oxford University Press, pp. 18-34.

Stone, G. D., 2017. Dreading CRISPR: GMOs, Honest Brokers, and Mertonian Transgressions. *Geographical Review*, 107 (4), pp. 584–591.

TallBear, K., 2014. Indigenous Bioscientists Constitute Knowledge across Cultures of Expertise and Tradition: An Indigenous Standpoint Research Project. *In* Gärdebo, J., Öhman, M.-B., and Maruyama, H., eds., *Re:Mindings: Co-Constituting Indigenous, Academic, Artistic Knowledges*. Uppsala: Uppsala University, pp. 173–191.

The Royal Society, 1985. The Public Understanding of Science. *The Royal Society*. Available at: https://royalsociety.org/~/media/Royal_Society_Content/policy/publications/1985/10700.pdf [Accessed: 10 August 2020].

UK Government, 2021. *Importing Food*. Available at: https://www.gov.uk/food-safety-as-a-food-distributor/genetically-modified-foods, [Accessed: 9 April 2021].

Whyte, K. P., 2017. Is it Colonial Déjà Vu? Indigenous Peoples and Climate Injustice. *In* Adamson, J. and Davis, M., eds., *Humanities for the Environment: Integrating knowledge, forging new constellations of practice*. Abingdon: Earthscan, pp. 88–104.

Wright, K., 2017. *Transdisciplinary Journeys in the Anthropocene*. Abingdon: Routledge.

Wynne, B., 1991. Knowledges in Context. *Science, Technology & Human Values*, 16 (1), pp. 111-121.

To cite this article:

Price, C., 2021. Genetic Food Futures: Increasing participation with the Genetically Modified Organism Consortium. *Exchanges: The Interdisciplinary Research Journal*, 9(1), 1-23. Available at: https://doi.org/10.31273/eirj.v9i1.572.

Endnotes

[1] Intensive agriculture aims to maximise yields from the available land through various means including the use of chemical fertilisers and pesticides, monoculture crops, and highly technical and mechanised machinery and implements (Pell, 2019).

[2] The Internet of Things (IoT) is used to describe the 'things' that communicate 'with other machines through the internet without a user issuing a direct command' (**Dauvergne, 2020: 26**). An example is farm equipment sending data about soil to a smartphone app.

[3] See https://anthropoceneandthemorethanhumanworldwritingworkshop.com/.

Geosocialities, Flow and Renewal in Microbial Rivers

Serena Zanzu

Warwick Business School, University of Warwick, UK
Correspondence: s.zanzu@warwick.ac.uk
ORCID: 0000-0002-8925-9224

Peer review: This article has been subject to a double-blind peer review process

Abstract

This article draws on interview data and insights from environmental studies and somatic therapy to argue for the significance of thinking 'with rivers' in order to reaffirm human and nonhuman entanglements in the current challenges presented by anthropogenic devastation. River microbial communities are unintelligible and complex entities due to their unclear origin and continuous flow downstream. The account of one environmental scientist is presented to consider how the metaphors of movement used in the riverine context assist in exploring the complicated dynamics of fluid communities facing constantly changing environments I call 'microbial rivers'. A pollution incident affecting a UK river, where microbial communities responded by growing in number and activity, further illustrates the intersection of communities and ecosystems in their adaptation to troubling human interventions. Engaging with somatic understandings of trauma, this article proposes thinking with flow as a possibility to reimagine the capacity for renewal when experiencing debilitating adversities, thus countering apocalyptic responses of immobility in the face of environmental destruction and inviting novel opportunities for growth for human and nonhuman communities.

Keywords: water; river; microbial communities; geosocialities; flow

Water Imaginations

The existence of life is profoundly interconnected with the water element; all life on earth relies on water for its survival (**Harding & Margulis, 2010**; **Hawke, 2012**). However, water is currently undergoing a crisis driven by pollution, lack of access and unsustainable farming practices. In western societies characterised by a focus on production and the exploitation of resources, water emerges as a mere commodity (**Hawke, 2012**). This article proposes a reawakening of water as a vital and finite element in need of attention, admiration and reverence. Drawing on recent calls 'to bring water forward for conscious and careful consideration' (**Chen et al., 2013: 3**), I argue that thinking with water entails the acknowledgement of this fluid element as more than an essential resource. If water is a powerful force behind all activities that needs to emerge from invisibility, this 'aqueous ecopolitics' (**Ibid: 6**) not only involves all life forms but also crosses over temporal trajectories involving previous, present and future lives in the consideration of water. It is a politics that requires situating water but also situating humans, typically land organisms, within challenging liquid settings. In acknowledging the somatic significance of water, and rivers in particular, for human and nonhuman bodies such as plants, it is possible to notice the diverse ways in which water is politically and geographically located in its continuous dynamic and transformative potential (**Chen et al., 2013**).

Water holds a 'configurative power' that shapes social life and values in fundamental ways (**Hastrup, 2013: 59**). Moving beyond an understanding of society as land-based and immobile, water allows for apprehending social life as moving and fluid. Through their bends and twists, rivers undergo a transformation from natural elements to human industrial resources, with tensions between demands unequally affecting river populations along different sections of the river flow upstream and downstream. Touching cities and communities, rivers are transformed and in turn transform social life itself (**HIbid**). The social and political dimensions of water emerge as a 'hydrosocial cycle', a concept that emphasises the dynamic relations and reciprocal co-creation between water and society, thus addressing 'the agential role played by water' (**Linton & Budds, 2013: 170**). In this perspective, water and society are interrelated realms involved in situated and coproduced relations with political and vested interests, where water is constituted as a public good but also as a commodity. In the recognition of these interrelations, there have been calls for a consideration of water beyond its biological qualities that acknowledges the many layers in which this element intersects with social and political life and with public health (**Orlove & Caton, 2010**). Because of its materiality and value as both a resource and a right, water is positioned within questions of justice, equity of access, distribution and

sustainability (**Ibid**). Acknowledging the interrelation of organisms also requires new ways to think about ethics and social justice beyond a mere resource-based approach (**Yaka, 2020**). If humans' identity and ways of knowing the world are formed through the encounter with other nonhuman bodies, river waters and anti-hydropower movements can be considered from an environmental justice perspective aimed at reconciling human and nonhuman justice (**Ibid**).

While I draw on these debates, my main theoretical proposal is aligned with the possibility for human-water relationships that go beyond exploitative and anthropocentric approaches to watercourses and their visible and invisible communities. This entails, as suggested by Myra Hird, taking the microbial world seriously (**2009**). To engage meaningfully with water and its inhabitants, I propose the concept 'microbial rivers', watercourses that are affected by, and in turn influence, human and nonhuman communities, as a way to think about the interconnected relationships between potentially destructive practices and flowing river populations, visible and invisible. I, therefore, join Hird's proposition of an ethics of the microbial for social scientists that overcomes anthropocentric assumptions. Building on Donna Haraway's invitation for species-meeting entanglements, Hird goes beyond companion species to encounter relationalities with different domains. This is because bacteria are typically excluded from social scientists' considerations of entanglements. For Hird, this microbial ethics 'must begin with an appreciation of these minute creatures' beyond harmful characterisations (**Ibid: 142**). With analogous aims, exploring marine microbes, Astrid Schrader proposes to overcome anthropocentrism, stating: 'marine microbes disrupt the individual/population dichotomy and the opposition between life and death that have been central to an anthropocentric notion of biopolitics' (**Schrader, 2020: 259**). In particular, Schrader offers an invitation to decentre the human through thinking with, and about, marine microbes' death (**Schrader, 2017**).

I consider these propositions particularly useful in exploring the entanglements with river microbes and other fluvial communities as a way to advance a decentring of the human that allows for more attentive and respectful relations with other life forms. For this purpose, I adopt the notion of geosocialities as 'the entangled relations of the earth and biologic beings', to think about the materiality of the earth in which humans and nonhumans live (**Pálsson & Swanson, 2016: 150**). Geosocialities embrace the expansion of the 'social' that now increasingly includes more than human relations and in particular poses attention to the mineral side of the story that has so far struggled to be considered. Stones and rocks have not been included in what social scientists consider social life. Geosocialities show how biological bodies contain geological

ones. If geosocialities aside rocks include water, as 'the term cannot be simply read as geos = rocks and social = people' (**Ibid: 160**), in this article I propose that rivers, in particular, are never only about water but are entangled with pollutants, sediments and soils as well as the communities they convey. Rivers are then geosocial entities inextricably consociated with humans and other bodies such as oceans, soil and air. This meeting of geological and social realities entails a reconsideration of rivers as worthy interlocutors and therefore suggests novel and horizontal 'hydro-logics' relationships that are able to decentre the human (**Hawke & Pálsson, 2017: 236**). And while for Gisli Pálsson and Heather Swanson (**2016**) geosocialities assist precisely in addressing those minerals that unlike microbes have not been included in nonhuman biosocial explorations, I argue that river microbes are deeply involved in geosocial relations with other species as well as anthropogenic toxic substances such as pesticides. This is because they are entangled with ground source materials and with the unceasing moving environment in which they live their lives. It is in considering these relationships and moving away from Descartes' dualism characterising natural elements as passive and culture as active, that rivers can regain agency and significance (**Hawke & Pálsson, 2017**). These new relations include conscientiousness, sustainability and appreciation for the specific nonhuman that is the river. Rivers and other bodies of waters can then be considered beyond the ecosystem services they provide and come to matter as crucial resources entangled with all living beings of the earth. This shift, involving the appreciation and understanding of rivers, also entails the awakening of 'nature consciousness' where the river is no longer a natural capital to exploit but an entity that contains agency and symbolic meaning (**Ibid: 237**).

'Thinking relationships through water' has been suggested as a way to move the attention away from a conception of water as a mere resource or object over which humans construct particular meanings, and to instead regard water in its 'generative and agentive' relationalities (**Krause & Strang, 2016: 633**). Thinking through water allows then to include other actors in the complex layers of social interconnections. Because water is shared across multiple nonhumans such as plants and other animals, it is well-positioned to provide insights into human-nonhuman relationships (**Krause & Strang, 2016**). It is in this sense that flowing, geosocial rivers can assist in contributing to the growing project advanced in the humanities and social sciences to decentre the human from its protagonist role in the story of life. This shift can, in turn, allow for the establishment of novel relationships with nonhuman rivers, microbial communities and other life forms, necessary to tackle the current anthropogenic destruction affecting human and nonhuman populations.

Employing the metaphor of flow here is useful in 'tracing the simultaneously social and material exchanges through which the world comes into being' (**Krause, 2014: 91**). River ecosystems, as well as human flow in wellbeing, share a need to be 'unstuck' from the constriction of trauma and the violence of poisonous substances that disintegrate communities. A flowing river, a flowing human experience, illustrate the complex ways in which environmental and psychological devastation can freeze and constrain entire communities, where individual resilience is not always what matters. Instead, it is through multispecies communities—of rivers, microbes, crustaceans, humans—that strength and renewal can emerge.

Metaphors 'silently direct our thought patterns and actions' and analogies of flow are currently pervading the social sciences, to indicate a 'natural' circulation of capital, people and ideas (**Féaux de la Croix, 2011: 488**). 'Flow' has become the most relevant metaphor employed to conceptualise globalisation and the large-scale mobility of time, goods, people and money, but also processes and relations (**Rockefeller, 2011**). The use of the word can be at times implicit and unaware, thus establishing assumptions and dualisms that are not scrutinised. Stuart Alexander Rockefeller argues that in many of these uses, there is nothing naturally or smoothly flowing. Employing a watery comparison, he states that '"global flows" are not, like the water of a river, the objective result of uniform substances responding to uniform conditions.' (**Rockefeller, 2011: 567**). Despite this seemingly deterministic description of rivers as uniform, Rockefeller acknowledges that even watercourses do not flow in uniform and naturalised conditions.

Drawing on these considerations, I acknowledge the contextuality of flow, and of the blockage that follows the building of a river dam or an overwhelming experience. There is no single, homogeneous flow, in a river or in human wellbeing. As rivers follow their course, they reach larger plains with slower and almost negligible movement. They then become more rapid as they reach steeper segments. Slopes and altitude affect their movement, as do rocks and precipitations. Aligning with this contextuality of flows and rivers, in the following section I propose a singular perspective from an environmental scientist and then elaborate on how a polluting incident, occurred in a specific river, had particular ecosystem implications for resilience and destruction that raise the question: how to engage with rivers in conscientious modalities and how does the river speak?

Emerging Microbial Rivers

In order to explore the forms that a new conversation with rivers can take, I engage with the field of microbiology that studies the microbial communities living in diverse environments such as the human gut, soils and oceans. The microbiome of river settings is only beginning to receive more attention in environmental studies of watercourses. Rivers are considered crucial for the ecosystem services they supply such as hydropower, irrigation and the provision of drinking water (**Savio et al., 2015**). The importance of rivers in carbon cycling is linked to the rising concerns that rivers transport and pour carbon into the sea. In this perspective, rivers become paths to somewhere else—the ocean—and carry with them carbon and precious soil from degraded arable land that travels to rivers and goes out to sea, resulting in soil loss. Freshwater ecosystems, therefore, are considered 'as conduits between terrestrial and marine environments' (**Clark et al., 2018: 2**). Increasing evidence also address important questions around the interconnection between the human gut microbiome and rivers, considered both in terms of the human influence on rivers through wastewater, and of the bacterial presence in drinking water that is believed to influence the human microbiome (**Vaz-Moreira et al., 2014**). This 'link between water habitats and the human body' raises health-related issues such as antibiotic resistance (**Ibid: 770**). According to these characterisations, humans contain microbes that end up in wastewater; watercourses contain microbes that end up in humans. Microbial rivers emerge, therefore, as interconnected entities where the invisible component comes to matter for its capacity to affect and influence multiple geosocialities and ecosystems.

To explore how the microbial communities of rivers are currently constituted in the scientific domain, I propose the case study of a bioinformatician and environmental scientist I interviewed in 2018 as part of my research on the soil microbiome. Based at a UK university, Jules studies the microbial communities living in environments, from the human gut to soil and rivers. Aside from considering rivers as a source of drinking water and for their role in the carbon cycle, he also underlines the 'social impact' related to a 'romantic' relationship that connects humans and rivers. For Jules, the 'river as a whole is unique' and it 'makes people always curious about rivers … always wanting to relate with the river in some way or another'. This description seems to point to the 'imaginative implications' of water, an element pervaded with meaning, sensorial experience and perception (**Hastrup, 2013: 60**). Water holds rhythmic, magnetic and mesmerising qualities for the visual and hearing sense that are conducive to altered states of consciousness (**Strang, 2004**). The senses of taste, smell and touch are also important in affective water relationships, with experiences of immersion referring back to a prenatal

memory. Water holds an aspect of essentiality for all life itself and the river, in particular, conveys the meaning of a living entity and the passage of time (**Ibid**).

When Jules regards rivers in their scientific as well as their 'social' significance, he seems therefore aware of some of the implications of his work for the wider society, as he deems the relationship with rivers an ingrained feature of human life. In this way, he seems to counter a purely anthropocentric approach focused on ecosystem services. When discussing the importance of rivers, Jules only employs the importance of watercourses in the provision of services to justify the relevance of his work. In this sense, he finds himself under the obligation to legitimise his scientific research for funding and impact requirements, as shown in the following quote:

> *With limited funding, you really have to make your story sound … like an important science. I don't believe one science is more important than another but certainly, you really have to sell your story in the best way you can.* (**Author's interview with Jules, 2018**)

Thus, the mere services rivers provide do not constitute Jules' main drive. The deeper reason motivating his research on river microbial communities lays in an interest for a still unknown field within microbiome studies. When explaining the relevance of rivers, rather than merely connecting his research to human needs and benefits, he claims to be motivated by curiosity: 'I do science because I'm curious … obviously, we are responsible scientists, we want to be responsible but predominantly, well, primarily we do science because we are curious about what's happening in a river.' Jules' willingness to be a responsible scientist therefore inevitably clashes with the main drive for his work, which emerges as interest and 'curiosity'. While Jules' curiosity seems to counter a view focused on rivers as a capital to exploit, curiosity in this context is not necessarily unproblematic. When scientists emphasise the excitement of discovery as their motivation for doing science, they reaffirm the idea of science as an innocent and natural endeavour born merely out of a drive to know (**Sarukkai, 2009**). Scientific curiosity in this sense also entails the idea of freedom and possibly of lack of responsibility. Curiosity may end up driving environmental damage for the sake of knowledge (**Ibid**). It is possible to say that Jules is aware of an ambiguity in recognising the scientific and social relevance of rivers and at the same time claiming to be driven by curiosity while declaring a commitment to responsibility.

In recent years, Jules has collected over a hundred samples at ten different points along the river Thames, southern England, from upstream down to wider sections of the river. He has carried out most of the tasks by himself, designing the experiment from beginning to end, setting a hypothesis,

sampling, extracting DNA, sequencing and analysing the data. In what is known as a limnology study, he has compared microbial communities in the water, in the sediment and on biofilm in the rock, testing these three compartments 'as the river flows'. Jules' aim is to explore unanswered questions around the formation and composition of microbial communities:

> *Essentially I want to know how these microbes form a community in the water and in sediment … we don't yet understand what processes are involved in those community assemblages, are they just flowing from roads, from farms, how do they form? Is there a stable community in the river? It looks like there are stable communities in the river but it's quite an interesting place to study because it's a one-way direction, it's always flowing, so are we seeing all the microbes from soil or are we seeing communities that are typical of the fresh water? … Are there genuine fresh water sediment communities or do they look more like soil communities from farms for example?* (**Author's interview with Jules, 2018**)

The particularity of any riverine ecosystem lays in its unidirectional flow that makes the study of its organisms' persistence significant (**Mari et al., 2014**). There is no agreement among researchers over the distinctness, variability and diversity of river microbial communities (**Savio et al., 2015**). Jules is therefore exploring whether there are 'genuine freshwater communities' or whether they are 'washed' from other sites. This is for Jules an important ecological question around the 'differences in the processes which allow the community to form' in rivers. Where do river communities come from and how do they form? What constitutes a stable community? These questions are currently largely unanswered due to the complexity of the river that emerges as an unintelligible object of study.

> *The river is quite a complicated place, because it's always flowing, so many, um, variables … if there's a road above your sampling point you would have quite different potential communities, if there's a sewage outlet that would have another massive influence, if there is a farm, reservoir, ground water, all sorts of things can affect the river communities so much, it's actually quite difficult to figure out what's going on in a river.* (**Author's interview with Jules, 2018**)

The emerging importance of microbes in the study of rivers is thus entangled with the attempt to understand the elusive origin, formation and composition of these communities in their geosocial interrelation with soil, rain and human interventions such as roads and farms.

In this sense, watercourses are being constituted around the invisible communities of microorganisms they contain and that contain them. This is in line with a recent shift that occurred in the biological sciences. In the past two decades, microbes have emerged as important life forms across a range of environments and ecosystems in understanding, dealing with and providing solutions for anthropogenic destruction (**Paxson & Helmreich, 2014**). This 'microbial turn' or 'microbial moment' entails a view of microbes that goes beyond mere determinism and instead constitutes microbes as dynamic and fluid forces (**Ibid: 166**). Heather Paxson and Stefan Helmreich argue that microbes are now seen as promising entities rather than solely harmful organisms. Microbes become signifiers of potentials and models that provide novel ways to read human relationalities with nature. These models are both descriptive and prescriptive, thus indicating the frame within which humans and microbes should relate (**Paxson & Helmreich, 2014**). In marine microbiology, for instance, microorganisms living in the sea are currently portrayed as central figures responsible for fundamental biogeochemical processes (**Helmreich, 2009**). Emphasising the emergence of 'microbial seas' defined by the presence and significance of marine microbes, Helmreich points to a renewed understanding of oceans as well as of life itself, where 'life is being redistributed into a fluid set of relations' (**Ibid: 8**). Illustrating how viruses belong to our metagenome, Celia Lowe also emphasises the emergence of microbial life as a renewed lens through which to understand life, claiming that 'viruses *are* us' (**2017: 94**). In the current emergence of multispecies studies that emphasise the interconnection between organisms, because viruses emerge through their harmful potential, Lowe argues that viral studies configure themselves through an element of danger and infection (**Lowe, 2017**).

In line with these renewed characterisations of diverse environments now defined by microbial life, I extend the literature on microbial becomings to fluvial settings. Microbial rivers are places of uncertain origin, fluctuating composition and invisible lives. They come to matter in their interconnection with other elements such as sediment, reservoirs and sewage outlets; they are closely associated with the notion of movement and constant challenges. Microbial rivers also carry with them the rainfall that replenishes them, the oceans they are about to encounter and the soils they come from. It is indeed hypothesised, as noted by Jules, that river communities may originate from soil communities because 'abundant species in the downstream river are mostly found in soil water upstream'. These communities, however, are affected by a number of variables and Jules believes there is 'definitely a big difference' between river and soil communities. Ideas of movement and the changing nature of river courses emerge as particularly relevant in the understanding of these

ecosystems. In describing the ways in which microbes are affected by rainfalls, Jules characterises them as being 'dragged down', conveying an image of microbial struggle. Rivers on the other hand are described as 'tricky' to study because of their variability.

> *People speculate that riverine communities are seeded by the soil communities … some rivers are formed by ground fed, but you can imagine, it's washed, the rain falls hence washed and as it washes down the soil, the microbes, they get dragged down, they flow down, so it should resemble upstream. But as you can imagine all these microbes come to wide rivers, slow flowing wide rivers and there's lots of competition going on and so, it's quite complicated what survives, what doesn't and so it's, we don't quite understand quite what's going on in rivers … there are so many different kinds of rivers … and they all have quite a different characteristic, so that's what makes the river quite, quite tricky … I would say more tricky than working with the ocean for example. Soil doesn't really move so much so that makes soil quite a, in a way, easier system to work with … whereas in the river there are so many different factors … it's complicated but really exciting.* (**Author's interview with Jules, 2018**)

Because river microbes are sensitive to a number of variables including physical and chemical gradients, it is particularly complicated to build a coherent story around the origin of these communities. The changing and evolving nature of rivers at different sites means that the microbial communities are constituted as multifaceted and variable according to their location along the river course. Jules also believes that river communities are both deterministic and stochastic, thus both in competition with each other and randomly evolving depending on where they are situated. When he attempts to describe what goes on among river communities, Jules compares this environment to oceans and soils, claiming the superior complexity of rivers, in what seems a proud statement around convolution, also in line with the curiosity that drives his work. In this sense, for Jules the complexity of rivers, rather than discouraging scientific discovery, leads to excitement. The comparison with soil and, as I will show, with the human gut, illustrates how the microbiome becomes transferred metaphorically from one system to another. Soil ecosystems, human bodies and river communities then intersect to define and redefine each other through transpositions and metaphors. George Lakoff and Mark Johnson have observed how the entire system of human thought, action and experience is shaped by metaphors (**1980**). More than descriptive tools confined to the linguistic realm, metaphors invest conceptual systems and implicitly form our everyday life (**Ibid**). Veronica Strang also refers to homologues as images, models or frames of reference that are transposed from one system to the

other (**2004**). The human body is one of the most frequent points of reference because of the shared physical experience of inhabiting a body (**Ibid**). In the following excerpt, Jules considers an analogy with the human gut, where he employs metaphors anchored to notions of fluidity and flow but also of competition, assistance and unceasing change. For Jules, the fluid nature of rivers, an element that makes them 'tricky' to study, can be seen in parallel with the flowing processes of human digestion and constant internal changes:

> *The river is a one-way flow so you start from the top and then you go down, as it goes down, in the river, lots of things happen … something gets absorbed, something gets washed, some other inputs come in and as it travels down, the community changes … and the same in the human gut ... lots of things happen and so communities change, communities compete, communities die and they, um, they form new communities, so it has that sort of parallel … it's an ecology, in a gut you've got microbes forming communities, they are competing, they are helping.* (**Author's interview with Jules, 2018**)

Jules' characterisation of gut microbes is in line with the sense of aliveness of the community proposed by Hird (**2009**) in her invitation toward 'thinking with microbes' in ways that overturn typical passive characterisations. These refashioninigs show instead the communicative, cooperative and intelligent nature of microbes. These ways of thinking can show, for instance, that gut bacteria are aware of human hormones, thus 'adjusting themselves accordingly' (**Hird, 2009: 46**). This 'gut sociality', a form of intercorporeal kind of relation between bodies within the human gut, is a way to think about the various organisms living in the gut, thus moving beyond an anthropocentric understanding of responsivity that now includes nonhumans (**Neimanis, 2013**). In his description of the formation and activities of communities and microbial actors, Jules seems to be aware of this form of sociality occurring within the human gut as well as watercourses.

As river communities encounter particular challenges related to their constantly changing environment, how do they react in the face of adverse events? What happens when microbial rivers are disrupted? To address these questions, I explore a pollution incident that occurred in 2013 when a spill of the toxic pesticide Chlorpyrifos affected the river Kennet, a tributary of the Thames (**Thompson et al., 2015**). The insecticide spill, first discovered by a citizen science group, revealed a resilient quality of the Kennet microbial communities. Macroinvertebrates such as crustaceans and insects were seriously affected and restructured by the spill. Their population decreased in numbers, with the 'collapse' of the freshwater crustacean *Gammarus pulex* (**Ibid: 2044**). Regarding microbial

communities, however, 'there was no significant difference in the total abundance of bacteria' (**Ibid: 2042**). Microbial communities changed in composition and in carbon usage following the incident, but their population did not shrink. Instead, there was an increase in microbial activity and in their 'functional potential' as well as in the abundance of genes (**Thompson et al., 2015: 2045**). These patterns were interpreted as a response to the spill, with microbes being able to quickly proliferate and increase their litter decomposition rates in the absence of other macroinvertebrates crucial for this role in the river food web. The ability to change was crucial for the microbial communities impacted by the pesticide incident, but what can be learnt about adaptation from the anthropogenic devastation of the Kennet? What can this incident teach us about conscientious river ecopolitics? Aside from the commitment to avoid future spills, what modalities and forms can listening to the river take? The incident shows that microbial communities were able to grow and adapt, thus suggesting a case of turning a challenge into an opportunity. But what can the fate of the crustacean *Gammarus pulex*, who was decimated by the spill, tell us about the dynamics of dramatic ecosystem crisis and shifts? There are important lessons to learn, in terms of the complexity of adaptation, devastation and disrupted temporal trajectories that defy linear understandings of growth, development and collapse. Scientific accounts of complex entities like freshwater ecosystems assist in providing understandings of species interactions and the dynamics of diverse environments such as rivers. But this appears as only the beginning of a commitment. For the social sciences determined to move beyond the nature/culture separation and become sensitive to geosocial bodies of water and their communities, there is a need for attentive conscientiousness and the capacity to observe, listen to and inhale the tones, scents and articulations of microbial rivers. Only then it is possible to fully appreciate and recognise stories of both renewal and collapse and remember the communities foolishly decimated by anthropogenic interventions.

Frozen States in Adverse Times

To consider how ideas of flow and frozen states can assist in addressing disruptive events affecting individuals and communities, in this segment I divert through the field of body-oriented therapy. Somatic understandings of the ways in which traumatic events affect the human body offer ways to rethink challenges and responses to threats, as well as contribute to a recognition of the corporeal nature of adversities. Somatic Experiencing is a novel embodied approach to trauma healing created by the therapist Peter Levine. The effectiveness of this modality is based on the premise that when an organism encounters an overwhelming event, it may resort to a biological mechanism known as freezing. The freeze response can be

seen as the 'last option' used when fight or flight are not viable (**Levine, 1997: 99**). For Levine, it is the contraction of the energy repressed in the freeze response that, if the organism survives the threat, constitutes trauma (**Levine, 1997**).

This image of frost in the therapeutic context illustrates how powerful watery metaphors such as freezing and flow pervade our language (**Chen et al., 2013**). Water is constantly moving and changing, it is reversible and mutable into different states from ice to steam (**Strang, 2004**). These oppositional states themselves, including frost, are infused with different meanings. Because of its changing and fluid qualities, Strang argues that water is the most suitable element to provide homologues and explain human experiences. Water metaphors such as freezing or floods of emotion describe emotional states and human experiences shared across cultures (**Ibid**). Metaphors of flow in the therapeutic context in particular show the interdependency of wellbeing and the ability to move through challenges, where immobility represents an impediment to growth.

For an individual stuck in the freeze response, this state entails a constant sense of overwhelm and terror that can only be overcome through a process of discharge and reintegration of the frozen energy. Levine advises that this is done in a controlled environment and in gradual fashion. This is because releasing the frozen energy all at once risks re-traumatising the individual (**Levine, 1997**). Through an effective interdisciplinary exercise, Levine borrows from chemistry the concept of titration as a way to safely reach a balance between activation and overwhelm (**Levine, 2010**). This is similar to how hydrochloric acid and lye are carefully and gradually mixed together in order to avoid an explosion. If mixed drop by drop, the combination of these elements results in the formation of water and salt. In the same way, through a process of titration, the slow and careful activation of the traumatic energy results in the eventual release, renegotiation and integration of the experience without awakening the incontrollable energy repressed at the moment the traumatic event occurred. Thus, it is in the overcoming of the frozen state that the individual can restore a state of flow and wellbeing.

This control of flow in the release of energy finds an analogy in Strang's description of 'a "proper" order—boundaries and limits, a "correct balance" of flows' required to relate to social life, where 'a manageable "flow"' connects the unconscious to the analytical sphere and the individual to their social reality (**2004: 68–69**). The manipulation of flow has also been explored by Jamie Linton and Jessica Budds who note the political state-run control and regulation of water in place in structures like river dams (**2013**). Similarly, Franz Krause argues that along the Kemi River, in Lapland, 'many river dwellers experience dammed river stretches as the

negation of flow' (**2014: 90**). In this context, hydropower and the control of water are perceived as a blockage to the naturally flowing river, thus complicating the notion of flow as a simply natural, passive and generalised flux (**Krause, 2014**). Jeanne Féaux de la Croix also considers how the 'stagnation' of water due to a hydroelectric dam in Kyrgyzstan affects the hesitance of the residents to engage meaningfully with it (**2011: 498**). Thus, flow entails diverse movements and blockages that manifest in multiple forms. In the particular context of the reinstatement of flow and wellbeing from the stuck energy of trauma, the form of control or moderation of flow, far from representing hierarchical management, acquires a horizontal and liberating element of renewal.

In an additional liquid metaphor, Levine and Phillips refer to 'flooding' as the state of 'being overwhelmed' and experiencing 'too much sensation', as opposed to a sense of dissociation from the body (**2012: 60**). Thus, while 'freezing' is a possible precursor of trauma, a downpour of sensation is as damaging and uncontrollable in its potential to swamp the individual. Watery metaphors of flow, flood and dynamic movement thus enable us to recognise that excessive sensations can be as overwhelming as immobility. While emotional floods can refer to overwhelming joy and floods can be considered acceptable when in the right place such as a wetland, they generally hold a negative connotation of imbalance and overwhelm that has the literal power to drown (**Strang, 2004**). If flooding sensations overtake the individual, floods also materially overtake entire communities. Somatic Experiencing has been used effectively to treat communities affected by environmental disasters such as the 2004 tsunami in Thailand (**Leitch, 2007**) and the 2005 hurricanes Katrina and Rita in Louisiana (**Leitch et al., 2009**). The release of frozen energy suppressed in response to these overwhelming water-related disasters was therefore beneficial for entire human communities.

Levine also talks about the significance of the 'felt sense', a concept proposed by philosopher Eugene Gendlin as a specific type of body awareness, a meaningful, physical, internal experience that can be identified and changed (**Gendlin, 2003**). The felt sense is much more multi-faceted than language can express; it is a complicated concept to define because of its non-linearity but it can be considered as 'internal body sensations' that contain a 'fluidity necessary to transform the trauma' (**Levine, 1997: 66–7**). Thus, the felt sense is overall 'the medium through which we experience the totality of sensation' (**Ibid: 68**). As a bodily experience of life through the sense and internal awareness, the felt sense allows us to adapt to the circumstances (**Levine, 1997**). It is ultimately a 'radar' that enables us to understand the 'language of sensation', the nonverbal way our body communicates with us important clues about our experience of both the internal and the external environment (**Levine &**

Phillips, 2012: 6–7). In yet another water-related metaphor, Levine compares the concept to a moving stream that changes and adapts according to the environment, increasing in strength when its course is precipitous and becoming more peaceful and barely flowing when it reaches the plains (**1997**). The stream can also overflow following heavy rain. Therefore, it adapts itself to the environmental circumstances, in a characterisation that takes the metaphor back to the corporeal nature of water as matter (**Chen et al., 2013**). Levine's stream that adapts its course to shapes and turns, a liquid element that flows through the felt sense of the physical body, reminds of the depiction of water provided by Laozi in the ancient Chinese text *Dao De Jing* (or *Tao Te Ching*):

> *Nothing in the world is softer and weaker than water;*
> *But, for attacking the hard and strong, there is nothing like it!*
> *For nothing can take its place.*
> *That the weak overcomes the strong, and the soft overcomes the hard, This is something known by all, but practised by none.*
> (**Lao Tzu, 1961: 159**)

For Laozi, softness and weakness constitute the strength of water and these water-like qualities apply to humans who, despite their awareness, fail to take notice. If water is soft, it is this trait that renders the element able to overcome forces that are inflexible and resistant. The softness, therefore, is a fluidity that adapts to any other element and circumstance, thus overcoming challenges. In the traumatic context explored above, it is through humans' soft quality, the nature of water and rivers, that it is possible to defeat the rigidity and stiffness of overwhelm. By practicing this knowing, humans can then experience, and reconnect to, the stream of the felt sense. Humans then emerge as made of the fluidity of water in the Daoist sense and they become who they are through their relationship with water. In their exploration of Daoist harmony, Yueh-Ting Lee, Honggang Yang and Min Wang argue that water emerges in Daoism as a powerful metaphor that also symbolises altruism, humility, flexibility, clarity and perseverance (**Lee et al., 2009**). Pollution and floods happen when the harmonious nature of water is out of balance, in the same way that all natural disasters can only erupt if there is lack of harmony (**Ibid**). When Lee, Yang and Wang ask, 'what can human beings learn from water?' (**2009: 68**), I extend their call to rivers. By considering the moving and changing nature of rivers and their communities it may be possible to counter a widespread, apocalyptic and destructive response to environmental degradation that entails defeatism and discouragement (**Haraway, 2016**). Thinking with rivers may assist in overcoming the problem of inaction and complacency resulting from the recognised failure to propose nationwide and structured plans to counter climate change and the still insufficient public engagement with the issue (**Doan, 2014**).

Having considered the embodied immobility resulting from trauma, what happens when a river and its communities freeze in the face of challenges? An instance of this is found in the multiple frosts that hit the river Thames in the past centuries. On some of these occasions, the frost was so solid to allow the establishment of 'frost fairs' (**Schneer, 2005**). The frozen state of the Thames allowed then for a 'more democratic' relationship with the river where improvised tents would become stalls and shops from food to barbers, from prints to entertainment, offering new opportunities both in social and economic terms (**Ibid: 69**). It is then possible to consider that when a community freezes in trauma, this event can open spaces for renewal, following, rather than resisting, the challenge through the yielding quality of water that allows it to adapt to new environmental and social circumstances. When the river is frozen, there is still capacity for movement above its still course. The frost fairs emerge therefore as an analogy with the concept of 'post-traumatic growth', the opportunity 'to adapt to highly negative sets of circumstances that can engender high levels of psychological distress' (**Tedeschi & Calhoun, 2004: 2**). Post-traumatic growth occurs after a traumatic episode and is not a mere coping mechanism, but entails a kind of transformation that exceeds the development in place before the event occurred (**Tedeschi & Calhoun, 2004**). Far from constituting a hopeless circumstance that merely immobilises communities, the frozen river became then a chance to grow and develop beyond the pre-frost conditions. As many water metaphors hold a duality that portrays both overwhelming emotional experiences as well as joyful states of mind (**Strang, 2004**), frost conveys this duality particularly well. Frozen water then, and frozen energy in this specific context is not identified with stagnation and loss but acquires a meaning of growth and renewal.

And yet there are those who cannot flow, like the crustacean of the river Kennet. If there is a lesson to learn from the river spill, it is that resilience, a notion that entails self-governance, adaptation, empowerment and individual responsibility (**Joseph & McGregor, 2020**), cannot be assumed or expected across intricately entangled eco-systems. In the current anthropogenic devastation that unequally affects different human and nonhuman communities, how can thinking with rivers assist those who cannot flow? How to listen to communities that become frozen and immobilised by unequally distributed environmental crisis? What kinds of hydro-logics can be proposed to become unstuck and move in flow? As environmental scientist Jules reminds me, communities form, communities change, communities die. But they also heal and recover. The geosocialities of microbial rivers then show the interconnection of microbes, humans and other species, where not only humans influence geological entities like rivers, but these very material elements

continuously affect and inscribe humans and other organisms in changing interrelations. As watery organisms, it is in thinking with rivers and their multiple communities that we can re-establish a geosocial and ecopolitical connection that was always there but became forgotten. This hydrological move enables a recognition that raising the environmental issue of rivers may not be enough (**Neimanis, 2017**). The key is to challenge the human exploitation of watercourses as mere resources, recognising the human and nonhuman bodies inhabiting them, thus going beyond the humanism of dualisms (**Ibid**). To conceive of rivers in their geosocial and microbial elements allows for a decentring of the human from its primary position within the environment. It is then possible to recognise the human as part of the river community rather than its owner. Microbial rivers, with their many visible and invisible life forms, is then a call for novel ways to relate to nonhuman entities for their intrinsic rather than instrumental value. In considering flow as a necessary movement in human and nonhuman wellbeing, against the stagnation of stuck traumatic energy as well as turbid polluted water, it is possible to reconnect with 'others'—water, microbes, crustaceans—in more authentic and respectful ways. This shift also involves the recognition of the agency of rivers and their communities, as well as developing an awareness of humans' geosocial belonging to these ecosystems. It is this acknowledgement of our water-like quality of softness, a weakness that overcomes the strong, that allows us, after a challenge, to flow again like a stream. Thinking with rivers can then entail a repositioning of the human as part of situated water communities alongside other flowing organisms.

Conclusion

This article has traced a geosocial and interdisciplinary argument for the interconnectedness of rivers, microbes and humans in their fluid and soft qualities. Microbial rivers emerge in microbiology as complicated entities to delineate because of their diversity and constant movement. With their fluctuating components and inhabitants, microbial rivers affect sociality in multiple modalities and are in turn influenced by complex dynamics and elements. Flow carries microbes, soils, pollutants in its fluidity where communities form and respond to the challenge of immobility that prevents progress in the felt sense of life. Once the moving quality of rivers in the face of devastation is reinstated, human and nonhuman communities can undergo renewal and thrive. As organisms made of water, minerals and microbes, if humans become conscious of the geosocial entanglement with other lives, this realisation can entail a responsible awareness of river communities in their diverse sensitivities to anthropogenic devastation. It is then possible to recognise that growth and opportunity do not spring from individual resilience, but arise from harmony in the complex and intersected river flow.

Acknowledgements

I would like to thank the scientist featured in this article for introducing me to river microbial communities. I also thank Guilherme Sampaio at *Exchanges* and two anonymous reviewers for their valuable comments and guidance.

Serena Zanzu is a research fellow at Warwick Business School, working on an ESRC/NPIF Postdoctoral Innovation Project. Her current research explores the complex relationship between social scientists and businesses in the context of food sustainability. She holds a PhD in Sociology from the University of Warwick. Her doctoral thesis examined the soil microbiome as a form of knowledge constituted across interconnected fields of expertise.

References

Chen, C., MacLeod, J. and Neimanis, A. (2013). Introduction: Toward a Hydrological Turn? *In*: Chen, C., MacLeod, J. and Neimanis, A., *Thinking with Water*, Montreal & Kingston: McGill-Queen's University Press.

Clark, D. R., Ferguson, R. M. W., Harris, D. N., Nicholass, K. J. M., Prentice, H. J., Randall, K. C., Randell, L., Warren, S. L. and Dumbrell, A. J. (2018). Streams of Data from Drops of Water: 21st Century Molecular Microbial Ecology, *WIREs Water*, 5 (4) e1280.

Doan, M. D. (2014). Climate Change and Complacency. *Hypatia*, 29 (3), pp. 634–650.

Féaux de la Croix, J. (2011). Moving metaphors we live by: water and flow in the social sciences and around hydroelectric dams in Kyrgyzstan. *Central Asian Survey*, 30 (3–4), pp. 487–502.

Gendlin, E. T. (2003). *Focusing*, London: Rider.

Haraway, D. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*. Durham and London: Duke University Press.

Harding, S. and Margulis, L. (2009). Water Gaia: 3.5 Thousand Million Years of Wetness on Planet Earth. *In*: Crist, E. and Rinker, H. B. (eds.). *Gaia in Turmoil: Climate Change, Biodepletion, and Earth Ethics in an Age of Crisis*. Cambridge, MA: MIT Press.

Hastrup, K. (2013). Water and the configuration of social worlds: An anthropological perspective. *Journal of Water Resource and Protection*, 5, pp. 59–66.

Hawke, S. (2012). Water Literacy: An 'Other wise', Active and Cross-cultural Approach to Pedagogy, Sustainability and Human Rights. *Continuum*, 26 (2), pp. 235–247.

Hawke, S. and Pálsson, G. (2017). Water Futures, Biosociality, and Other-Wise Agency: An Exploratory Essay. *Anuac*, 6 (1), pp. 233–252.

Helmreich, S. (2009). *Alien ocean: anthropological voyages in microbial seas*. Berkeley: University of California Press.

Hird, M. (2009). *The Origins of sociable life: Evolution after science studies*. Basingstoke: Palgrave Macmillan.

Joseph, J. and McGregor, J. A. (2020). *Wellbeing, Resilience and Sustainability: The New Trinity of Governance*. Basingstoke: Palgrave Macmillan.

Krause, F. (2014). Reclaiming flow for a lively anthropology. *Suomen Antropologi: Journal of the Finnish Anthropological Society*, 39 (2), pp. 89–92.

Krause, F. and Strang, V. (2016). Thinking relationships through water. *Society and natural resources*, 29 (6), pp. 633–638.

Lakoff, G. and Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago Press.

Lao Tzu (1961). *Tao Teh Ching* (Translated by John Ching Hsiung Wu). New York: Barnes & Nobles.

Lee, Y., Yang, H. and Wang, M. (2009). Daoist Harmony as a Chinese Philosophy and Psychology. *Peace and Conflict Studies*, 16 (1), pp. 68–81.

Leitch, M. L. (2007). Somatic Experiencing Treatment with Tsunami Survivors in Thailand: Broadening the Scope of Early Intervention. *Traumatology*, 13 (3), pp. 11–20.

Leitch, M. L., Vanslyke, J. and Allen, M. (2009). Somatic Experiencing Treatment with Social Service Workers Following Hurricanes Katrina and Rita. *Social Work*, 54 (1): 9–18.

Levine, P. A. (1997). *Waking the Tiger: Healing Trauma: The Innate Capacity to Transform Overwhelming Experiences*. Berkeley, CA: North Atlantic Books.

Levine, P. A. (2010). *In an Unspoken Voice: How the Body Releases Trauma and Restores Goodness*. Berkeley, CA: North Atlantic Books.

Levine, P. A. and Phillips, M. (2012). *Freedom from Pain: Discover your Body's Power to Overcome Physical Pain*. Boulder, CO: Sounds True.

Linton, J. and Budds, J. (2013). The hydrosocial cycle: Defining and mobilizing a relational-dialectical approach to water. *Geoforum*, 57, pp. 170–180.

Lowe, C. (2017). Viral ethnography: Metaphors for writing life. In: *Troubling Species: Care and Belonging in a Relational World*, by The Multispecies Editing Collective, RCC Perspectives: Transformations in Environment and Society, 1, pp. 91–96.

Mari, L., Casagrandi, R., Bertuzzo, E., Rinaldo, A and Gatto, M. (2014). Metapopulation Persistence and Species Spread in River Networks. *Ecology Letters*, 17 (4), pp. 426–434

Neimanis, A. (2013). Morning sickness and gut sociality. Towards a posthumanist feminist phenomenology. *Janus Head*, 13 (1), pp. 214–240.

Neimanis, A. (2017). *Bodies of water: posthuman feminist phenomenology*, London: Bloomsbury Academic.

Orlove, B. and Caton, S. C. (2010). Water sustainability: Anthropological approaches and prospects. *Annual Review of Anthropology*, 9, pp. 401–415.

Pálsson, G. and Swanson, H. A. (2016). Down to Earth: Geosocialities and Geopolitics. *Environmental Humanities*, 8 (2), pp. 149–171.

Paxson, H. and Helmreich, S. (2014). The perils and promises of microbial abundance: Novel natures and model ecosystems, from artisanal cheese to alien seas. *Social Studies of Science*, 44 (2), pp. 165–193.

Rockefeller, S. A. (2011). Flow. *Current Anthropology*, 52 (4), pp. 557–578.

Sarukkai, S. (2009). Science and the Ethics of Curiosity. *Current Science*, 97 (6), pp. 756–767.

Savio, D., Sinclair, L., Ijaz, U. Z., Parajka, J., Reischer, G. H., Stadler, P., Blaschke, A. P., Blöschl, G., Mach, R. L., Kirschner, A. K. T., Farnleitner, A. H. and Eiler, A. (2015). Bacterial Diversity along a 2600 km River Continuum. *Environmental Microbiology*. 17 (12), pp. 4994–5007.

Schneer, J. (2005). *The Thames*. New Haven & London: Yale University Press.

Schrader, A. (2017). Microbial suicide: Towards a less anthropocentric ontology of life and death. *Body & society*. 23 (3), pp. 48–74.

Schrader, A. (2020). Marine microbiopolitics: Haunted microbes before the Law. *In*: Braverman, I. and Johnson, E. R. (eds.). *Blue legalities: The life and laws of the sea*. Durham and London: Duke University Press.

Strang, V. (2004). *The meaning of water*. Oxford, New York: Berg.

Tedeschi, R. G. and Calhoun, L. G. (2004). Target article: Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15, pp. 1–18.

Thompson, M. S. A., Bankier, C., Bell, T., Dumbrell, A. J., Gray, C., Ledger, M. E., Lehmann, K., McKew, B. A., Sayer, C. D., Shelley, F., Trimmer, M., Warren, S. L. and Woodward, G. (2015). Gene-to-ecosystem Impacts of a Catastrophic Pesticide Spill: Testing a Multilevel Bioassessment Approach in a River Ecosystem. *Freshwater Biology*, 61 (12), pp. 2037–2050.

Vaz-Moreira, I., Nunes, O. C. and Manaia, C. M. (2014). Bacterial Diversity and Antibiotic Resistance in Water Habitats: Searching the Links with the Human Microbiome. *FEMS Microbiology Reviews*, 38 (4), pp. 761–778.

Yaka, Ö. (2020). Justice as relationality: Socio-ecological justice in the context of anti-hydropower movements in Turkey. *DIE ERDE – Journal of the Geographical Society of Berlin*, 151 (2–3), pp. 167–180.

To cite this article:

Zanzu, S., 2021. Geosocialities, Flow and Renewal in Microbial Rivers. *Exchanges: The Interdisciplinary Research Journal*, 9(1), 24-44. Available at: https://doi.org/10.31273/eirj.v9i1.740.

An Assessment of the Visual Appropriateness of Selected Brand Logos

Afeez Babatunde Siyanbola[1], Adedola Olayinka Adeyemi

Fine and Applied Art Department, Olabisi Onabanjo University, Ago Iwoye Nigeria
Correspondence: afeezsegun@yahoo.com[1]

Peer review: This article has been subject to a double-blind peer review process

Abstract

This paper focuses on assessing the appropriateness of selected logos of popular brands. The paper enunciates the relevance of logos to the public perception of brands. Logos function as signifiers, denotative, point of contact and identifiers. The visual components of logos and the suggestive meanings of shapes which are the building blocks of the pictorial contents are articulated in this study. Thirty (30) logos of popular brands were purposively selected and subjected to the analysis of Eighty (80) people constituting thirty (30) formally trained practicing graphic designers, ten (10) experienced printers and forty (40) individuals who are familiar with the selected brands. The collated data were analyzed using the Statistical Package of Social Science (SPSS). Findings revealed that logos are visual seals that communicate brand promises to the targeted audience, viewers recall simple logos more easily and logos crammed with colours are not appealing. The study recommended that visual contents of logos should resonate balance, application colours in logos should be limited to two and logos design should be a product of a sound brand strategy.

Keywords: logo; simplicity; memorability; versatility; distinctness; appropriateness

Introduction

Logos are mainly vector graphics that form an integral part of the visual communication strategies developed for individuals, groups and businesses. Logos are the simplest form of brand identity usually represented by a mark or icon. Businesses are identified and differentiated by their visual identities. A logo is a single graphic design application that appears in all brand design applications (**Landa, 2010**). The competitiveness amongst businesses for public attention and patronage necessitates the need for a strong dynamic visual representation. Logos function as signifiers, denotative, point of contact and identifiers. Historically, logos emanated from the need to create recognizable patterns for identification. Animals were marked with unique symbols so that the owner could lay claims to them when the need arises. The practice involved heating a branding iron that was fashioned into a symbol, letter or name, in a fire, which would then be pressed against the hide of an animal, burning the hair and skin and leaving a permanent scar on the body (**Regan, 2007**). Also, the social revolution led to the establishment of forgery, counterfeiting, and fraud laws in 1905 for civil protection against the use of logo trademarks without authorization within the United Kingdom (**West, 1978**).

Logos communicate a sense of assurance and project organizations positively to the public. Logo positioning improves brand recognition and leverages all-inclusive brand equity. The consistent utilization of logos across the brand's communicative channels for a good period elicits a high recall of the brand by the public. Brand value is gained when visual identity arouses public memories and communicates a perception of excellence. Therefore, a logo is a sign of promise and fulfilment to the audience. It represents and embodies the entirety of a brand, group, or individual it signifies. Logos are often used exclusively in outdoor advertisements due to space and time constraints. Logos can be a wordmark that is wholly typographic constituting the nomenclature of the brand; or, symbolic. Symbolic logos combine pictorials with typography depending on the concept. The different categories of symbolic logos are highlighted as follows:

i. Letterform: These logos are developed using the initials of the company

ii. Symbol: symbolic logos are either pictorial or abstract.

iii. Non-objective Logos: These logos are outrightly invented and not visually influenced persons, places or object

iv. Character icon: A character icon showcases the personality of a brand, cause, or group

v. Emblem: a combination of words and images that are always seen together, never separated (**Landa, 2010**).

The components of the logo refer to the graphic elements that constitute the content of logos and the style of presentation. Graphic contents are defined by colours and the idea being conveyed by the concept. Integration of colours in the logo creates visual balance. The colour composition can be monochrome, two, three or four colours. Aslam, emphasizes the importance of colour in corporate and marketing communication as follows:

> *Color is the medium of communication and is an integral element of corporate communications, it induces emotion and moods, impacts on consumers' perceptions, behavior and differentiates organizations from competitors.* (**Aslam, 2006**)

However, the core values of individuals, businesses or groups drive the development of an effective logo. The design processes are guided by insight and intuition, information gathered and interpreted to align with the core values of the group or business. Aesthetic value and visual quality are essential in stimulating and enabling high recognition of the logo. Also, simplicity of style in logo design facilitates seamless and faster mental processing of the logo contents. According to Clark's study, people remember simple figures more easily than complex ones (**Lawless, 1978**). Geometric shapes are often utilized as the building blocks of logos. Shapes are the expression of the concept rationale imbued in the brand image. These shapes have suggestive meanings that correspond with the spelled-out core values of brands. Adir, Adir and Pascul (**2012**) highlight the suggestive visual meanings of selected shapes as shown in Table 1:

Table 1: Suggestive meaning of Shapes

Geometric Shape	**Suggestive Induction**
Circle	Perfection and Balance
Square	Stability and Power
Rectangle	Duration, Progress
Ellipse	Continue searching
Triangle	harmony, urge towards
Spiral	advancement, detaching
Sphere	perfection, finality

Source: (**Adir, Adir and Pascul, 2012**)

This study reviewed the previous survey studies relating to logo use and consumer perception of logos and a hypothesis was generated. The research methodology adopted is quantitative, and the data collected from the field was analyzed using descriptive statistics. The results were discussed. Hence, conclusion recommendations and areas of further research were highlighted.

Literature Review

The rising need for identity design by individuals, groups and companies has attracted the interest of scholars and researchers in exploring the consumer's perception of logos. Researches focused on understanding the appropriateness of logo contents. Prior studies have shown that the presentation of the graphical contents influences consumers' perception of the brand. Janiszewski and Meyvis (**2001**), investigated the effects of the brand logo on processing fluency and judgment. Janiszewski and Meyvis (**2001**) posited that expressive stimulus in logos expectedly improves conceptual fluency existing and creating a meaning-based representation of stimulus to facilitate easy encoding. Luffarellin, Stamatogiannakis and Yang (**2018**) explored the visual asymmetry effect of logo design and brand personality on brand equity, the researchers posited that asymmetric logos improve consumers' evaluations of brands with stimulating personality and positively influence the market's financial valuation of the brands. The descriptiveness of logos has been emphasized by many researchers studying the pictorial contents of logos. Mahmood, Luffarellin, Mukesh, (**2019**) noted that descriptive logos positively influence brand evaluations, purchase intentions, and brand performance. Bayunitri and Putri (**2016**) espoused those pictorial contents of logos indicative of brands business are more effective. Mahajan (**2014**) revealed that the complex descriptiveness of logo pictorials makes it appealing to customers. Pimentel (**1996**), showed colored pictorials in geometric patterns to respondents who were asked to evaluate the content and visual quality. The outcome showed that the respondents placed stronger emphasis on content. From the foregoing discussions on literature review, inference and research structure, this study developed a null hypothesis stating that descriptive logos are more appropriate than simple non-descriptive brand logos. Based on the position of previous researches in this area, Apparently, the results of previous researches enunciated in this study revealed that descriptive and expressive brand logos are more favoured by the public. These researches were mostly done by marketing professionals with minimal inputs from graphic designers. Evidence has shown that expressive logos are often not scalable, flexible, and timeless (**Cass, 2017: Haviv, 2019**). Landa (**2010**) posited that the characteristics of a good logo are memorability, versatility, timelessness, coherence, simplicity, and flexibility.

Criterial for Visual Appropriateness of Logos

The criteria for measuring the visual appropriateness of the logo are anchored on five characteristics. These characteristics are significant in the conceptualization and development of brand logos that are considered to be efficient and effective in communicating brand personalities and potentials. Haviv (**2019**), asserted that a good logo communicates a feeling of appropriateness which is a function of simplicity, memorability, distinctiveness, and versatility. These four criteria are discussed as follows:

a. Simplicity

The simplicity of logos makes it easily recognizable and versatile. Simple logos instantly catches the attention of the intended audience at a glance. According to the Portuguese lexical online dictionary[i], simplicity is a feminine substantive that may signify three qualities; quality of what is easy to understand or do, luxury absence: to live with simplicity; natural, spontaneity: to speak with simplicity. Simplicity enhances brand visibility and clarity amongst competing brands. Ray (**2019**) noted that simple logo design clearly communicates to the potential customers and nudge them towards embracing the brand

b. Memorability

Memorable logos oscillate between the thin line of familiarity and uniqueness, the image is simple to be easily recalled and unusually persist in the minds of the viewers (**Stewart Design, 2020**). Branded in Memory (**2020**) revealed that most participants struggled to recall exactly via their drawings the logos of globally renowned brands such as Apple, Addidas, and Domino Pizza. Memorable logos have simple and unique visuals which strategically convey the brands' message.

c. Distinctiveness

Distinctive features in logo design imply strong visual content, that is differentiable and edgy. Distinct cannot be confused with other brand trademarks-; visual concepts of distinct logos are original and identifiable. The quality of visuals in distinctive logos is engaging and bold.

d. Versatility

Versatile logos are scalable and easily reproducible on all communicative platforms. The scalability of logos implies that the visual element maintains proportion when resized. Logos are reproduced on different media platforms being the seal of brand communication. Versatile logos are designed to be reversible on light or dark backgrounds.

Methodology

The research design for this study is quantitative. Thirty logo identities of businesses in the Telecommunication, Information Technology, Food/Beverage and Fashion were purposively selected based on the notability of the brands in the Nigerian market. The selected logos were subjected to the analysis of eighty respondents (80) constituting of thirty (30) formally trained graphic designers and ten (10) practicing printers based in Somolu and Mushin area of Lagos Metropolis and forty 40 consumers resident in Lagos that are familiar with the selected brands were also sampled. Lagos is the economic capital of Nigeria and is reputed for being the advertising and printing hub in Nigeria. Selected logos were further categorized into renowned brands and small-scale brands based on their market reach within and outside Nigeria. The determination of the appropriateness of the selected logos was measured using the criteria of appropriateness as articulated by Haviv (**2019**). These criteria are simplicity, memorability, distinctness, and versatility. Therefore, the average mean of the criteria indicates the appropriateness of the logos.

The statistical analysis of this study utilized five (5) point Likert scale formats Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree to collect data from the study population. The data collected were analyzed using the mean. The nominal scores and records were attained using the Likert scale model: Strongly Agree =5, Agree=4, Undecided=3, Disagree=2, and, Strongly Disagree=1. These were calculated as 5+4+3+2+1 =15/5 =3 (Likert Scale Criterion). The score of each item was summed and the arithmetic means calculated for each item. The mean is compared with the Likert Scale criterion above (**Angyol, 2015**). If the mean is equal to or above (greater than) the Likert criterion (3.0) then the item is accepted and if the mean is lower than the Likert Scale criterion of (3.0) then the item is rejected. The mean scores and standard deviation values were calculated using the Statistical Package of Social Science (SPSS). Therefore, the average mean score of (3.0) indicates the appropriateness of each of the logos.

One null hypothesis was formulated and tested in the study. The hypothesis was tested using the pair sampled *t*-test to test the significant difference between two independent variables. All hypotheses formulated were tested using α (0.05) level of significance.

Results

The results of the survey are presented in Tables 2, 3, 4, 5, 6, 7. 8 and 9.

Table 2: Mean Values of Brand Logos (1)

Brand Logos	Criteria	Mean	Appropriateness (Average mean)	Standard Deviation
	Simple	1.8	1.9	0.50404
	Memorable	2.0		
	Distinct	2.1		
	Versatile	1.7		
	Simple	1.9	2.1	1.19822
	Memorable	2.4		
	Distinct	2.3		
	Versatile	1.8		
	Simple	2.5	2.3	1.2934
	Memorable	2.0		
	Distinct	2.6		
	Versatile	2.1		
	Simple	1.0	1.48	0.12376
	Memorable	1.4		
	Distinct	1.6		
	Versatile	1.9		

Source (**Researchers' fieldwork, 2020**). See also copyright note.

Table 3: Mean Values of Brand Logos (2)

Brand Logos	Criteria	Mean	Appropriateness (Average mean)	Standard Deviation
	Simple	1.2	1.5	1.10122
	Memorable	1.7		
	Distinct	1.9		
	Versatile	1.35		
	Simple	1.52	1.6	1.06963
	Memorable	2.12		
	Distinct	1.5		
	Versatile	1.2		
	Simple	3.9	3.3	0.65854
	Memorable	3.2		
	Distinct	2.5		
	Versatile	3.6		
	Simple	2.3	2.3	1.21071
	Memorable	1.9		
	Distinct	2.0		
	Versatile	3.0		

Source (**Researchers' fieldwork, 2020**). See also copyright note.

Table 4: Mean Values of Small-Scale Brand Logos

Brand Logos	Criteria	Mean	Appropriateness (Average mean)	Standard Deviation
	Simple	3.5	3.5	0.50404
	Memorable	4.0		
	Distinct	3.1		
	Versatile	3.5		
	Simple	2.7	2.7	1.19822
	Memorable	2.9		
	Distinct	2.5		
	Versatile	2.8		
	Simple	3.0	3.0	1.2934
	Memorable	2.8		
	Distinct	2.7		
	Versatile	3.6		
	Simple	1.4	1.6	0.12376
	Memorable	1.2		
	Distinct	1.7		
	Versatile	1.9		

Source (**Researchers' fieldwork, 2020**). See also copyright note.

Table 5: Mean Values of Brand Logos (3)

Brand Logos	Criteria	Mean	Appropriateness (Average mean)	Standard Deviation
	Simple	1.9	1.8	0.50404
	Memorable	1.2		
	Distinct	2.1		
	Versatile	1.9		
	Simple	1.3	1.775	0.39426
	Memorable	2.2		
	Distinct	2.3		
	Versatile	1.3		
	Simple	2.5	2.6	1.2934
	Memorable	2.2		
	Distinct	2.6		
	Versatile	3.0		
	Simple	3.5	3.7	0.12376
	Memorable	4.0		
	Distinct	3.0		
	Versatile	4.3		

Source (**Researchers' fieldwork, 2020**). See also copyright note.

Table 6: Mean Values of Brand Logos (4)

Brand Logos	Criteria	Mean	Appropriateness (Average mean)	Standard Deviation
	Simple	1.3	1.55	1.01235
	Memorable	2.1		
	Distinct	1.5		
	Versatile	1.3		
	Simple	3.5	3.3	0.48771
	Memorable	2.7		
	Distinct	3.0		
	Versatile	3.9		
	Simple	3.0	3.5	0.85484
	Memorable	3.1		
	Distinct	4.0		
	Versatile	3.7		
	Simple	4.2	4.2	0.65824
	Memorable	4.3		
	Distinct	4.1		
	Versatile	4.23		

Source (**Researchers' fieldwork, 2020**). See also copyright note.

Table 7: Mean Values of Brand Logos (5)

Brand Logos	Criteria	Mean	Appropriateness (Average mean)	Standard Deviation
	Simple	1.3	1.8	1.19822
	Memorable	2.2		
	Distinct	2.3		
	Versatile	1.3		
Andela	Simple	4.3	4.3	0.57334
	Memorable	4.5		
	Distinct	4.0		
	Versatile	4.2		
GTBank Guaranty Trust Bank	Simple	4.2	3.8	1.2643
	Memorable	3.3		
	Distinct	3.8		
	Versatile	3.9		
KRAVO ENGINEERING LIMITED	Simple	2.0	2.1	1.29822
	Memorable	2.1		
	Distinct	1.9		
	Versatile	2.4		

Source (**Researchers' fieldwork, 2020**). See also copyright note.

Table 8: Mean Values of Brand Logos (6)

Brand Logos	Criteria	Mean	Appropriateness (Average mean)	Standard Deviation
	Simple	4.1	4.15	0.39426
	Memorable	3.8		
	Distinct	4.3		
	Versatile	4.4		
	Simple	4.4	4.2	0.57334
	Memorable	3.6		
	Distinct	4.2		
	Versatile	4.4		
	Simple	4.0	3.7	1.2643
	Memorable	3.2		
	Distinct	4.3		
	Versatile	3.3		
	Simple	4.3	4.1	0.65854
	Memorable	4.1		
	Distinct	3.4		
	Versatile	4.4		

Source (**Researchers' fieldwork, 2020**). See also copyright note.

Table 9: Mean Values of Renowned Brand Logos

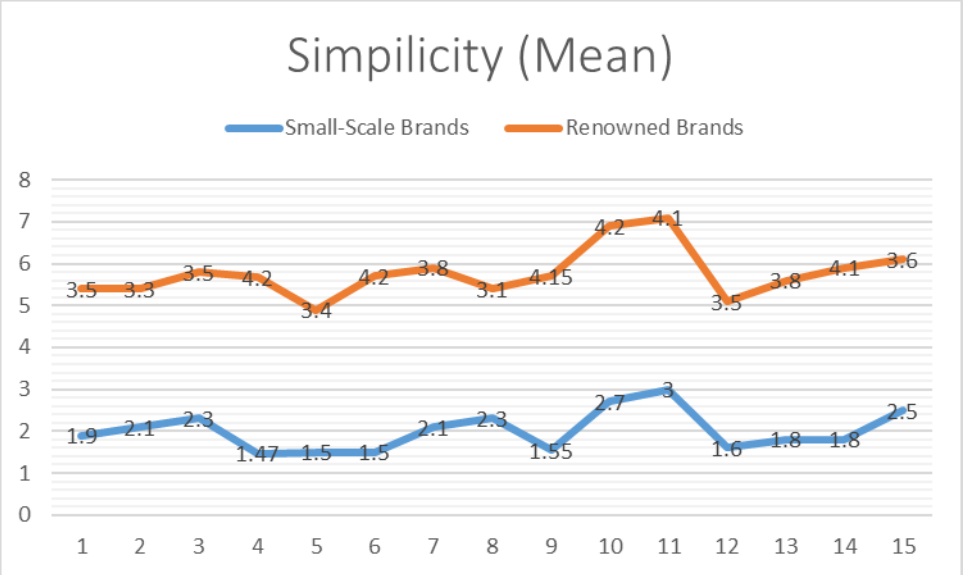
Brand Logos	Criteria	Mean	Appropriateness (Average mean)	Standard Deviation
Oando ...the energy to inspire	Simple	3.2	3.5	0.39426
	Memorable	3.3		
	Distinct	4.1		
	Versatile	3.4		
FrieslandCampina nourishing by nature	Simple	4.1	3.8	0.57334
	Memorable	3.5		
	Distinct	4.4		
	Versatile	3.3		
Deloitte.	Simple	4.5	4.025	1.2643
	Memorable	4.3		
	Distinct	3.4		
	Versatile	3.9		
Nestlé	Simple	3.4	3.6	0.65854
	Memorable	3.2		
	Distinct	3.8		
	Versatile	3.9		

Source (**Researchers' fieldwork, 2020**). See also copyright note.

Simplicity

Some of the brand logos resonate with simplicity while others do not. However, it was observed that the logos of some small-scale brands look complex (see **Figure 1**). The common misconception about the logo is that it should be a medium of showcasing the form of business rather than being a simple business identifier.

Figure 1: Simplicity in Logo

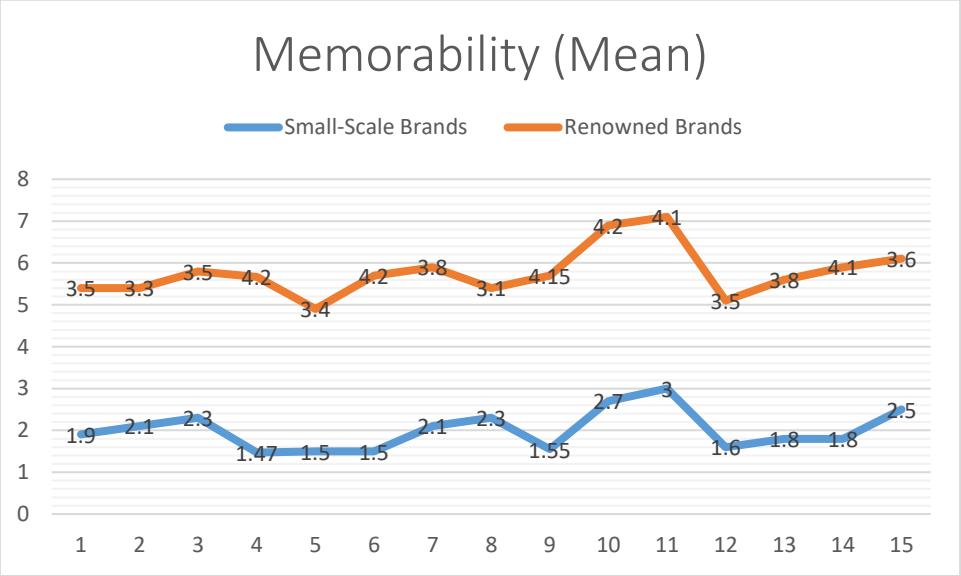


Source: (**Researchers' Fieldwork, 2020)**

Memorability

The Logos of sampled renowned brands are more memorable than the small-scale brands as shown (see **Figure 2**).

Figure 2: Memorability in Logo

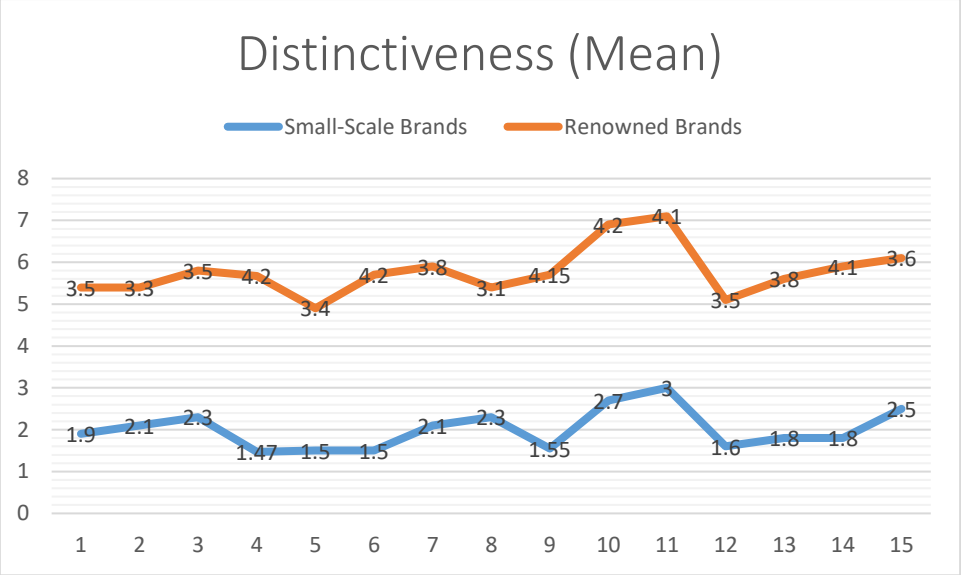


Source: (**Researchers' Fieldwork, 2020)**

Distinct

The quality of visuals in distinctive logos is engaging and bold. Figure 3 shows that most of the renowned brand logo are distinctive in comparison to small-scale brand logos.

Figure 3: Distinctiveness in Logo

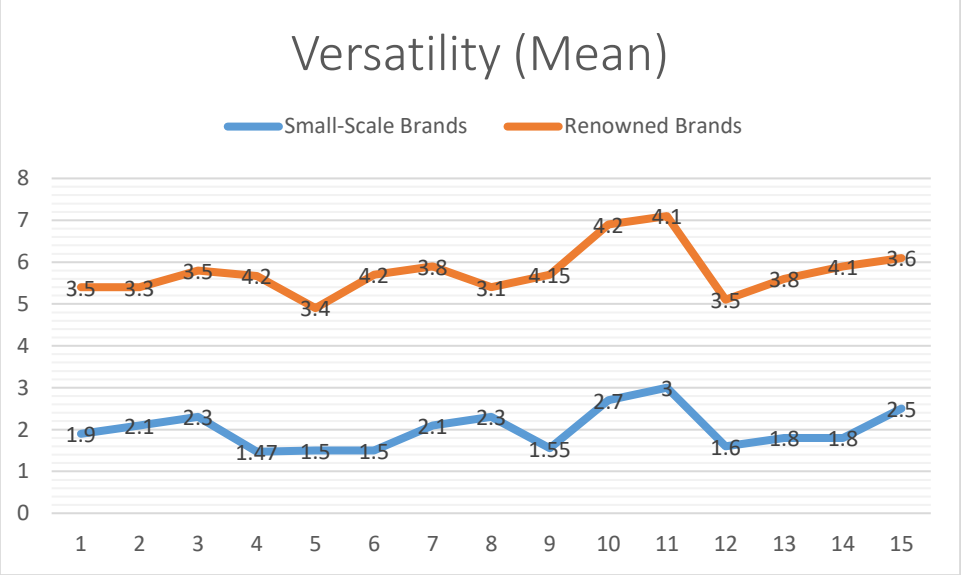


Source: (**Researchers' Fieldwork, 2020)**

Versatility

The versatility of logos is referred to the scalability and reproducibility properties of logos. Simple logos are scalable and reproducible. The renowned logos are mostly versatile as shown (see **Figure 4**).

Figure 4: Versatility of Logo

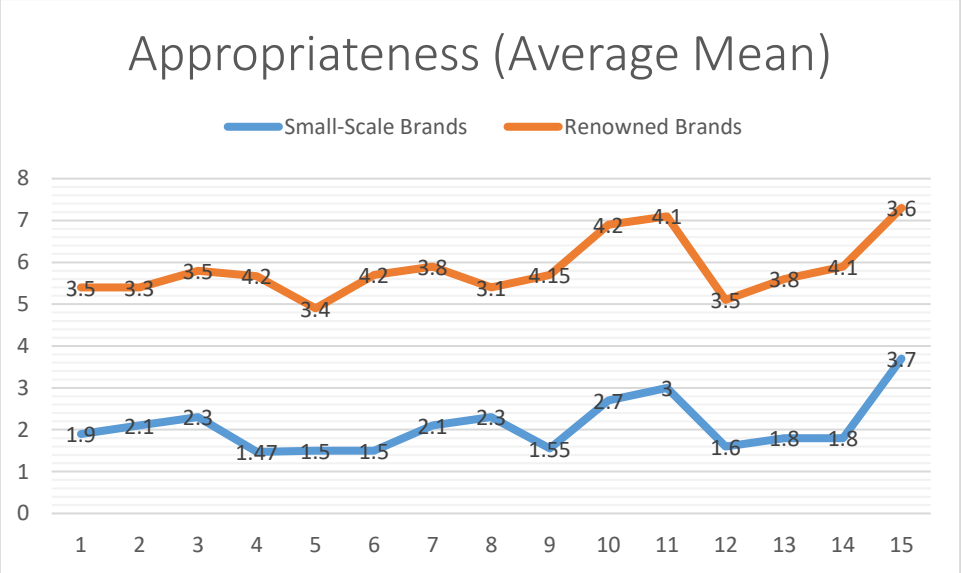


Source: (**Researchers' Fieldwork, 2020)**

Appropriateness

The average mean value of (3.0) and above is an indication of the appropriateness of a logo while (2.9) and below represent a non-appropriateness of a particular logo. Figure 5 shows that just two logos amongst the small-scale brand logo can be classified as being appropriate. While the renowned brand logos are all appropriate.

Figure 5: Appropriateness of Logo



Source: (**Researchers' Fieldwork, 2020)**

Testing of Null Hypotheses

Hypothesis One:

***Ho**: Descriptive brand logos are more appropriate than Simple and non-descriptive brand logos*

Table 10 shows that the mean and standard deviation of descriptive logos and non-descriptive/simple logos are 1.9 and 3.7 and 0.71 respectively. The t_{cal}=6.16 > t_{crit}=1.97 and the P_{value} = 0.0001< 0.05. Simple brand logos are more appropriate than descriptive brand logos. Therefore, the null hypothesis is rejected.

Table 10: Summary of paired sample t-test for hypothesis one

Variable	N	Mean	S.D.	DF	Tcal	Tcrit	P_{value}	Remark
Descriptive Logo	40	1.9	0.93	311	6.16	1.97	0.0001	Significance
Simple/Non-descriptive Logo	40	3.7	0.71					

* Significant at P ≤ 0.05. Source: (**Researchers' Fieldwork, 2020**)

Discussions and Theoretical Contributions

The average mean results of each of the evaluated criteria are discussed in relation to the visual appropriateness of the brand logos. The average mean values of 3.8 and 2.0 indicate the simplicity that characterizes the sampled brand logos. Simplicity is an essential feature of logos. Simple logos are easily processed by the public and communicate the vitality of brands. Complex logo designs possess multiple signals that lead to confusion in viewer's minds (**Ray, 2019**). The simplicity of logos enables easy recognition of logos and makes them endure for a long period of time. The sampled logos that are descriptive do not resonate with simplicity because the logos are complex and crammed with different design elements. An average mean value of 1.9 and 3.8 indicate the memorability of logos of the sampled brands. Simple logos are memorable; memorable logos are less crammed with colours and pictorial contents.

The average mean values of 4.0 and 1.8 show the distinctiveness of logos of the brands. Small-scale logos are not versatile because of their descriptive nature, they are complex and loses qualities when resized. This is evident in the average mean values of 3.8 and 2.0 revealing the versatility of the logos. This study measured appropriateness as the average of the mean values of the specified criteria, this position is informed by the assertion of Haviv (**2019**). The outcome of this study reflects the processes often adopted by brands in the creation of their logos. Observably, expressive and complex logos are not versatile, reproducible, and memorable. Multinational brands engage established Advertising/Design firms who go through the thorough procedure of conducting brand strategy which is fundamental to logo development. The procedure is mostly devoid of personal sentimentalities of the business owners which enable the Design firms to create an appropriate logo for the client. However, some brand owners often want the visual content to express their nature of business. They misconstrue logos to be a medium of communication rather than identification and this misconception is reflected in the quality of logos developed for small-scale businesses.

Implications for Practice

This study provides a dynamic approach to the conceptualization and development of logos. It enunciates the fundamental features that constitute the perceived appropriateness of logos. Logos are very important to brands because that is the visual element that considerably influences consumer perception and acceptability of brands. Logos are visual seals that communicate brand promises to the targeted viewers. The professionals in the advertising field who are saddled with the responsibility of creating logos for businesses, individuals, or groups are

expected to consider the factors highlighted below when developing a logo:

i. The visual contents of logos should resonate with good spacing and balance.
ii. Application colours in logos should be limited to two.
iii. Logos design should be a product of a sound brand strategy.
iv. The pictorial contents of logos should be less visually descriptive.
v. Expressive logos are less memorable and versatile.
vi. Logos should retain their uniqueness irrespective of colours or size.

Conclusion

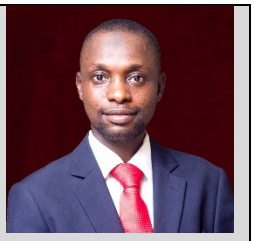
Logos represent a significant aspect of brand strategies and campaigns. The perception of brand logos communicates a feeling of brand value to the public. Logos that are simple, distinct, memorable, and versatile are considered appropriate. Appropriate logos are timeless and suitable for a medium of brand communication without being distorted or reworked. Globally renowned brands are reputed for their enduring visual identities and timeless logo. Inappropriate logos are susceptible to change which hurts the emotional connection existing between the loyal customers and the brand. Logo designers need to ensure that the visual contents of logos are created in such a way that they are reversible on light and dark backgrounds. The expressiveness and depiction in the visual contents of logos create multiple signals and visual complexities that make the brands less valuable. Appropriate logos are sustainable visual flags that connect the public to the brand.

Areas of Further Research

Further research needs to focus on evaluating the psychological and cultural perception of colours used in logos. The psychological impact of colour is often indicative of the services offered by brands, it could also be reflective of the target demography of the audience. Apparently, the logo constitutes the visual liveries of brands. Also, the perception of colours is dependent on cultural implication which varies according to the tradition and custom of different societies. Hence, the choice of colours for the brand logo could also be determined by the culture of the target audience.

Copyright Note

Dr. Siyanbola Afeez Babatunde, is a lecturer in the Department of Fine and Applied Olabisi Onabanjo University. He has B.Tech and M.Tech in Industrial Design Department (Graphics Option) Federal University of Tecnology Akure. He also bagged his Doctoral Degree from Industrial Design Department of Ahmadu Bello University in Zaria. His Ph.D. research focused on e-commerce user experience. Dr Siyanbola is a brand consultant and photographer. He has presented in both local and international conferences.



List of Tables

List of Figures

References

Adir, Adir and Pascul (2012). Logo design and the corporate identity. *Procedia - Social and Behavioral Sciences*, 51: 650 – 654.

Angyol, M. A. (2015). *Development of Alphabet Multimedia Instructional Materials to Enhance Pre-Primary Pupils Education in Samaru Zaria, Kaduna State Nigeria*. An Unpublished Masters Dissertation Department of Industrial Design, Ahmadu Bello University Zaria.

Aslam M. (2006). Are You Selling the right Colour? A cross-cultural review of colour as a marketing cue. *Journal of Marketing Communication*, 12(1): 15-30.

Bayunitri B and Putri S. (2016). The Effectiveness of Visualization the Logo Towards Brand Awareness. *Procedia-Social and Behavioural Sciences*, 219: 134-139.

Branded in Memory (2020). *10 Iconic Logos. 156 Americans. 80 hours of drawing from memory*. Available at: https://signs.com/branded-in-memory [Accessed: 5 September 2020].

Cass J. (2017). *Logo Simplicity*. Available at: https://justcreative.com [Accessed: 24 September 2020].

Haviv W (2019). *What makes a Logo Great and Iconic. An online interview*. Available at: https://thefutur.com [Accessed: 14 July 2020].

Janiszewski C and Meyvis T (2001). Effects of Brand Logo Complexity, Repetition, and Spacing on Processing Fluency and Judgement*. Journal of Consumer Research*, 28(1): 18-32. DOI: 10.1086/321945 [Accessed: 14 July 2020].

Landa, R. (2010). *Graphic Design Solutions*. Wadsworth Cengage Learning, Boston, USA.

Lawless H. (1978). Recognition of common odors, pictures, and simple shapes. *Perception & Psychophysics*, 1978, 24(6): 493.495.

Luffarellin J. Stamatogiannakis A. and Yang H. (2018) The Visual Asymmetry Effect: An Interplay of logo design and Brand Personality on Brand Equity. *Journal of Marketing Research*, 56(1): 89-103. DOI: 10.1177/0022243718820548 [Accessed: 14 July 2020].

Luffarelli J. Mukesh M. and Mahmood A. (2019). Let the Logo do the Talking: The Influence of Logo Descriptiveness on Brand Equity. *Journal of Marketing Research*, 56(5): 862-878. DOI: 10.1177/0022243719845000 [Accessed: 14 July 2020].

Mahajan N. (2014). An Exploration of Imapact of Logo Redesign and Brand Image. *Global Journal of Finance and Management*. 6(3): 209-216.

Pimentel, R W. (1996). *I don't know much about design, but I know what I like: An exploratory study of preference for visual images*. Working paper, University of Central Florida.

Ray H. (2019). *Simplicity, A Huge Contributing factor to Logo Design*. Available at: https://designhill.com [Accessed: 7 September 2020].

Regan, A. (2011): *A brief history of branding*. Available at: http://www.articlesbase.com/branding-articles/a-brief-history-of-branding-252518.html [Accessed: 12 June 2018].

Stewart Design (2020). *Principle of Effective Logo Design: Memorable (Part II)*. Available at: https://sdidentity.com [Accessed: 2 September 2020].

Walsh, F, Page K, and Mittal V. (2006). *Logo Redesign and Brand Attitude: The Effect of Brand Commitment*. ACR 2006 Conference, September Orlando, Florida.

West, E. G. (1978) Literacy and the Industrial Revolution. *Economic History Review*, 31(3): 369-383.

To cite this article:

Siyanbola, A., & Adeyemi, A., 2021. An Assessment of the Visual Appropriateness of Selected Brand Logos. *Exchanges: The Interdisciplinary Research Journal*, 9(1), 45-66. Available at: https://doi.org/10.31273/eirj.v9i1.800.

Endnotes

[i] See: http://www.lexi-co.pt/simplicidade/

The Question of Time for Norbert Elias: Challenges of an interdisciplinary concept and approach towards time

Monica Mastrantonio

Department of English and Related Literature, University of York, UK
Correspondence: monica.mastrantonio@york.ac.uk
Twitter: @Mastrantonio
ORCID: 0000-0002-3299-501X

Peer review: This article has been subject to a double-blind peer review process

Abstract

Norbert Elias is one of the great scholars who calls attention to the need for interdisciplinary studies related to actual societies' challenges. He was one of the precursors of 'Figurational Sociology,' through which human relations are studied in a processual way (micro and macro-social aspects). Elias's focus was to understand these concepts, not as a state of fixed and immutable things, but to understand them in terms of their process. In this report, it is pointed out that the 'civilizing process' ended up imposing on individuals a greater number of activities as well as greater dependence and complexity in the social relations network. Such factors required a common denominator to regulate such relationships. In this case, the denominator was called 'time'. By studying time, we may contribute to correct this erroneous image of a world with watertight compartments such as nature, society, and individuals. These are mixed and interdependent and require an interdisciplinary approach. Interdisciplinary studies of time and what to expect of the future are still waiting to being done.

Keywords: Norbert Elias, interdisciplinary study, time, future narratives

Norbert Elias is one of the great scholars who calls the attention to the need for interdisciplinary studies related to actual society's challenges. He published his first work entitled 'The Civilizing Process' in 1939, but he only gained academic and public recognition in the 1970s. Within this concept, Elias establishes relationships between the constitution of the State and the formation of individual conscience and self-control, explaining how society transforms, throughout its development, external coercion into self-coercion.

Elias was one of the precursors of the 'Figurational Sociology' through which human relations are studied in a processual way (micro and macro social). The figurative sense is used to illustrate networks of interdependence between individuals and the distribution of power within them. It is important to point out that Elias does not have a static view of these configurations and seeks to capture them in a continuous process of constitution and transformation. In this sense, configurations cannot be planned, programmed, or predicted because they are built and resized all the time. He even makes an analogy of the configurations with a ballroom dance, where people's actions when dancing are dependent on the place and the momentum of the dance (**1994b**).

Another aspect that supports this statement is that for him - actions and authors are not treated separately, just as individuals and society are not dissociable. Elias denounces the false division between human and natural sciences as a product of the development of closed and specific knowledge. Consequently, it becomes more difficult to capture the multiple relationships established between humanity and time, which requires an interdisciplinary approach.

For Elias (**1989, 1993, 1994b**), 'knowledge' is developed through social configurations throughout the evolution of society. Time also appears as a by-product of the evolution of our society. This evolution does not necessarily mean progress, but it is formed by progress and setbacks and, in the case of time, it is based on the development of the human capacity for synthesis and symbolic representation. It is important to note that Elias does not use the terms 'development,', 'evolution,' and 'progress,' in the sense of an automatic need or intrinsic to society (meaning used in the 19th century). He refers to such terms to explain, empirically and theoretically, structural changes that happen in society in the end. 'Time' is postulated as one, among several elements, that have accompanied the evolution of humanity.

Elias aims was to understand these concepts, not as a state of fixed and immutable things, but to understand them in terms of their process. Nevertheless, Elias (**1994b: 216**) pointed out 'there is still a lack of empirically-based theories to explain the type of long-term social changes

that take the form of a process and, above all, of development.' Thus, it seems that science still lacks instruments to capture events in a procedural and interdisciplinary way. To establish new paths in the understanding of the relationship between man and time, Elias uses research and investigations that explain how temporal configurations undergo changes and what functions they acquire in the course of social development.

The principles of 'Figurational Sociology' not only influenced several thinkers like Eric Dunning, Richard Kilminster, Jonathan Fletcher, Mike Featherstone, Stephen Mennell, Roger Chartier, Johan Gouldsblom, among others but brought a new way of looking and approaching concepts in movement and interdisciplinary. It is noteworthy that in England, when Elias was in the Department of Sociology at the University of Leicester, he met and worked with other important sociologists of that century, for instance, Anthony Giddens, John H. Goldthorpe, and Ilya Neustadt.

In Elias' vast work, the most diverse themes are discussed, from sociology, state formation, and sociology of sport, loneliness, fear of death, symbol theory, and even leisure. Such a variety and topicality of themes demonstrates an author concerned with issues that continue to influence our society. Specifically, regarding the question of time, Elias raised reflections between the history of civilization and time in 'The civilizing process.' In 1984, the book '*Sobre el Tiempo*' was published in German and then translated into Spanish. Especially in this work, Elias contrasted philosophical, naturalistic, and historical approaches, constituting an interdisciplinary way of approaching time, and trying to overcome the gaps produced between different areas of scientific knowledge.

When Elias (**1989**) makes comparisons of how different civilizations determine the time, he establishes universal functions for the way it coordinates human experiences between nature and society. Furthermore, Elias describes constraints-imposed overtime on society that link individual psychological structures with broader social structures.

When writing 'The civilizing process,' Elias (**1994b**) relates the constitution of the State since the Middle Ages, through the collection of taxes, police, armed forces, law, and others, with the elaboration of temporal aspects present in the formation of conscience and the individual self-control. In other words, state regulation would have accompanied the development of internal rules present in the formation of subjectivity and in the coordination of activities in society. Time, in the perspective of the 'civilizing process' is a fundamental network of a configuration of social relations developed by civilization.

Consequently, the growing importance given to time in our society tends to be the result of the social development itself that made it a primordial item for regulating life in society. What Elias (**1994b: 207**) especially writes in the 'civilizing process' is the establishment of time as the condition for the 'civilizing process.' Time was crucial for the development of a society, whose networks of actions were increasingly intertwined with each other, for instance:

> *The need for the synchronization of human conduct in broader territories and the need for a spirit of foresight with regard to longer chains of actions as never before ... there is also a manifestation of the large number of interlocking chains and interdependence, covering all the social functions that individuals have to perform, and the competitive pressure that saturates this densely populated network and that affects, directly or indirectly, each person's isolated act. This rhythm can reveal itself, in the case of the employee or entrepreneur, in the profusion of his scheduled meetings and meetings and, in the worker's, the exact timing and duration of each of his movements. In both cases, the rhythm is an expression of the huge number of interdependent actions, the extent and density of the chains composed of actions individuals and the intensity of the struggles that keep this entire interdependent network in motion. Elias* (**1994b: 207**).

In this report, it is pointed out that the 'civilizing process' ended up imposing on individuals a greater number of activities as well as greater dependence and complexity in the social relations network. Such factors required a common denominator to regulate such relationships. In this case, the denominator is called 'time.'

In fact, according to Elias (**1993: 208**), it was not the currency that characterized the transition from the Middle Ages to the Modern Age, but the change in the rhythm and extension of the movement that qualitatively changed the structure of human relations in society. It is in the transition from the Middle Ages to the Renaissance that the individual self-control of emotions and time is strengthened.

In this sense, the most accentuated concern with time, and with current temporal measures, seems to stem from processes of urbanization, commercialization, and mechanization of society. Mainly, when it based itself on great dependence on instruments created to measure time and less dependence on measures based on natural phenomena. For Elias (**1989: 64, 65**), the 'civilizing process' demonstrates that the broader and more interdependent human action is, the greater its dependence on time.

With the increasing urbanization and commercialization, it became more and more urgent the requirement to synchronize an increasing number of human activities and to have a continuous and uniform period as a common frame of reference for all human activities. It was the task of the central activities (profane and religious) to prepare this reticule and ensure its functioning, which depended on the orderly and recurring payment of taxes, interests, salaries, and the fulfilment of many other contracts and obligations, as well as the numerous festive days.

Therefore, time seems to be an essential element in the coordination and integration of current social relations, since the number of activities to be synchronized in modern times is greater and in increasingly complex networks. Because of the greater dependence on temporal measures, there is an overemphasis on temporality and the feeling is that there is a shortage of time.

Faced with a social process as long as time, Elias points out that studies on this theme must be associated with the history and development of humanity, because 'time is a network of relationships, often quite complex and that substantially, determining time is an integrating activity, a synthesis' (**1989: 67**). Present in several communities and since more remote times, time is a social convention that has accompanied our development. Researching time, starting from a critical, historical and procedural approach, contributes to a more integrated view of the advances and setbacks of our social constructions.

In general, time settings and measurements provide pattern, uniformity, and repetition for organizing our daily routines. In this sense, the word time means to Elias (**1989: 56**) is a 'symbol of a relationship that a human group (that is, a group of living beings with the biological ability to reconcile and synthesize) establishes between two or more processes, among which it takes one, as a frame of reference or measure for the others.'

The regularity and sequence of time measurements made it possible to demarcate routines and activities within the same time code. Time and activity are correlated because measurements of time allow a certain regularity and predictability in the face of life, movement, and activity. Thus, to mark positions and periods that follow each other in a succession of happenings, society had to find a process, with patterns of repetition and regularity in a successive and non-repetitive way. 'The repetitive modules of this sequence then serve as normalizing guidelines of reference, with the help of which it can be indirectly confronted with the sequence of another process, the phenomena not directly comparable, saying that those guidelines represent the repetition of the same' (**Elias, 1989: 19, 20**).

Consequently, Mondays are repeated after Sundays, working days are intertwisted with days off, in a sequential model that allows people to organize and schedule their activities according to the time-being. The regularity of temporal measures can thus offer greater predictability of daily life.

Such demarcations of time are also products of the accumulation of knowledge that occurs throughout history.

However, Elias (**1989: 207**) postulates that symbolic and synthesis levels were necessary as prerequisites for the development of the current temporal system. That is, the improvement of the capacity for generalization and abstraction would have made progress in time measurements possible.

Elias states that 'what we call time is, first of all, a frame of reference that serves members of a certain group and ultimately, all humanity, to institute recognizable rites within a continuous series of transformations of the respective reference group or also, to compare a certain phase of a flow of events' (**1989: 84**). Therefore, time fulfills the functions of orienting man before the world and regulating human coexistence.

According to Elias, watches are human inventions already incorporated into the symbolic world of man as a way of guiding and integrating physical, biological, social, and subjective aspects (**1989: 23**). However, when one forgets that they are human and historical inventions, of how or why the first clocks were built and of the transformations they underwent, such constructions are likely approached as if they had a natural existence, alien to man. Nevertheless, for Elias, 'in a world without men and living beings, there would be no time and, therefore, neither clocks nor calendars' (**1989: 22**).

With this and other statements, it is clear that for Elias (**1989**), civilization is the builder of time. One cannot understand one without the other. In the same way, time and subject cannot be dissociated. In the approach of Elias, time must be understood in the social context where it is produced and in interaction with other elements of social life (**1993**). To this end, the articulation of interdisciplinary and intersubjectively aspects is required to enter such networks of social configurations.

For Elias (**1989: 150**), the question of time 'at the bottom is simple, like that of time, it is proof that the social past is forgotten.' In other words, when time is rescued historically, man can rethink his life and transform it, as he is the subject of the process of building his own history and of time. Because we are not born with a ready temporal sense, temporal organizations have to be learned along with other cultural aspects. According to Elias, 'time learning' in a highly industrialized society requires

seven to nine years to develop, that is, for the individual to decipher the complex symbolic temporal system that guides social life(**1989: 154**). Such a system also influences our 'look' at reality, making it essentially temporal. As explained by Elias:

> *In our type of society, man's life is measured with exact punctuality. A temporal social scale that measures age (I am twelve, you are ten), the individual learns it and integrates it, as a social element, in the image of himself and others. This subordination of temporal measures not only serves as communication on different quantities, but also reaches its full meaning as a communicable symbolic abbreviation of human differences and transformations known in the biological, psychological and social* (**Elias, 1989: 80**).

Likewise, consciousness, emotions, and subjectivity are affected by the way each society structures its time. The impact of the temporal organization on human relationships varies from season to season and extends to varying degrees on society. Today, the impression is that without time to coordinate our activities, we would not be able to carry them out. Nevertheless, with time to organize them, one lives running against the clock. The temporal demands postulate accelerated rhythms, and it seems that the possibility of having a society that respects different temporalities and rhythms remains utopian.

In previous civilizations, it was common to find people who did not know how to answer about their age, time, day, month, or year in which they were or had been born. 'In societies without a calendar and, therefore, without precise symbols to designate the sequence of unrepeated years, the individual could not have a definite knowledge of his own age,' says Elias (**1989: 17**).

However, in modern society, individuals develop such a rooted, global and omnipresent temporal consciousness that, 'this individuation of the social regulation of time brings, in an almost paradigmatic way, the expressions of a civilizing process' (**Elias, 1989: 32**). It is likely that the constant concern with time, awareness of the passage of time, the brevity of relationships, together with a life where everything depends on schedules, illustrate an increasing dependence on time that seems to pass faster and faster.

It is impossible to know a certain culture, without analyzing the networks of relationships built among individuals, and their organization of time. The way in which each culture organizes time reveals fundamental aspects of the organization of that society. Likewise, 'the omnipresent time awareness of members of relatively complex and urbanized societies is an integral part of their social model and personality' (**Elias, 1989: 176**).

In addition, time has been treated as something that involves mystery, enigma, and supernatural powers, as if it were necessary to unravel it in order to understand it. Elias affirms that this enigmatic characteristic of time comes from the complexity of human relations and affirms that 'from human coexistence, something results that men do not understand, which presents itself as enigmatic and mysterious'; this is 'time' (**1989:21**). Elias (1989) uses the term 'social coercion' to explain how in industrial society a new model of time arises and guides our subjectivity. With the temporal disciplinarization presents following the constitution of identity, modernity produces time as 'the speed of clocks, calendars, and schedules, it boasts in this society, the properties that encourage constraints that the individual imposes on himself. The pressure of these constraints is relatively little apprehended, measured, balanced and pacified, however, omnipresent and inevitable' (**Elias, 1989: 32**).

A temporal organization based on self-coercion required discipline until it was incorporated into subjectivity. For Elias, 'the transformation of the external coercion of the social institution of time into a pattern of self-coercion that encompasses the entire existence of the individual, is a graphic example of how the civilizing process contributes to model a social attitude that forms an integral part of the individual's personality structure' (**1989: 21**). In the civilizing process, external coercion turns itself into self-coercion and time has come to impose its dominance not only externally, but also mainly internally. This way, the question by Elias is 'how does this happen, that we constantly think about time? That time has become part of our consciousness (**1987: 143**). We constantly live the memory that is now noon and will soon be one hour'.

By studying time, we may 'perhaps contribute to correct this erroneous image of a world with watertight compartments. Study that turns out to be impossible, when it conceals the axis that nature, society, and individuals are mixed and are interdependent' (**Elias, 1989: 25**). To overcome the dichotomy of science and capture time in all its multiplicity, Elias suggests the following:

> *A basic idea is necessary to understand time: it is not about man and nature, as separate facts, but about man in nature. This makes it easier to investigate what time means and to understand the dichotomy of time. World in nature (natural science study area) and human societies (human and social science study area) lead to a split in the world, which is an artificial product of an erroneous scientific development* (**Elias, 1989: 18**).

As a category that should not be restricted to any particular discipline, but that it is part of human knowledge as a whole, time challenges us in the construction of means that can overcome the division of sciences and

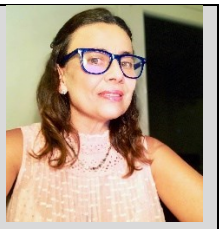
integrate man and time. Elias' texts (**1984, 1989, 1993, and 1994a, 1994b**) do not bring a closed theoretical systematization about time, nor do they intend to exhaust the richness of the topic. On the contrary, Elias already warns about the dangers of establishing a psychology or sociology while repeatedly reproducing the ideological division of science (**1989: 180**).

At the same time, Elias criticizes the existing division between Social Psychology and other Psychologies, pointing out that such separation is erroneous and the product of an ontological gulf between individual and society, in addition to hindering integrated and time-critical studies (**1989: 157**). Elias goes so far as to affirm that Psychology should be the link between natural and human sciences, since the structure of the human psyche, society and history are inseparable, complementary, and can only be studied together (**1994c: 41**). For Elias, it is in Psychology that lies, then, the possibility of building the bridge between natural and social sciences.

Difficulties are many. One of them refers to communication problems between different specialties - hinder the study of those who have, in time, their object of investigation. Besides, it seems that 'studying time can perhaps contribute to correct this erroneous image of a world with watertight compartments. Study that turns out to be impossible, when it conceals the axis that nature, society, and individuals are mixed and are interdependent' (**Elias, 1989: 25**).

The tendency of each group of scientists to consider their domain as sacrosanct and as a fortress to protect intruders with a gap of conventionalisms and ideologies common to that specialty obstructs any intention to relate the different scientific areas through a common theoretical framework. As things stand, it is difficult to break down these barriers, when we deal with the problem of time (**Elias, 1989: 110**). Elias (**1989: 97**) points 'in the practice of human societies, the problems of determining time play an increasingly important role; in social theories, the attention paid to the themes of determining time is relatively minimal.'

As the common denominator of activities, the organizer of events, the regulator of everyday life and an increasing number of actions, and in increasingly complex networks, it is no wonder that it is considered one of the greatest constructions of humanity. What we may not have foreseen is that this organizer of social relations, like any other human invention, could also be used as an instrument of social control. To capture the ambiguity of time is possible using interdisciplinary methodologies and approaches - necessary for life in society and as a possible cause of suffering for itself, too. Interdisciplinary studies of time and what to expect of the future are yet waited to being researched.



Dr Monica Mastrantonio, Ph.D. in Social Psychology. Professor, tutor, researcher. Visiting Professor at the University of York, UK. Author as Margareth Stewart. Ambassador at Global-Goodwill, and at ASmallWorld. Member of the scientific committee at Research Foundation of India - RFI. Member of BARS. Interested in Time Studies, Literature, and Diversity.

References

Elias, N., 1984. *The Prinsenhof Lecture*: transcript of Norbert Elias's contribution to the Prinsenhof Conference against Racism and Discrimination. Amsterdam, 26 January 1984.

Elias, N., 1989. *Sobre el tiempo*. Mexico: Fund of Economic Culture.

Elias, N., 1993. *The civilizing process: formation of the state and civilization*. Rio de Janeiro: Jorge Zahar.

Elias, N., 1994a. *The society of individuals*. RJ: Jorge Zahar.

Elias, N.,1994b. *The civilizing process - a history of customs*. RJ: Jorge Zahar.

Elias, N., 1994c. *Reflections on a life. Cambridge*: Polity Press.

Elias, N., 1995. *Mozart - sociology of a genius*. RJ: Jorge Zahar.

To cite this article:

Mastrantonio, M., 2021. The question of time for Norbert Elias: challenges of an interdisciplinary concept and approach towards time. *Exchanges: The Interdisciplinary Research Journal*, 9(1), 67-76. Available at: https://doi.org/10.31273/eirj.v9i1.840.

Challenges that Early Career Researchers Face in Academic Research and Publishing: Pre- and post-COVID-19 perspectives

Jaime A. Teixeira da Silva

Independent Researcher
P. O. Box 7, Ikenobe 3011-2, Kagawa-ken, 761-0799, Japan
Correspondence: jaimetex@yahoo.com

Peer review: This article has been subject to a double-blind peer review process

Abstract

Early career researchers (ECRs) constitute a unique but important sector of the academic community. Yet, in some respects, they occupy a selectively inferior niche due to structural constraints, as well as personal and professional limitations. ECRs, who are at an initial stage of their careers, face multiple challenges in research and publishing due to a relative lack of experience. These may make them vulnerable to abuse and cause stress and anxiety. Those challenges may have been amplified in the COVID-19 era. ECRs' efforts may unfairly boost the reputation of their mentors and/or supervisors (Matthew Effect), so greater credit equity is needed in research and publishing. This opinion paper provides a broad appreciation of the struggles that ECRs face in research and publishing. This paper also attempts to identify extraneous factors that might make ECRs professionally more vulnerable in the COVID-19 era than their established seniors. ECRs may find it difficult to establish a unique career path that embraces creativity and accommodates their personal or professional desires. This is because they may encounter a rigid research and publishing environment that is dominated by a structurally determined status quo. The role of ECRs' supervisors is essential in guiding ECRs in a scholarly volatile environment, allowing them to adapt to it. ECRs also need to be conscientious of the constantly evolving research and publishing landscape, the importance of open science and reproducibility, and the risks posed by spam and predatory publishing. Flexibility, sensitivity, creativity, adaptability, courage, good observational skills, and a focus on research and publishing integrity are key aspects that will hold ECRs in good stead on their scientific career path in a post-COVID-19 era.

Keywords: anxiety; career development; citations; integrity; Matthew Effect; metrics; postdoctoral research; rewards; seniority; status; stress

Who are Early Career Researchers, and Why Does it Matter?

What parameters demarcate the limits of an early career researcher (ECR) prior to becoming a mid-career researcher or a tenured faculty member? To better appreciate which individuals are encompassed by the term 'ECR', including their age and/or qualifications, literature on ECRs from the past decade (2011-2021) was examined in search of a clear definition.

Sobey et al. (**2013**) defined ECRs as 'anyone who considers themselves to be at an early stage in their career, for example, final year PhD students, postdoctoral researchers and early-stage lecturers, or equivalent levels in nonresearch posts' (**Ibid: 170**). However, the age of postdocs can range widely from 26 (or earlier) to 40 (or more) years, according to van der Weijden et al. (**2016**). Boeren et al., drawing on 23 papers related to ECRs, summarily defined an ECR as an individual 'with less than 10 years of experience from the start of their PhD' (**2015: 69**). This group thus includes postdocs who are simultaneously attempting to build their professional research profile, gain recognition, establish networks, obtain funding, and earn a salary within a narrow time frame (**van Benthem et al., 2020**). Both Boeren et al. (**2015**) and Forbrig (**2020**) claimed that their definition was the same as that indicated by the European Commission (**EC, 2011**). Strictly speaking, however, the EC document did not define ECRs using this term but instead defined other categories of postdocs. Browning et al. (**2017**), relying on the definition provided by the Australian Research Council, defined an ECR as an individual 'having been awarded a PhD "within five years, or longer if combined with periods of significant career interruption"'. They also defined, basing themselves on the EC's definition, a 'leading researcher' as someone who 'is leading research and making a substantial contribution to their field, and is likely to be within 5–10 years of having completed their PhD'. Finally, Browning et al. defined a 'research leader' as 'an established researcher, usually at professor level, and is typically 10 or more years post-PhD' (**2017: 363**). McAlpine et al. classified ECRs as 'doctoral students and, to a lesser extent, post-PhD university researchers' (**2018, 149**). Allen and Mehler (**2019**), in their abstract, simply defined ECRs as those who 'carry out the research'. Bielczyk et al., defined ECRs as 'individuals pursuing academic research at the sub tenure level, regardless of years of experience' (**2020: 212**). Brasier et al. defined ECRs as 'researchers within 5 years of a terminal degree' (**2020: 2**) or as '0-5 years Post-PhD' while describing mid-career researchers as '5-10 years Post-PhD' (**Ibid: 3**). Bohleber et al. (**2020**) offered a more comprehensive definition of ECRs as 'university students (bachelor, master and PhD students), postdoctoral researchers and Early Career professionals (assistant professor or lecturer, research associate)'. They also stated that 'the European Union considers the time limit to apply for a starting grant no longer than 7 years after PhD completion. In the case of career breaks

and part-time working, an extension equal to the time spent away from academia can be granted' (**Ibid: 2**). The age of Finnish graduates from a PhD course can vary widely, by as much as ~20 years (28-47 years of age) (**Vekkaila et al., 2018**). Nicholas et al., in a footnote (**2021: 57**), classified ECRs as '[r]esearchers who are generally not older than 35, who either have received their doctorate and are currently in a research position or have been in research positions but are currently doing a doctorate. In neither case are they researchers in established or tenured positions'.

Thus, according to several academics, in papers published between 2013 and 2021, the definitions of who qualifies as an ECR varies widely, and there is wide variation in terms of age, experience and research and publishing status. Broadening the definition of ECRs by clustering them with mid-career researchers (**Oliveira et al., 2021; Richards et al., 2021**) makes it even more difficult to clearly define or identify an ECR. If mid-career researchers are clustered with ECRs, this may disadvantage the latter, while the former might benefit from policies that were originally put in place specifically for ECRs. As one example, funding that is destined for ECRs might be attributed to individuals whose careers are already quite established and who are, in fact, mid-career researchers. For the purposes of this paper, mid-career researchers are not considered. Moreover, in an attempt to accommodate as many published definitions as possible, an ECR is defined in this paper as a researcher or postdoc who has obtained their PhD but who is not tenured, regardless of their age and the length of their post-PhD period.

An academic might, in fact, start their career quite late in life, perhaps after changing careers or spending a few years travelling, working or in unemployment following graduation, or after life's path takes them on a new journey, such as marriage or the birth of a child. It might be erroneous to automatically equate an ECR with a 'young' academic. Thus, the term ECR tends to indicate an individual at an early developmental stage in a research and publishing career, an aspect that is not necessarily related to age. In this paper, the focus is placed exclusively on ECRs, and not on mid-career researchers. Views may differ as to what 'early' might be, or for how long one is considered to be an ECR before one is no longer considered an ECR, or what the dividing line might be. A broader and simpler definition could be an academic that has limited experience in research and publishing, but this might be perceived as a weakness or liability rather than as a growth phase. As for other aspects of life that require skills and experience for survival, multiple challenges will be faced as an ECR acquires experience. The ECR phase of a research career is an important and integral part of an academic's life cycle. In this phase of the struggle for recognition and security, their youthful and ambitious aspirations will give rise to ample ideas and ideals that will mould a future research and

publishing landscape. ECRs will face complex issues in research and publishing, as are described later in this paper.

The first purpose of this paper was to demonstrate that definitions about who is considered an ECR vary widely, even without consensus. This unclear limit of who precisely is an ECR might, in fact, disadvantage them, for example, when applying for funding. Another purpose of this opinion paper is to highlight some of the challenges in research and publishing that ECRs face, cognizant that even experienced researchers might also find such issues challenging.

Early Career Researchers: Academia's lifeblood embedded in a 'publish or perish' culture

Generally, as an older generation of academics fades, a younger and aspirant one replaces it. Some ECRs might perceive that position and reward are aspects of entitlement rather than a path of hard work and might resort to cheating to achieve their success (**Stiles et al., 2018**). A seasoned academic will hopefully advise a younger or less experienced one that in academia, there is no rapid gratification or easy path to success, much less using cheating to achieve it. In an ideal setting, less experienced ECRs are taught by their supervisors to appreciate the value of intellectual maturation and honesty, processes that take time and careful training to achieve. In a publish or perish culture, where research output is ultimately linked to publication output, the generation of papers might result in funding that is allocated to supervisors and principal investigators (PIs) rather than to ECRs. ECRs might thus feel that their efforts lead to the elevated status of their supervisors or PIs, i.e., the Matthew Effect (**Teixeira da Silva, 2021a**). ECRs might feel that their own merits, strengths, initiatives and efforts are insufficiently recognised because the supervisor or PI benefits from the often unrecognised work of ECRs. So, there is a risk of abusing ECRs for unfair benefits. Thus, a more realistic appreciation of ECRs' career and employment outcomes is needed even before they become ECRs (**Silva et al., 2016**), especially cognisance of the stress, job-related dissatisfaction, and salary limitations that they might encounter as a result of the lack of fixed positions, which may lead them to change career paths (**Aarnikoivu et al., 2019**).

The power struggle that an ECR can face as a result of the Matthew Effect, rigid and bureaucratic infrastructures in research and publishing, or the associated publish or perish culture may be massive, and the associated stress and anxiety should not be underestimated. Absent considerable research and publishing experience, ECRs may find the challenges of a career in research and publish overwhelming, and this may lead to anxiety, stress and/or depression (**Bielczyk et al., 2020**).

The attitude and philosophy of an ECR's supervisor towards academic publishing may influence the ECR's perspectives (**Parker-Jenkins, 2018**). For example, supervisors might inculcate an integrity-centred career in research and publishing and deemphasise rank and position in an ECR's career of research and publishing (**Pather & Remenyi, 2019**). For the purpose of this paper, academic integrity in research is defined using the definition provided by Cutri et al. (**2021: 3**): 'conducting research in a fair, respectful and honest manner, and reporting findings responsibly and honestly.' Yet, in reality, ECRs might encounter a playing field that consists of status quo indexed, ranked or metricised journals that are being gamed and driven by prestige and rewards (**Hatch & Curry, 2020**). Moreover, the sense of entitlement exhibited by some millennial ECRs might clash with a 'traditional' publishing culture (**de Winde et al., 2021**). Thus, it would be more productive to teach ECRs realistic values that point out weaknesses of the existing research and publishing system they find themselves integrated into and the fallibilities of the integrity tools at their disposal (**Teixeira da Silva, 2021b**). This is the third objective of this paper. Educating ECRs about these issues, which should be one responsibility of senior academics, might not change the current research and publishing culture, but it might better prepare ECRs. To preserve their mental well-being, ECRs need to be able to independently manage a wide array of complexities while trying to secure their career in research and publishing (**Bielczyk et al., 2020**). This includes not always relying on the advice of supervisors, who might be supporting a status quo culture. Finding a balance between these apparently contrasting value systems can be challenging for ECRs. How can the current publish or perish research and publishing culture be modified to better incentivise ECRs? This paper seeks to provide some answers to this question.

The success of a senior academic may come at the expense of the efforts of junior lab members such as ECRs. In a large laboratory, despite the appearance of a group effort, there may be competing postdoctoral researchers (postdocs), i.e., autonomous researchers without a tenured contract (**Teelken & van der Weijden, 2018**), including ECRs. Generally, in such laboratories, the success of publication output tends to be assigned to the supervisor or PI, who would likely not have achieved this success had there not been a formidable team, engendering a Matthew Effect (**Teixeira da Silva, 2021a**). Even though some postdocs perform a disproportional amount of work that accounts for the productivity of a laboratory, their careers might still be at risk, especially if there are more postdocs than there are available positions, causing a 'postdoc pile-up' (**van Benthem et al., 2020**). With an amplified publication curriculum vitae and prestige, funding may be amplified (**Bol et al., 2018**), but funding tends to be received by the supervisor rather than the ECR. Funding opportunity

for senior researchers tends to be many-fold higher than that for ECRs (**Daniels, 2015; de Winde et al., 2021**). Since funding drives and sustains research advancement, the lack of funding or the disproportionality of funding is one of ECRs' greatest preoccupations and sources of stress (**de Winde et al., 2021**). ECRs also contribute to the reputational advancement of institutes of higher education, but their efforts are often unrecognised and relegated to the shadows, while credit is assigned to their supervisors (**Hallinger, 2018**). ECRs should keep in mind, however, that their senior advisors were also, once upon a time, ECRs, and may have also faced similar struggles, so an attitude of respect, empathy, understanding, patience and perseverance is also needed by ECRs towards their supervisors. Through no fault of their own, often since such aspects are centralised to PIs, ECRs' inability to establish independent networks and become integrated into large-scale transdisciplinary projects (**Sobey et al., 2013**) comes from a relative lack of experience (**Brasier et al., 2020**) and lack of opportunity.

The publish or perish culture in academia is also, to some extent, driven by a set of complex relationships between seniors/PIs and ECRs, embedded in a hyper-competitive culture of research and publishing with more candidates vying for less funding per capita (**Lauer et al., 2017; Richards et al., 2021**). The struggle and challenges faced by these generationally diverse groups tend to be skewed towards ECRs (**van Dalen, 2021**). How can this publish or perish culture be challenged or reformed? The next section seeks to find solutions.

A New Research and Publishing Culture is Needed, but What is it, and What are its Challenges?

Key Questions and Core Challenges

Smart stated, referring to ECRs, that 'it is somewhat depressing that – with the exception of more use of social media – they seem to be treading the same path as their predecessors' (**2019: 195**). As indicated above, one way to survive in the status quo-driven research and publishing environment is by priming ECRs to adapt to it. How does one inculcate a new culture of success that does not involve prestige or rewards? How does one encourage ECRs to seek innovative ways of achieving career satisfaction and security when they are embedded in a publish-or-perish culture that might create dissatisfaction and carry risks (**van Dalen, 2021**)? How can ECRs fortify their academic research communication skills to be better prepared, in terms of research and publishing output, for a competitive job market (**Merga & Mason, 2021**)? How is a brain drain from research and publishing prevented, and how can ECRs be motivated to become career researchers and not lose motivation (**Roach & Sauermann, 2017**)? How do ECRs avoid or prevent disengagement, professional inefficacy,

psychological distress, and cynicism when facing career path limitations and job shortages (**Vekkaila et al., 2018**)? How can ECRs develop or acquire research and publishing competence, absent professional experience, to fulfil skills-rich job positions (**Kristoffersen et al., 2021**)? Although clear answers are likely not always evident to these questions, increasing efforts are being made to establish a new research and publishing culture that embraces ECRs, and is sensitive to their needs. The next sections of this paper seek to provide answers to some of these challenging questions.

The publish-or-perish culture does not have to assume a rigid structure, but what needs to change to make it more flexible? There is ample space for embracing novelty based on unique skill sets that allow for a new culture of creativity and desire to be developed (**Heron et al., 2021**). To some extent, this echoes the call by Bielczyk et al. (**2020**) for ECRs to foster a culture of curiosity and self-management, and a characteristic of 'agency', as a core element for ECRs' development. Yet, self-management is not possible for aspects such as administrative duties, for which few ECRs are prepared (**Pitt & Mewburn, 2016**). Moreover, 'agency' is difficult to achieve given ECRs' intellectual and occupational uncertainties (**Skakni et al., 2019**). Creativity and desire alone are likely not sufficient characteristics to define a new academic culture in research and publishing. Pyhältö et al. (**2017**) noted the importance of social support for reducing stress during an ECR's development. Allen and Mehler (**2019**) emphasised the need to adopt a culture of open science, with gains to their reputation and publication status as a result. Open science can be defined based on five component elements: 'open data, open analysis, open materials, preregistration, and open access' (**van Dijk et al., 2021**). However, in these cases, if recognition is based on an ECR's publication portfolio, then creativity and desire, social support, or open science do not create a new culture but rather reinforce the old publish or perish-based one, namely a publication-centred rewards system. Thus, there is a need to move away from a recognition system that emphasises quantity over quality or that under-emphasises the latter (**Richards et al., 2021**). Yet, 'good' qualitative research does not always necessarily translate into a 'good' qualitative researcher simply because the measures to assess each differ and because of the liminality that exists between the transition between an ECR and an established researcher (**Pagan, 2019**). ECRs thus need to feel a sense of inclusivity, acceptance and recognition by peers (**Skakni & McAlpine, 2017**).

How can ECRs cultivate a career based on creativity and desire if they are overwhelmed by peripheral tasks often assigned to them by their PIs or supervisors? As Clark et al. pin-pointedly stated, 'ECRs design and execute experiments, collect and analyse data, write papers, and are often solely

responsible for supervising more junior team members' (**2018: 1**). Thus, the opportunity for creativity and desire might be suppressed but may be – to some extent – compensated by obtaining experience in mentoring, guidance, and leadership associated with those peripheral tasks. There is pressure to establish the next generation of research leaders from the current pool of ECRs, encompassing six key qualities: passion, international networks, effective mentors, a proactive attitude, collaborative research, ability to supervise postgraduate students, and relevant involvement in administrative duties (**Browning et al., 2017**). It is not always easy to find candidates that possess all of these qualities.

Additional Challenges in Research and Publishing Environments that ECRs might Encounter

Allen and Mehler (**2019**) defined two publishing formats as part of the ECR-centered open science plan, preprints and open access publishing, which themselves are prone to abuse and misconduct, and whose use needs careful scrutiny and management. Preprints are documents that are not peer-reviewed. ECRs are mostly dependent on their supervisors for paying open access article processing charges. Misled into believing that preprints can effortlessly showcase their work and effort (**Sarabipour et al., 2019**), preprints might be abused by ECRs who think that they are a quick and easy way to boost productivity and pad their curriculum vitae, even with imperfect or incomplete work (**Teixeira da Silva, 2018**). ECRs might believe that preprints may allow them to reap more attention or citations (**Fu & Hughey, 2019**). Yet, unless ECRs make a concerted effort to publish preprinted work in peer-reviewed journals and have their ideas critically adjudicated by other professionals, a quick-and-easy preprint-based culture may actually harm their careers if their curriculum vitae are populated by an excessive amount of preprints (**Teixeira da Silva et al., 2020b**). Hiring committees and tenure review boards might not consider preprints. ECRs also need to cautiously appreciate that open access publishing includes predatory publishing, which – unknowingly – might be an enticing choice for ECRs (**Mercier et al., 2018**). Predatory publishing was defined by a consortium of researchers as: 'Predatory journals and publishers are entities that prioritise self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices' (**Grudniewicz et al., 2019**). Some ECRs might abuse such predatory venues to gain rapid publications (**Nicholas et al., 2021**). The latter risk becomes a moral and/or ethical issue if they pay for a publication that is not peer-reviewed. The selection of potentially unscholarly or predatory venues might also tarnish ECRs' reputations, so guidance by their mentors is essential. ECRs' attitudes towards publishing,

preprints, predatory publishing, and the development of their curriculum vitae will ultimately be determined by their career intentions (**Forbrig, 2020**). After all, within the space of their entire research career, an ECR is only fleetingly an ECR before they become a middle-career or senior researcher, so the intellectual publishing and digital (e.g., social media) footprint they create during the ECR phase may engender perceptions about that researcher in later years of their career. Therefore, ECRs need to very carefully select their publication choices as they attempt to integrate themselves into the research and publishing market.

One large challenge for ECRs is the feasibility of open science-centred objectives. Resources tend to still be limited to researchers that might not employ open science approaches, so available rewards to ECRs during scientific assessment might be less tangible than those who do not employ open science principles (**Moher et al., 2018**). That disparity is even more acute for researchers wanting to embrace transparent gender-neutral open science-based research and publishing principles (**Pownall et al., 2021**). In that sense, creativity and desire are insufficiently robust mechanisms for preparing ECRs for survival in a publish-or-perish culture. Consequently, more robust mentoring programs with appropriate academic guidance are needed (**Boeren et al., 2015**). Such guidance can emerge from career development programs that are also financially supported by awards or fellowships (**Pickett, 2019**). Racial and gender equality among minorities is becoming an increasingly important issue for some ECRs (**de Winde et al., 2021**). However, reform and culture change is not possible when the ethics status quo (i.e., research and publishing leadership) does not lead by example by not displaying racial equality in its highest ranks (**Teixeira da Silva, 2021c**). For ECRs to be more incentivised, they also need to feel consistency in values from leadership ranks.

Absent their own networks, ECRs will also likely face entry barriers into multidisciplinary projects. To overcome such barriers, to prepare ECRs for integrating into large and high-profile projects, and to fortify their own sets of research and publishing skills, Jaeger-Erben et al. (**2018**) suggest ECR-ECR networking, as well as mentoring that involves teaching best practices or skills that focus on moderation and science communication. An important part of achieving that objective is to use the research integrity tools that are at their disposal to protect them from threats in research and publishing, but also to be cognizant of the limitations of those tools and the fallacies that surround their robustness (**Teixeira da Silva, 2021b**). Thus, while appreciating the benefits and freedoms associated with preprints and the advantages of fortifying peer review, the weaknesses and limitations of both also need to be understood (**Teixeira da Silva & Dobránszki, 2015; Teixeira da Silva, 2018**). ECRs also need to

be aware of the costs and risks associated with establishing collaborative projects in order to gain a competitive edge (**Pannell et al., 2019**). Finally, like any researcher, ECRs' research and publishing do not exist in a vacuum, so they need to be aware of exploitative research and publishing practices and policies (**Teixeira da Silva et al., 2019a**). To enact reform, ECRs could try to pro-actively be part of policy creation and regulation (**Evans & Cvitanovic, 2018**). ECRs also need to be vigilant of being unfairly exploited as free labour to sustain the multi-billion dollar publishing industry. This may be in the form of superficial cents-on-the-dollar rewards and incentivisation schemes like online badges, Publons credits, or other 'rewards' schemes that may be inflating the profiles of these platforms at the expense of ECRs' efforts and naivety (**Teixeira da Silva & Katavić, 2016; Teixeira da Silva et al., 2019a**). In this imperfect system, it is challenging for ECRs to balance gaining experience while avoiding exploitation and finding safe publishing sanctuaries based on sound publishing-related judgements.

For an ECR to survive, Haider et al. (**2018**) proposed a decentralised model based on an undisciplinary journey into undisciplinary science. Robinson (**2008**) defined the latter as 'problem-based, integrative, interactivity and emergence, reflexivity, and strong forms of collaboration and partnership.' To ensure that an ECR's career is more sustainable, such a model would involve the dissociation from any single or defined discipline, allowing an ECR to redefine themselves as interdisciplinary and the establishment of a work ethos that is based on solid methodology and agile epistemology. Sustainability might clash with the rigidity of a research and publishing system that is often based on crisply defined disciplines. One risk that ECRs face should they follow this approach is that they might land up superficially appraising many disciplines but failing to profoundly master one, or land up creating a unique niche in which they do not feel comfortable. These are emotions associated with pioneering activities. However, by crafting a unique niche, ECRs might also create a new platform of impact, projecting themselves from a state of invisibility to one of enhanced visibility (**Rau et al., 2018**). The rewards of such visibility might not be traditionally rewarded (i.e., monetarily) but may carry multi-faceted societal benefits (**Singh et al., 2019**).

Independent of the model that an ECR adapts to advance their career, this can only be achieved when a culture of respect, gratitude, teamwork, support and mentorship, assignment of due credit, destigmatisation of failure, and a moderated celebration of success is inculcated (**Marcella et al., 2018; Maestre, 2019**). These principles are not restricted exclusively to ECRs but apply to all academics. The ability to work remotely to accommodate lifestyle choices might spur or improve productivity (**Hunter, 2019**). It will be interesting to see how such a culture of respect

can develop when one part of that advocacy for ECRs to become relevant involves calling for a replacement of the status quo (**Chapman et al., 2015**).

The success of ECRs obtained through strict and suitable training, guidance, and mentorship have the capacity to produce academic leaders of the future that have the ability to be knowledge producers, academic citizens, boundary transgressors and/or public intellectuals, just like their own mentors (**Uslu, 2020; Oliveira et al., 2021**). Such individuals must have accurate, verifiable and up-to-date curriculum vitae to showcase their strengths but also to honestly display their failures, such as retractions (**Teixeira da Silva et al., 2020b**). The job market, which tends to be precarious for many ECRs, needs to be able to absorb a large volume of graduates using fair, timely, gender-balanced, unbiased and transparent selection and recruitment processes (**Holzinger et al., 2018; Fernandes et al., 2020; Kwamie & Jalaghonia, 2020**). To meet research job market demands that also requires publishing as one criterion and to offer ECRs a competitive advantage, Pather and Remenyi (**2019**) suggested professional and personal qualities that could fortify their chances of success and survival in a publish-or-perish culture. Similarly, the employability of an ECR relies on their adaptability and professionalism (**Saffie-Robertson & Fiset, 2021**).

A topical issue is that of predatory publishing and the involvement of ECRs (**Mercier et al., 2018**) or their victimisation by predatory publishing practices (**Teixeira da Silva et al., 2019a**). Absent suitable guidance, for example, from peers, superiors or PIs, ECRs risk making an erroneous decision regarding the target journal in which they publish their work (**Glover et al., 2016**). When approached via a spam email (**Teixeira da Silva et al., 2020a**), an ECR might be enticed to submit their work to a relatively unknown journal or publisher. The email invitation may be laced with flattery-filled language, giving a false sense of pride or offering false promises or hyped claims (**Sousa et al., 2021**). Such email-based invitations might guarantee peer review even when none is provided or claim that the journal has metrics, even when these are false or hijacked, giving the impression of a valid scholarly journal (**Dadkhah et al., 2016; Moussa, 2021**). ECRs, therefore, need to be aware of risks and dangers when selecting a target journal, conscientious of the fact that the discernment of predatory from non-predatory (**Grudniewicz et al., 2019**), or the characterisation of scholarly and unscholarly are becoming increasingly difficult parameters to claim with certainty, with a wide grey zone in between (**Frederick, 2020; Teixeira da Silva, 2021d**).

At the same time that the world of publishing molds an ECR's experience, so too is it molded by the needs of ECRs. Integrating ECRs into editorial boards may create a mixed generational set of individuals with wider

backgrounds and perspectives, slowly allowing the future generation or the seed of peer review and academic quality control to be planted and trained (**Marshall & Fernandes, 2021**). However, there are ample spam-based invitations to join editor boards of potentially unscholarly or predatory journals. This risk, together with the relative meaningless of being an editor on a board with hundreds or thousands of editors, such as in open access mega-journals (**Teixeira da Silva et al., 2019b**), dilutes the 'value' of an ECR being on an editorial board. The curricular benefit gained versus the energetic output requested of the ECR needs to be carefully considered. Some postdoctoral training programs provide suitable training to avoid curricular pitfalls (**Moyo & Perumal, 2019**), but, absent sufficient training or faced with academic unpreparedness due to trainers who are equally unprepared, some ECRs may feel like impostors (**Cisco, 2020**), such as taking editorial credit when they have done nothing. Publishers need to appreciate the needs and behavioural trends of ECRs, such as their use of online scholarly communities like ResearchGate, the popularity of Google Scholar, their attraction to Altmetrics and social media, the rebellious nature of some against the senior status quo, the importance still afforded to traditional peer review or scepticism towards open peer review, criticism of open access mega-journals, or not wanting to embrace open science (**Nicholas et al., 2017a, 2017b; Rodríguez-Bravo et al., 2017; Nicholas et al., 2018, 2020**). In response, publishers could consider adjusting their publishing model, including systems and services, to make them more attractive to this segment of the academic community, appreciating ECRs' frustrations and concerns (**O'Brien et al., 2019**), but without lowering editorial or ethical standards. Despite ERCs' good intentions, several publishing models are inherently flawed, slow, and cumbersome, and in need of simplification, radical reform or even a total overhaul (**Teixeira da Silva & Dobránszki, 2015, 2017; Teixeira da Silva et al., 2018; Teixeira da Silva, 2020a**). These are structural complexities that ECRs on their own will not be able to reform. However, collectively, they might begin to enact reform, such as the establishment of a new open-access journal that targets ECRs, with higher established editorial and peer review standards than competing status quo journals.

At some point in their research and publishing careers, ECRs may encounter some of the issues discussed in this section. Not only will they have to deal with them as they publish their own papers, but they will also need to increasingly take a vocal stance on controversial issues. The future of their own publishing realm will be determined by what actions they pro-actively take throughout their careers (**Merga et al., 2018; Vuong, 2019**).

How have ECRs been Impacted by COVID-19? Effects and mitigation strategies

The tremendous pressures that ECRs face as they emerge into a hyper-competitive job market, the struggles that they face to secure job security, funding and a healthy research and publishing environment, as well as the responsibilities they are assigned related to student mentorship and publishing, can be sources of anxiety, stress and pressure (**Lauer et al., 2017; Evans et al., 2018; O'Neill & Schroijen, 2018**). Many of the challenges and difficulties that ECRs face might constitute stress, affecting their mental health. An attempt is made to extend the appreciation of this topic one step further by assessing if the coronavirus disease 2019 (COVID-19) pandemic may have exacerbated any mental or health issues of ECRs or affected (hampered or enhanced) their professional possibilities, opportunities and/or choices in research and publishing. Ghosh (**2020**) suggested that local governments should invest more in mental health support schemes.

The most evident impact has been a drop in productivity (**Termini & Traver, 2020**) and reduced mentorship (**Termini et al., 2021**). This arises from a lack of motivation (**Cahusac de Caux, 2021**). A sudden drop in international students and the move to online education and mentoring not only reduced university revenues, it placed additional pressure on ECRs to adapt to a new set of research and publishing conditions (**Witze, 2020**). This will ultimately impact career hopes and possibilities, and also accentuate job losses (**Woolston, 2020**). Even though travel may have been offset, opportunities are not necessarily dampened; merely ECRs have to adapt to virtual meetings and congresses in order to network, rather than relying on physical meetings (**Weissgerber et al., 2020**). Some have suggested the use of online forums of discussion and consultation services for ECRs to blunt asocial impacts of social distancing measures (**Stapleton et al., 2021**). Others have recommended greater exercise and a need to modify the ECR workplace environment to accommodate individual needs (**Kappel et al., 2021**).

In the UK, national research funding might be boosted to counter the impact of COVID-19 (**Subbaraman, 2020**), although budgetary boosts in other countries have yet to be appreciated in 2021/2022. This is likely to affect biomedical and natural sciences more than the humanities. Even though bold reformative proposals were made for the US (**Gibson et al., 2020**), it is also unclear how, in practice, ECRs will be considered for such funding, especially when funding is limited. In Nigeria, at least, ECRs are the least likely to receive funding (**Salihu Shinkafi, 2020**), likely even more so during COVID-19.

Faced with physical and mental restraints and observing health-related misinformation related to COVID-19 (**Teixeira da Silva, 2020b**), including in predatory publishing venues (**Teixeira da Silva, 2020c**), ECRs might lose motivation (**Torres et al., 2021**). Paula (**2020**) argued that since ECRs, especially postdocs, have short-term (typically 1-3 years) contracts in which they are expected to be productive, that COVID-19 might disrupt their financial stability. More importantly, their research plans and output or productivity might be impacted, especially during lockdowns where there might be physical limitations in terms of access to research facilities or laboratories (**Omary et al., 2020**). Only one of 150 autism research ECRs did not report a negative impact of the pandemic on their research (**Harrop et al., 2021**). Financial uncertainty might be enhanced by reduced government-funded research grants, as was briefly alluded to above, or the disproportional allocation of funding to COVID-19-related research (**Kaiser, 2020**). As a result of the intense focus on this disease and pandemic, COVID-19 has created an opportunity for some ECRs to pursue a career change and a shift in research objectives related to COVID-19 (**Gibney, 2020**). Collaborative efforts to support and sustain ECRs have been encouraged (**Levine & Rathmell, 2020**). For example, a consortium of ECRs in the field of addiction medicine teamed up to appreciate the risks associated with alcohol consumption during COVID-19 in 16 countries (**Calvey et al., 2020**). ECRs in the field of psychiatry banded together to provide a personal perspective of the pandemic in seven countries (**de Filippis et al., 2021**). An international peer support group of ECRs in psychology was established, but this requires initiative and a communal alliance of values (**Ransing et al., 2021**).

To sustain ECRs' motivation if research activities are restricted, Termini and Traver (**2020**) suggested the use of virtual meetings and online journal clubs to sustain intellectual incentives. However, some ECRs may find it difficult to approach strangers virtually. Making the most of unproductive time under limited physical research conditions, while also under long-term mental strain, requires a realignment of work ethos to realistically realign pre- and post-pandemic research and publishing objectives to allow for meaningful, but carefully achieved, productivity (**Teixeira da Silva, 2021e**). The mental health and stress caused by home confinement (**Paula, 2020**) or the long-term exhaustion, stress and anxiety caused by COVID-19 (CORONEX) (**Teixeira da Silva, 2021f**) should not be underestimated. Some have called for ECRs to embrace greater inclusivity to fortify productivity in the time of COVID-19 and to offer professional protection to less fortunate sectors of the academic community who may be under-represented (**Maas et al., 2020; Diallo et al., 2021**).

There is currently no tangible evidence to suggest that Publons or Clarivate Analytics, the proprietor of the impact factor, or Altmetrics, have fortified peer review at a time (the COVID-19 era) when the integrity of science – especially medical science – is most at risk (**Teixeira da Silva, 2020d; Teixeira da Silva & Al-Khatib, 2021**). This is particularly relevant because in a strained (mentally and physically) peer pool, where there are deficiencies in peers, ECRs may be increasingly called upon to fill in gaps (**Silver, 2016**). This may expose ECRs to exploitation and greater stress or anxiety, although some might consider this as a unique opportunity to partake in peer review at an early stage of their career.

Conclusion

This paper has set out to examine the challenges and pressures that ECRs face as they begin their careers in research and publishing prior to and during the COVID-19 pandemic.

To better appreciate how ECRs respond to several challenges in research and publishing, there is, at first, a need to clearly appreciate who they are. By doing so, there can be an appreciation of how they are affected, allowing the implementation of suitable measures to guide and support them. What was noted during a phase of literature exploration was that the definition of an ECR can vary widely. Depending on the source, age, years of experience, the period after a PhD, or number or 'quality' of publications might be taken into account. This variability may influence ECRs' eligibility to research rewards, prizes or funding. For example, ECRs that are considered as individuals who obtained a PhD within the prior five years will, by the end of 2021, essentially be impacted by a two-year loss in opportunity and productivity (**Spagnolo et al., 2020**). However, if the definition of an ECR were to consider a 10-year period, then that negative impact might be considerably blunted or diluted.

To create scientifically competitive fields of research that are fair to ECRs, assuming that the rewards-based culture remains central to academic and scientific recognition, involves several key elements: embracing an attitude of creativity and desire, greater recognition of open science principles, and moving away from a metrics-based rewards scheme (**Teixeira da Silva, 2021g**); not encouraging ECRs to be guided by journal metrics and ranking, or traditional status quo perceptions (**Murphy et al., 2018; Nguyen et al., 2019**); the use of multiple elements to judge their academic and professional merit (**Teixeira da Silva, 2013**). Mentors, supervisors and PIs play a central role in offering suitable guidance to ECRs. Pushing ECRs towards adopting preprints may inadvertently encourage them to embrace the metrics gaming culture (**Teixeira da Silva, 2021g**). This might be compounded by convincing them that greater Altmetrics scores for their papers if posted initially as preprints, might result in

greater citations (**Fu and Hughey, 2019**). Thus, not all of the suggestions offered by Murphy et al. (**2018**) are recommended as useful scholarly advice for ECRs.

Ultimately, however, it is going to be difficult to disassociate the current rewards-based and publish-or-perish-centralised research and publishing culture from the pressures involved with establishing a professional network, publishing academic papers, erasing competition, securing a job, salary and research funds, while trying to maintain a healthy work-life balance. Under these continued pressures, there needs to be a solid mental health support structure that provides assistance, guidance and psychological relief when any number of challenges or threats are faced by an ECR on their hopefully exciting – but challenging – career paths (**Byrom, 2020; Son et al., 2020**).

COVID-19 is most likely to remain with humanity for the foreseeable future, so while ECRs struggle to establish themselves within the current publish-or-perish culture, they should also be vigilant (including self-vigilance) of system free-riders and those who will abuse uncertainty for their selfish benefit (**Teixeira da Silva, 2021h**). Ultimately, despite the insurmountable challenges, while attempting to retain their physical and mental health in these challenging times, ECRs should not be afraid to pursue their career objectives ambitiously but cautiously (**Teixeira da Silva, 2021e**).

Acknowledgments

The author thanks the edits and critical suggestions made on earlier versions of the paper by Colin A. Chapman (George Washington University, USA), Helina Marshall (Queen's University Belfast, UK), Jennifer L. Pannell (Auckland University of Technology, New Zealand), Éric Mercier (Université Laval, Canada), and Hildah L. Mokgolodi (University of Botswana, Botswana). Finally, the author also thanks the thoughtfully critical input by two anonymous reviewers.

Jaime A. Teixeira da Silva is a botanist and molecular biologist by training, but with broader experience in plant breeding, horticulture, agronomy, and forestry, soil and environmental sciences. A keen interest in issues related to academic publishing, he has worked as an independent over the past decade.

References

Aarnikoivu, M., Nokkala, T., Siekkinen, T., Kuoppala, K., & Pekkola, E. (2019). Working outside academia? Perceptions of early-career, fixed-term researchers on changing careers. *European Journal of Higher Education*, 9(2), 172–189. DOI: 10.1080/21568235.2018.1548941 [Accessed: 13 July 2021].

Allen, C., & Mehler, D. (2019). Open science challenges, benefits and tips in early career and beyond. *PLoS Biology*, 17(5), e3000246. DOI: 10.1371/journal.pbio.3000246 ; corrigendum: 10.1371/journal.pbio.3000587 [Accessed: 13 July 2021].

Bielczyk, N. Z., Ando, A., Badhwar, A., Caldinelli, C., Gao, M., Haugg, A., Hernandez, L. M., Ito, K. L., Kessler, D., Lurie, D., Makary, M. M., Nikolaidis, A., Veldsman, M., Allen, C., Bankston, A., Bottenhorn, K. L., Braukmann, R., Calhoun, V., Cheplygina, V., Boffino, C. C., … OHBM Student and Postdoc Special Interest Group (2020). Effective self-management for early career researchers in the natural and life sciences. *Neuron*, 106(2), 212–217. DOI: 10.1016/j.neuron.2020.03.015 [Accessed: 13 July 2021].

Boeren, E., Lokhtina-Antoniou, I., Sakurai, Y., Herman, C., & McAlpine, L. (2015). Mentoring: A review of early career researcher studies. *Frontline Learning Research*, 3(3), 68–80. DOI: 10.14786/flr.v3i3.186 [Accessed: 13 July 2021].

Bohleber, P., Casado, M., Ashworth, K., Baker, C. A., Belcher, A., Caccavo, J. A., Jenkins, H. E., Satterthwaite, E., Spolaor, A., & Winton, V. H. L. (2020). Successful practice in early career networks: Insights from the polar sciences. *Advances in Geosciences*, 53, 1–14. DOI: https://doi.org/10.5194/adgeo-53-1-2020 [Accessed: 13 July 2021].

Bol, T., de Vaan, M., & van de Rijt, A. (2018). The Matthew effect in science funding. P*roceedings of the National Academy of Sciences USA*, 115(19), 4887–4890. DOI: 10.1073/pnas.1719557115 [Accessed: 13 July 2021].

Brasier, M. J., McCormack, S., Bax, N., Caccavo, J. A., Cavan, E., Ericson, J. A., Figuerola, B., Hancock, A., Halfter, S., Hellessey, N., Höfer, J., Puskic, P. S., de Oliveira, C. S., Subramaniam, R. C., Wallis, J., & Weldrick, C. K. (2020). Overcoming the obstacles faced by early career researchers in marine science: Lessons from the marine ecosystem assessment for the Southern ocean. *Frontiers in Marine Science*, 7, 692. DOI: 10.3389/fmars.2020.00692 [Accessed: 13 July 2021].

Browning, L., Thompson, K., & Dawson, D. (2017). From early career researcher to research leader: Survival of the fittest? *Journal of Higher Education Policy and Management*, 39(4), 361–377. DOI: 10.1080/1360080X.2017.1330814 [Accessed: 13 July 2021].

Byrom, N. (2020). The challenges of lockdown for early-career researchers. *eLife*, 9, e59634. DOI: 10.7554/eLife.59634 [Accessed: 13 July 2021].

Cahusac de Caux, B. (2021). Doctoral candidates' academic writing output and strategies: Navigating the challenges of academic writing during a global health crisis. *International Journal of Doctoral Studies*, 16, 291-317. DOI: 10.28945/4755 [Accessed: 13 July 2021].

Calvey, T., Scheibein, F., Saad, N. A., Shirasaka, T., Dannatt, L., Stowe, M. J., Shah, B., Narasimha, V. L., Bruschi, A., Peyron, E., Gumikiriza-Onoria, J. L., Ghosh, A., Pant, S. B., Yee, A., Ratta-Apha, W., Vadivel, R., Siste, K., Maiti, T., Boujraf, S., Grandinetti, P., … Arya, S. (2020). The changing landscape of alcohol use and alcohol use disorder during the COVID-19 pandemic - perspectives of early career professionals in 16 countries. *Journal of Addiction Medicine*, 14(6), e284–e286. DOI: 10.1097/ADM.0000000000000735 [Accessed: 13 July 2021].

Chapman, C. A., Algera, D., Dick, M., Hawkins, E. E., Lawrence, M. J., Lennox, R. J., Rous, A.M., Souliere, C. M., Stemberger, H. L. J., Struthers, D. P., Vu, M., Ward, T. D., Zolderdo, A. J., & Cooke, S. J. (2015). Being relevant: Practical guidance for early career researchers interested in solving conservation problems. *Global Ecology and Conservation*, 4, 334–348. DOI: 10.1016/j.gecco.2015.07.013 [Accessed: 13 July 2021].

Cisco, J. (2020). Exploring the connection between impostor phenomenon and postgraduate students feeling academically-unprepared. *Higher Education Research & Development*, 39(2), 200–214. DOI: 10.1080/07294360.2019.1676198 [Accessed: 13 July 2021].

Clark, P. G. K., McCoy, J. M., Chik, J. H. L., HajiHosseini, A., Lasalle, M., Kent, B. A., & Vogt, S. L. (2018). Shaping the future of research: A perspective from early career researchers in Vancouver, Canada. *F1000Research*, 7, 1087. DOI: 10.12688/f1000research.15385.1 [Accessed: 13 July 2021].

Cutri, J., Abraham, A., Karlina, Y., Patel, S. V., Moharami, M., Zeng, S-R., Manzari, E., & Pretorius, L. (2021). Academic integrity at doctoral level: the influence of the imposter phenomenon and cultural differences on academic writing. *International Journal for Educational Integrity*, 17, 8. DOI: 10.1007/s40979-021-00074-w [Accessed: 13 July 2021].

Dadkhah, M., Maliszewski, T., & Teixeira da Silva, J.A. (2016). Hijacked journals, hijacked web-sites, journal phishing, misleading metrics and predatory publishing: Actual and potential threats to academic integrity and publishing ethics. *Forensic Science, Medicine, and Pathology*, 12(3), 353–362. DOI: 10.1007/s12024-016-9785-x [Accessed: 13 July 2021].

Daniels, R. J. (2015). A generation at risk: Young investigators and the future of the biomedical workforce. *Proceedings of the National Academy of Sciences USA*, 112(2), 313–318. DOI: 10.1073/pnas.1418761112 [Accessed: 13 July 2021].

de Filippis, R., Soler-Vidal, J., Pereira-Sanchez, V., Ojeahere, M. I., Morimoto, K., Chang, A., Schuh Teixeira, A. L., & Spadini, A. V. (2021). Coronavirus outbreak from early career psychiatrists' viewpoint: What we have learned so far. *Perspectives in Psychiatric Care*, (in press). DOI: 10.1111/ppc.12870 [Accessed: 13 July 2021].

de Winde, C. M., Sarabipour, S., Carignano, H., Davla, S., Eccles, D., Hainer, S. J., Haidar, M., Ilangovan, V., Jadavji, N. M., Kritsiligkou, P., Lee, T-Y., & Ólafsdóttir, H. F. (2021). Towards inclusive funding practices for early career researchers. *Journal of Science Policy & Governance*, 18(1), 26 pp. DOI: 10.38126/JSPG180105 [Accessed: 13 July 2021].

Diallo, A. F., Alabi, O., Groves, A., Johnson, A. E., Okoro, F., Ramos, S. R., Nelson, R. K., & Boutjdir, M. (2021). Training underrepresented early-career faculty in cardiovascular health research during COVID-19: Structural inequities and health disparity. *Ethnicity & Disease*, 31(3), 411–416. DOI: 10.18865/ed.31.3.411 [Accessed: 13 July 2021].

European Commission (EC). (2011). *Towards a European Framework for Research Careers*. European Commission, Directorate General for Research & Innovation, Brussels, Belgium, 11 pp. Available at: https://cdn5.euraxess.org/sites/default/files/policy_library/towards_a_european_framework_for_research_careers_final.pdf [Accessed: 11 September 2021].

Evans, M. C., & Cvitanovic, C. (2018). An introduction to achieving policy impact for early career researchers. *Palgrave Communications*, 4, 1–12. DOI: 10.1057/s41599-018-0144-2 [Accessed: 13 July 2021].

Evans, T. M., Bira, L., Gastelum, J. B., Weiss, L. T., & Vanderford, N. L. (2018). Evidence for a mental health crisis in graduate education. *Nature Biotechnology*, 36(3), 282–284. DOI: 10.1038/nbt.4089 [Accessed: 13 July 2021].

Fernandes, J. D., Sarabipour, S., Smith, C. T., Niemi, N. M., Jadavji, N. M., Kozik, A. J., Holehouse, A. S., Pejaver, V., Symmons, O., Bisson Filho, A. W., & Haage, A. (2020). A survey-based analysis of the academic job market. *eLife*, 9, e54097. DOI: 10.7554/eLife.54097 [Accessed: 13 July 2021].

Forbrig, D. (2020). What keeps them interested? Influences on the stability of research career intentions in the course of academic qualification. *International Journal of Doctoral Studies*, 15, 217–235. DOI: 10.28945/4537 [Accessed: 13 July 2021].

Frederick, D. E. (2020). Scholarly communications, predatory publishers and publish or perish culture in the 2020s. *Library Hi Tech News*, 5, 1–11. DOI: 10.1108/LHTN-01-2020-0007 [Accessed: 13 July 2021].

Fu, D. Y., & Hughey, J. J. (2019). Releasing a preprint is associated with more attention and citations for the peer-reviewed article. *eLife*, 8, e52646. DOI: 10.7554/eLife.52646 [Accessed: 13 July 2021].

Ghosh A. (2020). COVID-19 pandemic and an early career mental health researcher from a low and middle income country: Is there any light at the end of the tunnel? *Asia-Pacific Psychiatry*, 12(4), e12424. DOI: 10.1111/appy.12424 [Accessed: 13 July 2021].

Gibney, E. (2020). The pandemic mixed up what scientists study - and some won't go back. *Nature*, 582(7811), 173–174. DOI: 10.1038/d41586-020-01525-z [Accessed: 13 July 2021].

Gibson, E. M., Bennett, F. C., Gillespie, S. M., Güler, A. D., Gutmann, D. H., Halpern, C. H., Kucenas, S. C., Kushida, C. A., Lemieux, M., Liddelow, S., Macauley, S. L., Li, Q., Quinn, M. A., Roberts, L. W., Saligrama, N., Taylor, K. R., Venkatesh, H. S., Yalçın, B., & Zuchero, J. B. (2020). How support of early career researchers can reset science in the post-COVID19 world. *Cell*, 181(7), 1445–1449. DOI: 10.1016/j.cell.2020.05.045 [Accessed: 13 July 2021].

Glover, N. M., Antoniadi, I., George, G. M., Götzenberger, L., Gutzat, R., Koorem, K., Liancourt, P., Rutowicz, K., Saharan, K., You, W., & Mayer, P. (2016). A pragmatic approach to getting published: 35 tips for early career researchers. *Frontiers in Plant Science*, 7, 610. DOI: 10.3389/fpls.2016.00610 [Accessed: 13 July 2021].

Grudniewicz, A., Moher, D., Cobey, K.D., Bryson, G.L., Cukier, S., Allen, K., Ardern, C., Balcom, L., Barros, T., Berger, M., Ciro, J. B., Cugusi, L., Donaldson, M. R., Egger, M., Graham, I. D., Hodgkinson, M., Khan, K. M., Mabizela, M., Manca, A., Milzow, K., … Lalu, M. M. (2019). Predatory journals: No definition, no defence. *Nature*, 576(7786), 210–212. DOI: 10.1038/d41586-019-03759-y [Accessed: 13 July 2021].

Haider, L.J., Hentati-Sundberg, J., Giusti, M., Goodness, J., Hamann, M., Masterson, V. A., Meacham, M., Merrie, A., Ospina, D., Schill, C., & Sinare, H. (2018). The undisciplinary journey: Early-career perspectives in sustainability science. *Sustainability Science*, 13(1), 191–204. 10.1007/s11625-017-0445-1 [Accessed: 13 July 2021].

Hallinger, P. (2018). Bringing context out of the shadows of leadership. *Educational Management Administration & Leadership*, 46(1), 5–24. DOI: 10.1177/1741143216670652 [Accessed: 13 July 2021].

Harrop, C., Bal, V., Carpenter, K., & Halladay, A. (2021). A lost generation? The impact of the COVID-19 pandemic on early career ASD researchers. *Autism Research*, 14(6), 1078–1087. DOI: 10.1002/aur.2503 [Accessed: 13 July 2021].

Hatch, A., & Curry, S. (2020). Research culture: Changing how we evaluate research is difficult, but not impossible. *eLife*, 9, e58654. DOI 10.7554/eLife.58654 [Accessed: 13 July 2021].

Heron, M., Gravett, K., & Yakovchuk, N. (2021). Publishing and flourishing: Writing for desire in higher education. *Higher Education Research & Development*, 40(3), 538–551. DOI: 10.1080/07294360.2020.1773770 [Accessed: 13 July 2021].

Holzinger, F., Schiffbänker, H., Reidl, S., Hafellner, S., & Streicher, J. (2018). Implementing measures to promote gender equality and career opportunities of early career researchers. In: Murgia, A., Poggio, B. (Eds) *Gender and Precarious Research Careers: A Comparative Analysis*. Routledge, London, UK, pp. 209–235. DOI: 10.4324/9781315201245 [Accessed: 13 July 2021].

Hunter, P. (2019). Remote working in research: An increasing usage of flexible work arrangements can improve productivity and creativity. *EMBO Reports*, 20(1), 1–4. DOI: 10.15252/embr.201847435 [Accessed: 13 July 2021].

Jaeger-Erben, M., Kramm, J., Sonnberger, M., Völker, C., Albert, C., Graf, A., Hermans, K., Lange, S., Santarius, T., Schröter, B., Sievers-Glotzbach, S., & Winzer, J. (2018). Building capacities for transdisciplinary research. Challenges and recommendations for early-career researchers. *Gaia*, 27(4), 379–386. DOI: 10.14512/gaia.27.4.10 [Accessed: 13 July 2021].

Kaiser, J. (2020). NIH grapples with rush to claim billions in pandemic research funds. *Science,* 3 June. DOI: 10.1126/science.abd1508 [Accessed: 11 September 2021].

Kappel, S., Schmitt, O., Finnegan, E., & Fureix, C. (2021). Learning from lockdown - Assessing the positive and negative experiences, and coping strategies of researchers during the COVID-19 pandemic. *Applied Animal Behaviour Science*, 236, 105269. DOI: 10.1016/j.applanim.2021.105269 [Accessed: 13 July 2021].

Kristoffersen, M., Oftedal, B. F., & Friberg, F. (2021). From a professional practitioner to a practice-based researcher: A qualitative study of Norwegian PhD candidates in the fields of health, welfare and education. *Studies in Continuing Education*, 43(1), 16–32. DOI: 10.1080/0158037X.2020.1732333 [Accessed: 13 July 2021].

Kwamie, A., & Jalaghonia, N. (2020). Supporting early-career mentorship for women in health policy and systems research: A vital input to building the field. *Health Policy and Planning*, 35, (supplement 1), i4–i6. DOI: 10.1093/heapol/czaa105 [Accessed: 13 July 2021].

Lauer, M., Tabak, L., & Collins, F. (2017). The next generation researchers initiative at NIH. *Proceedings of the National Academy of Sciences USA*, 114(45), 11801–11803. DOI: 10.1073/pnas.1716941114 [Accessed: 13 July 2021].

Levine, R. L., & Rathmell, W. K. (2020). COVID-19 impact on early career investigators: A call for action. *Nature Reviews Cancer*, 20, 357–358 (2020). DOI: 10.1038/s41568-020-0279-5 [Accessed: 13 July 2021].

Maas, B., Grogan, K. E., Chirango, Y., Harris, N., Liévano-Latorre, L. F., McGuire, K. L., Moore, A. C., Ocampo-Ariza, C., Palta, M. M., Perfecto, I., Primack, R. B., Rowell, K., Sales, L., Santos-Silva, R., Silva, R. A., Sterling, E. J., Vieira, R., Wyborn, C., & Toomey, A. (2020). Academic leaders must support inclusive scientific communities during COVID-19. *Nature Ecology & Evolution*, 4(8), 997–998. DOI: 10.1038/s41559-020-1233-3 [Accessed: 13 July 2021].

Maestre, F. T. (2019). Ten simple rules towards healthier research labs. *PLoS Computational Biology*, 15(4), e1006914. DOI: 10.1371/journal.pcbi.1006914 [Accessed: 13 July 2021].

Marcella, R., Lockerbie, H., Bloice, L., Hood, C., & Barton, F. (2018). The effects of the research excellence framework research impact agenda on early- and mid-career researchers in library and information science. *Journal of Information Science*, 44(5), 608–618. DOI: 10.1177/0165551517724685 [Accessed: 13 July 2021].

Marshall, H., & Fernandes, M. (2021). Early-career researchers shaping publishing strategy. *Learned Publishing*, (in press). DOI: 10.1002/leap.1383 [Accessed: 13 July 2021].

McAlpine, L., Pyhältö, K., & Castelló, M. (2018). Building a more robust conception of early career researcher experience: What might we be overlooking? *Studies in Continuing Education*, 40(2), 149–165. DOI: 10.1080/0158037X.2017.1408582 [Accessed: 13 July 2021].

Mercier, E., Tardif, P-A., Moore, L., Le Sage, N., & Cameron, P. A. (2018). Invitations received from potential predatory publishers and fraudulent conferences: A 12-month early-career researcher experience. *Postgraduate Medical Journal*, 94, 104–108. DOI: 10.1136/postgradmedj-2017-135097 [Accessed: 13 July 2021].

Merga, M. K., & Mason, S. (2021). Doctoral education and early career researcher preparedness for diverse research output production. *Journal of Further and Higher Education*, 45(5), 672–687. DOI: 080/0309877x.2020.1807477 [Accessed: 13 July 2021].

Merga, M. K., Mason, S., & Morris, J. (2018). Early career experiences of navigating journal article publication: Lessons learned using an autoethnographic approach. *Learned Publishing*, 31(4), 381–389. DOI: 10.1002/leap.1192 [Accessed: 13 July 2021].

Moher, D., Naudet, F., Cristea, I. A., Miedema, F., Ioannidis, J. P. A., & Goodman, S. N. (2018). Assessing scientists for hiring, promotion, and tenure. *PLoS Biology*, 16(3), e2004089. DOI: 10.1371/journal.pbio.2004089 [Accessed: 13 July 2021].

Moussa, S. (2021). Journal hijacking: Challenges and potential solutions. *Learned Publishing* (in press) DOI: 10.1002/leap.1412 [Accessed: 13 July 2021].

Moyo, Z., & Perumal, J. (2020). Towards enacting social justice in HE - A case of postdoctoral research fellows. *International Journal of African Higher Education*, 6(1), 77–96. DOI: 10.6017/ijahe.v6i1.10975 [Accessed: 13 July 2021].

Murphy, L. S., Kraus, C. K., Lotfipour, S., Gottlieb, M., Langabeer, J. R. 2nd, & Langdorf, M. I. (2018). Measuring scholarly productivity: A primer for junior faculty. Part III: Understanding publication metrics. *The Western Journal of Emergency Medicine*, 19(6), 1003–1011. DOI: 10.5811/westjem.2018.9.38213 [Accessed: 13 July 2021].

Nguyen, H. V., Phan, T. T. H., Nguyen, H., & Nguyen, M. H. (2020). What is a good journal? Perceptions of Vietnamese early-career and mid-career researchers. *Publishing Research Quarterly*, 36(2), 296–303. DOI: 10.1007/s12109-020-09718-0 [Accessed: 13 July 2021].

Nicholas, D., Boukacem-Zeghmouri, C., Rodríguez-Bravo, B., Xu, J., Watkinson, A., Abrizah, A., Herman, E., & Świgoń, M. (2017a). Where and how early career researchers find scholarly information. *Learned Publishing*, 30(1), 19–29. DOI: 10.1002/leap.1087 [Accessed: 13 July 2021].

Nicholas, D., Herman, E., Watkinson, A., Xu, J., Abrizah, A., Rodríguez-Bravo, B., Boukacem-Zeghmouri, C., Polezhaeva, T., & Świgoń, M. (2021). Early career researchers and predatory publishing: The views and behaviours of the millennials. *Foresight and STI Governance*, 15(1), 56–65. DOI: 10.17323/2500-2597.2021.1.56.65 [Accessed: 13 July 2021].

Nicholas, D., Jamali, Hamid R., Herman, E., Watkinson, A., Abrizah, A., Rodríguez-Bravo, B., Boukacem-Zeghmouri, C., Xu, J., Świgoń, M., & Polezhaeva, T. (2020). A global questionnaire survey of the scholarly communication attitudes and behaviours of early career researchers. *Learned Publishing*, 33(3), 198–211. DOI: 10.1002/leap.1286 [Accessed: 13 July 2021].

Nicholas, D., Watkinson, A., Abrizah, A., Boukacem-Zeghmouri, C., Xu, J., Rodríguez-Bravo, B., Świgoń, M., & Herman, E. (2018). What publishers can take away from the latest early career researcher research. *Learned Publishing*, 31(3), 249–253. DOI: 10.1002/leap.1165 [Accessed: 13 July 2021].

Nicholas, D., Watkinson, A., Boukacem-Zeghmouri, C., Rodríguez-Bravo, B., Xu, J., Abrizah, A., Świgoń, M., & Herman, E. (2017b). Early career researchers: Scholarly behaviour and the prospect of change. *Learned Publishing*, 30(2), 157–166. DOI: 10.1002/leap.1098 [Accessed: 13 July 2021].

O'Brien, A., Graf, C., & McKellar, K. (2019). How publishers and editors can help early career researchers: Recommendations from a roundtable discussion. *Learned Publishing*, 32(4), 383–393. DOI: 10.1002/leap.1249 [Accessed: 13 July 2021].

Oliveira, D., Deckers, K., Zheng, L., Macpherson, H., Ishak, W. S., & Silarova, B. (2021). The career development of early- and mid-career researchers in dementia should be a global priority: A call for action. *Aging & Mental Health*, (in press). DOI: 10.1080/13607863.2021.1875193 [Accessed: 13 July 2021].

Omary, M. B., Eswaraka, J., Kimball, S. D., Moghe, P. V., Panettieri, R. A., Jr, & Scotto, K. W. (2020). The COVID-19 pandemic and research shutdown: Staying safe and productive. *The Journal of Clinical Investigation*, 130(6), 2745–2748. DOI: 10.1172/JCI138646 [Accessed: 13 July 2021]. [Accessed: 13 July 2021].

O'Neill, G., & Schroijen, M. (2018). Early-career researchers and mental health. *Impact*, 2018, 44–45. DOI: 10.21820/23987073.2018.12.44 [Accessed: 13 July 2021].

Pagan, V. (2019). Being and becoming a "good" qualitative researcher? Liminality and the risk of limbo. *Qualitative Research in Organisations and Management*, 14(1), 75–90. DOI: 10.1108/QROM-04-2017-1523 [Accessed: 13 July 2021].

Pannell, J. L., Dencer-Brown, A. M., Greening, S. S., Hume, E. A., Jarvis, R. M., Mathieu, C., Mugford, J., & Runghen, R. (2019). An early career perspective on encouraging collaborative and interdisciplinary research in ecology. *Ecosphere*, 10, e02899. DOI: 10.1002/ecs2.2899 [Accessed: 13 July 2021].

Parker-Jenkins, M. (2018). Mind the gap: Developing the roles, expectations and boundaries in the doctoral supervisor–supervisee relationship. *Studies in Higher Education*, 43(1), 57–71. DOI: 10.1080/03075079.2016.1153622 [Accessed: 13 July 2021].

Pather, S., & Remenyi, D. (2019). Reflections on being a successful academic researcher. *The Electronic Journal of Business Research Methods*, 17(2), 55–66. DOI: 10.34190/JBRM.17.2.01

Paula, J. R. (2020). Lockdowns due to COVID-19 threaten PhD students' and early-career researchers' careers. *Nature Ecology & Evolution*, 4(8), 999. DOI: 10.1038/s41559-020-1231-5 [Accessed: 13 July 2021].

Pickett, C. L. (2019). The increasing importance of fellowships and career development awards in the careers of early-stage biomedical academic researchers. *PLoS ONE*, 14(10), e0223876. DOI: 10.1371/journal.pone.0223876 [Accessed: 13 July 2021].

Pitt, R., & Mewburn, I. (2016). Academic superheroes? A critical analysis of academic job descriptions. *Journal of Higher Education Policy and Management*, 38(1), 88–101. DOI: 10.1080/1360080x.2015.1126896 [Accessed: 13 July 2021].

Pownall, M., Talbot, C. V., Henschel, A., Lautarescu, A., Lloyd, K., Hartmann, H., Darda, K. M., Tang, K. T. Y., Carmichael-Murphy, P., & Siegel, J. A. (2021). Navigating open science as early career feminist researchers. *Psychology of Women Quarterly* (in press). DOI: 10.1177/03616843211029255 [Accessed: 13 July 2021].

Pyhältö, K., McAlpine, L., Peltonen, J., & Castelló, M. (2017). How does social support contribute to engaging post-PhD experience? *European Journal of Higher Education*, 7(4), 373–387. DOI: 10.1080/21568235.2017.1348239 [Accessed: 13 July 2021].

Ransing, R. S., Pinto da Costa, M., Pereira-Sanchez, V., Adiukwu, F., Orsolini, L., Gonzalez-Diaz, J. M., Larnaout, A., Grandinetti, P., Bytyçi, D. G., Soler-Vidal, J., Syarif, Z., Kundadak, G. K., Shalbafan, M., Nofal, M., & Ramalho, R. (2021). Peer learning, research, and support in times of the COVID-19 pandemic: A case study of the early career psychiatrists model. *Academic Psychiatry*, (in press). DOI: 10.1007/s40596-021-01464-5 [Accessed: 13 July 2021].

Rau, H., Goggins, G., & Fahy, F. (2018). From invisibility to impact: Recognising the scientific and societal relevance of interdisciplinary sustainability research. *Research Policy*, 47(1), 266–276. DOI: 10.1016/j.respol.2017.11.005 [Accessed: 13 July 2021].

Richards, G. C., Bradley, S. H., Dagens, A. B., Haase, C. B., Kahan, B. C., Rombey, T., Wayant, C., Williams, L., & Gill, P. J. (2021). Challenges facing early-career and mid-career researchers: Potential solutions to safeguard the future of evidence-based medicine. *BMJ Evidence-Based Medicine*, 26(1), 8–11. DOI: 10.1136/bmjebm-2019-111273 [Accessed: 13 July 2021].

Roach, M., & Sauermann, H. (2017). The declining interest in an academic career. *PLoS ONE*, 12(9), e0184130. DOI: 10.1371/journal.pone.0184130 [Accessed: 13 July 2021].

Robinson, J. (2008). Being undisciplined: Transgressions and intersections in academia and beyond. *Futures*, 40(1), 70–86. DOI: 10.1016/j.futures.2007.06.007 [Accessed: 13 July 2021].

Rodríguez-Bravo, B., Nicholas, D., Herman, E., Boukacem-Zeghmouri, C., Watkinson, A., Xu, J., Abrizah, A., & Świgoń, M. (2017). Peer review: The experience and views of early career researchers. *Learned Publishing*, 30(4), 269–277. DOI: 10.1002/leap.1111 [Accessed: 13 July 2021].

Saffie-Robertson, M. C., & Fiset, J. (2021). Finding a tenure-track position in academia in North America: Development of an employability model for new assistant professors. *Higher Education Quarterly*, 75(2), 263–277. DOI: 10.1111/hequ.12278 [Accessed: 13 July 2021].

Salihu Shinkafi, T. (2020). Challenges experienced by early career researchers in Africa. *Future Science OA*, 6(5), FSO469. DOI: 10.2144/fsoa-2020-0012 [Accessed: 13 July 2021].

Sarabipour, S., Debat, H. J., Emmott, E., Burgess, S. J., Schwessinger, B., & Hensel, Z. (2019). On the value of preprints: An early career researcher perspective. *PLoS Biology*, 17(2), e3000151. DOI: 10.1371/journal.pbio.3000151 [Accessed: 13 July 2021].

Silva, E. A., Des Jarlais, C., Lindstaedt, B., Rotman, E., & Watkins, E. S. (2016). Tracking career outcomes for postdoctoral scholars: A call to action. *PLoS Biology*, 14(5), e1002458. DOI: 10.1371/journal.pbio.1002458 [Accessed: 13 July 2021].

Silver, P. (2016). Advice for early-career peer reviewers and authors responding to peer reviews. *Freshwater Science*, 35(4), 1073–1075. DOI: 10.1086/688968 [Accessed: 13 July 2021].

Singh, G. G., Farjalla, V. F., Chen, B., Pelling, A. E., Ceyhan, E., Dominik, M., Alisic, E., Kerr, J., Selin, N. E., Bassioni, G., Bennett, E., Kemp, A. H., & Chan, K. M. (2019). Researcher engagement in policy deemed societally beneficial yet unrewarded. *Frontiers in Ecology and the Environment*, 17(7), 375–382. DOI: 10.1002/fee.2084 [Accessed: 13 July 2021].

Skakni, I., & McAlpine, L. (2017). Post-PhD researchers' experiences: An emotionally rocky road. *Studies in Graduate and Postdoctoral Education*, 8(2), 205–219. DOI: 10.1108/SGPE-D-17-00026 [Accessed: 13 July 2021].

Skakni, I., Calatrava Moreno, M. D. C., Seuba, M. C., & McAlpine, L. (2019). Hanging tough: Post-PhD researchers dealing with career uncertainty. *Higher Education Research & Development*, 38(7), 1489–1503. DOI: 10.1080/07294360.2019.1657806 [Accessed: 13 July 2021].

Smart, P. (2019). What did early career researchers ever do for us? *Learned Publishing*, 32(3), 195–197. DOI: 10.1002/leap.1248 [Accessed: 13 July 2021].

Sobey, A. J., Townsend, N. C., Metcalf, C. D., Bruce, K. D., & Fazi, F. M. (2013). Incorporation of early career researchers within multidisciplinary research at academic institutions. *Research Evaluation*, 22(3), 169–178. DOI: 10.1093/reseval/rvt004 [Accessed: 13 July 2021].

Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of Medical Internet Research*, 22(9), e21279. DOI: 10.2196/21279 [Accessed: 13 July 2021].

Sousa, F. S. O., Nadanovsky, P., Dhyppolito, I. M., & Santos, A. P. P. (2021). One year of unsolicited emails: The modus operandi of predatory journals and publishers. *Journal of Dentistry*, 109, 103618. DOI: 10.1016/j.jdent.2021.103618 [Accessed: 13 July 2021].

Spagnolo, J., Gautier, L., Seppey, M., & D'souza, N. A. (2020). Re-thinking global and public health projects during the COVID-19 pandemic context: Considerations and recommendations for early- and not-so-early-career researchers. *Social Sciences & Humanities Open*, 2(1), 100075. DOI: 10.1016/j.ssaho.2020.100075 [Accessed: 13 July 2021].

Stapleton, S. N., Wong, A. H., Ray, J. M., Rider, A. C., Moadel, T., Bentley, S., & Cassara, M. (2021). Virtual mentoring: Two adaptive models for supporting early-career simulation investigators in the era of social distancing. *AEM Education and Training*, 5(1), 105–110. DOI: 10.1002/aet2.10540 [Accessed: 13 July 2021].

Stiles, B. L., Wong, N. C. W., & LaBeff, E. E. (2018). College cheating thirty years later: The role of academic entitlement. *Deviant Behavior*, 39(7), 823–834. DOI: 10.1080/01639625.2017.1335520 [Accessed: 13 July 2021].

Subbaraman, N. (2020). Sputnik moment or budget breaker: How will the pandemic alter research funding? *Nature*, 582(7811), 164–165. DOI: 10.1038/d41586-020-01519-x [Accessed: 13 July 2021].

Teelken, C., & van der Weijden, I. (2018). The employment situations and career prospects of postdoctoral researchers. *Employee Relations*, 40(2), 396–411. DOI: 10.1108/ER-12-2016-0241 [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2013). The Global Science Factor v. 1.1: A new system for measuring and quantifying quality in science. *The Asian and Australasian Journal of Plant Science and Biotechnology*, 7(Special Issue 1), 92–101.

Teixeira da Silva, J. A. (2018). The preprint debate: What are the issues? *Medical Journal Armed Forces India*, 74(2), 162–164. DOI: 10.1016/j.mjafi.2017.08.002 [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2020a). Simplify manuscript submission and optimise authors' resources by eliminating formatting and cover letters. *European Science Editing*, 46, e52063. DOI: 10.3897/ese.2020.e52063 [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2020b). Misinformation in COVID-19 media and literature, with an emphasis on open data policies. *Journal of Advocacy, Research and Education*, 7(2), 25–29.

Teixeira da Silva, J. A. (2020c). An alert to COVID-19 literature in predatory publishing venues. *The Journal of Academic Librarianship*, 46(5), 102187. DOI: 10.1016/j.acalib.2020.102187 [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2020d). Are negative reviews, predatory reviewers or failed peer review rewarded at Publons? *International Orthopaedics*, 44(10), 2193–2194. DOI: 10.1007/s00264-020-04587-w [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2021a). The Matthew Effect impacts science and academic publishing by preferentially amplifying citation, metrics and status. *Scientometrics*, 126(6), 5373–5377. DOI: 10.1007/s11192-021-03967-2 [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2021b). A reality check on publishing integrity tools in biomedical science. *Clinical Rheumatology*, 40(5), 2113–2114. DOI: 10.1007/s10067-021-05668-w [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2021c). Is the Committee on Publication Ethics (COPE) Trustee Board racially inclusive? *Ethics, Medicine and Public Health*, 17, 100642. DOI: 10.1016/j.jemep.2021.100642 [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2021d). What is a legitimate, low-quality, or predatory surgery journal? *Indian Journal of Surgery*, (in press). DOI: 10.1007/s12262-021-02730-4 [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2021e). COVID-19 research and publishing: Advance ambitiously, but cautiously, in 2021. *Indian Journal of Science and Technology*, 14(10), 892–896. DOI: 10.17485/IJST/v14i10.92 [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2021f). Corona exhaustion (CORONEX): Covid-19-induced exhaustion grinding down humanity. *Current Research in Behavioral Sciences*, 2, 100014. DOI: 10.1016/j.crbeha.2021.100014 [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2021g). Citations and gamed metrics: Academic integrity lost. *Academic Questions*, 34(1), 96–99. DOI: 10.51845/34s.1.18 [Accessed: 13 July 2021].

Teixeira da Silva, J. A. (2021h). Use of Covid-19 as an illegitimate excuse, or as a scape-goat. *Gazeta Médica*, 7(4), 396–397. DOI: 10.29315/gm.v7i4.409 [Accessed: 13 July 2021].

Teixeira da Silva, J. A., & Al-Khatib, A. (2021). How do Clarivate Analytics and Publons propose to fortify peer review in the COVID-19 era? *Journal of Taibah University Medical Sciences*, 16(2), 139–143. DOI: 10.1016/j.jtumed.2021.01.008 [Accessed: 13 July 2021].

Teixeira da Silva, J. A., & Dobránszki, J. (2015). Problems with traditional science publishing and finding a wider niche for post-publication peer review. *Accountability in Research*, 22(1), 22–40. http://doi.org/10.1080/08989621.2014.899909 [Accessed: 13 July 2021].

Teixeira da Silva, J. A., & Dobránszki, J. (2017). Excessively long editorial decisions and excessively long publication times by journals: Causes, risks, consequences, and proposed solutions. *Publishing Research Quarterly*, 33(1), 101–108. DOI: /10.1007/s12109-016-9489-9 [Accessed: 13 July 2021].

Teixeira da Silva, J. A., & Katavić, V. (2016). Free editors and peers: Squeezing the lemon dry. *Ethics & Bioethics*, 6(3-4), 203–209. DOI: 10.1515/ebce-2016-0011 [Accessed: 13 July 2021].

Teixeira da Silva, J. A., Al-Khatib, A., & Tsigaris, P. (2020a) Spam emails in academia: Issues and costs. *Scientometrics*, 122(2), 1171–1181. DOI: 10.1007/s11192-019-03315-5 [Accessed: 13 July 2021].

Teixeira da Silva, J. A., Al-Khatib, A., Katavić, V., & Bornemann-Cimenti, H. (2018). Establishing sensible and practical guidelines for desk rejections. *Science and Engineering Ethics*, 24(4), 1347–1365. DOI: 10.1007/s11948-017-9921-3 [Accessed: 13 July 2021].

Teixeira da Silva, J. A., Dobránszki, J., Al-Khatib, A., & Tsigaris, P. (2020b). Curriculum vitae: Challenges and potential solutions. *KOME*, 8(2), 109–127. DOI: 10.17646/KOME.75672.52 [Accessed: 13 July 2021].

Teixeira da Silva, J. A., Dobránszki, J., Tsigaris, P., & Al-Khatib, A. (2019a). Predatory and exploitative behaviour in academic publishing: An assessment. *The Journal of Academic Librarianship*, 45(6), 102071. DOI: 10.1016/j.acalib.2019.102071 [Accessed: 13 July 2021].

Teixeira da Silva, J.A., Tsigaris, P., & Al-Khatib, A. (2019). Open access mega-journals: Quality, economics and post-publication peer review infrastructure. *Publishing Research Quarterly*, 35(3), 418–435. DOI: 10.1007/s12109-019-09654-8 [Accessed: 13 July 2021].

Termini, C. M., & Traver, D. (2020). Impact of COVID-19 on early career scientists: An optimistic guide for the future. *BMC Biology*, 18(1), 95. DOI: 10.1186/s12915-020-00821-4 [Accessed: 13 July 2021].

Termini, C. M., McReynolds, M. R., Rutaganira, F., Roby, R. S., Hinton, A. O., Jr, Carter, C. S., Huang, S. C., Vue, Z., Martinez, D., Shuler, H. D., & Taylor, B. L. (2021). Mentoring during uncertain times. *Trends in Biochemical Sciences*, 46(5), 345–348. DOI: 10.1016/j.tibs.2021.01.012 [Accessed: 13 July 2021].

Torres, M. A., Delva, S., Fried, E. N., Gomez, J. A., Nguyen, N., Przekop, K. A., Shelton, E. F., Stolberg, K. C., Wyszynski, S. I., Yaffa, L. S., Broitman, S., & Traniello, J. (2021). Undergraduate behavioral biologists keep science careers in focus through pandemic challenges-but need support. *Behavioral Ecology and Sociobiology*, 75(3), 46. DOI: 10.1007/s00265-021-02988-4 [Accessed: 13 July 2021].

Uslu, B. (2020). Mentoring and role modelling through the perspective of academic intellectual leadership: Voluntarily and institutionally. *Research in Educational Administration & Leadership*, 5(3), 921–952. DOI: 10.30828/real/2020.3.9 [Accessed: 13 July 2021].

van Benthem, K., Nadim Adi, M., Corkery, C. T., Inoue, J., & Jadavji, N. M. (2020). The changing postdoc and key predictors of satisfaction with professional training. *Studies in Graduate and Postdoctoral Education*, 11(1), 123–142. DOI 10.1108/SGPE-06-2019-0055 [Accessed: 13 July 2021].

van Dalen, H. P. (2021). How the publish-or-perish principle divides a science: The case of economists. *Scientometrics*, 126(2), 1675–1694. DOI 10.1007/s11192-020-03786-x [Accessed: 13 July 2021].

van der Weijden, I., Teelken, C., de Boer, M., Drost, M. (2016). Career satisfaction of postdoctoral researchers in relation to their expectations for the future. *Higher Education*, 72(1), 25–40. DOI 10.1007/s10734-015-9936-0 [Accessed: 13 July 2021].

van Dijk, W., Schatschneider, C., & Hart, S. A. (2021). Open science in education sciences. Journal of Learning Disabilities, 54(2), 139–152. DOI 10.1177/0022219420945267 [Accessed: 13 July 2021].

Vekkaila, J., Virtanen, V., Taina, J., & Pyhältö, K. (2018). The function of social support in engaging and disengaging experiences among post PhD researchers in STEM disciplines. *Studies in Higher Education*, 43(8), 1439–1453. DOI: 10.1080/03075079.2016.1259307 [Accessed: 13 July 2021].

Vuong, Q-H. (2019). Breaking barriers in publishing demands a proactive attitude. *Nature Human Behaviour*, 3, 1034. DOI: 10.1038/s41562-019-0667-6 [Accessed: 13 July 2021].

Weissgerber, T., Bediako, Y., de Winde, C. M., Ebrahimi, H., Fernández-Chiappe, F., Ilangovan, V., Mehta, D., Quezada, C. P., & Riley, J. L. (2020). Point of view: Mitigating the impact of conference and travel cancellations on researchers' futures. *eLife*, 9, e57032. DOI: 10.7554/eLife.57032 [Accessed: 13 July 2021].

Witze, A. (2020). Universities will never be the same after the coronavirus crisis. *Nature*, 582(7811), 162–164. DOI: 10.1038/d41586-020-01518-y [Accessed: 13 July 2021].

Woolston, C. (2020). Pandemic darkens postdocs' work and career hopes. *Nature*, 585(7824), 309–312. DOI: 10.1038/d41586-020-02548-2 [Accessed: 13 July 2021].

To cite this article:

Teixeira da Silva, J. A. 2021. Challenges that early career researchers face in academic research and publishing: pre- and post-COVID-19 perspectives. *Exchanges: The Interdisciplinary Research Journal*, 9(1), 77-106. Available at: https://doi.org/10.31273/eirj.v9i1.882.

Fiction as Therapy: Agency and authorship in Samuel Beckett's The Unnamable

Arya Aryan

Durham University, Durham, UK
Correspondence: arya.aryan@durham.ac.uk
ORCID: 0000-0002-1731-0131

Peer review: This article has been subject to a double-blind peer review process

Abstract

The Unnamable (1953) shows the breakdown of the Cartesian Cogito in a post-war soulless world in which its inhabitants suffer from disconnectedness. When the speaker's consciousness breaks down and is no longer able to attribute the projections of its own consciousness to the self, he becomes incapable of ascertaining his own agency, authority and existence; hence the dissolution of the Cartesian Cogito. The condition is further exacerbated when the speaker who hears unattributable, disembodied authoritative voices finds himself in a universe where there is no one else to ascertain one's existence. The sense of agency is therefore lost. Yet, the speaker, as in the fashion of AVATAR therapy for people with schizophrenia, attempts in writing, turning the voices into characters and stories and entering a dialogue with them to overcome his ontological insecurity in a universe that is generated out of his head and yet achieves an uncanny kind of independence. In other words, it is a therapeutic attempt to put the dismantled elements back into place in order to overcome the consequent ontological insecurity that this dissolution generates. This is done through a kind of quasi-corporeality that Steven Connor calls 'the vocalic body.' Nevertheless, as this paper argues, although being able to substantialise the voices, the Unnamable is still wavering between mediumship (being the medium of others' voices) and agency.

Keywords: Beckett; hearing voices; authorship; therapy; fiction

> *It issues from me, it fills me, it clamours against my wall. It is not mine. I can't stop it, I can't prevent it, from tearing me, racking me, assailing me. It is not mine, I have none: I have no voice and must speak, that is all I know. It's round that I must revolve, of that I must speak - with this voice that is not mine, but can only be mine, since there is no one but me. (Or if there are others, to whom it might belong, they have never come near me.)* (**Beckett 1953: 309**)

Who is speaking? Whose voice is it that speaks through him/her? Does it exert an independent agency and is it a purely disembodied voice? What is certain is that the speaker is not able to locate the voice. It is an unattributed sourceless but intrusive voice. He is experiencing a voice's split condition, neither inside not outside. He has no power and authority over it and feels forced/obliged to speak. The Unnamable's condition is similar to that of the Kleinian infant for whom there is the good voice and the bad voice. The good voice is the voice of the other becoming that of the self and the bad voice is the voice that belongs to the self but is recognised as the voice of the other, as Steven Connor suggests (**2000**). By inference, Connor extends this Kleinian infant condition to arrive at a more general conclusion that, '[i]dealized voices of all kinds derive their power, prestige, and capacity to give pleasure from this willingness to hear other voices as one's own' (**Ibid: 32**). Perhaps Connor is right when he says that the reason why we intend to sing along with a singer is to make it our own and consequently take pleasure in it (**Ibid: 10**): to turn it into a good voice, in other words. Whereas the good voice is the equivalent of pleasure, the bad voice is creepy, intrusive, 'racking,' 'assailing,' 'tearing,' to use the Unnamable's own words, annoying, unrelenting, unremitting and eerie. As this paper argues, the Unnamable's attempts (and possibly those of Beckett, by extension) in writing and speaking of authorial voice and hearing experiences in *The Unnamable* (**Becket, 1953**) is to overcome his ontological insecurity in a universe that is generated out of his head and yet achieves a kind of independence and to dissipate the uncanny, the creepiness of the voice that is a consequence of unattributable, disembodied, and therefore, unlocatable features: an unlocatable voice is eerie, unsettling, threatening and authoritative, hence, creepy and uncanny. This paper also contends that the novel is an early manifestation of the death of the author debate that was soon to dominate literary theory and what later emerges as the poststructuralist critique of the humanist concept of the self and authorship: its contestation of clear authorial agency and intention reveals a dissolution of the humanist conceptualisation of authorship. In addition, it argues that the novel is also a therapeutic attempt to put the dismantled elements back into place in order to overcome the consequent ontological insecurity and a total annihilation of the self that this dissolution generates. This is done through

a kind of quasi-corporeality that Steven Connor calls **'**the vocalic body.' Thus, this paper concludes that while the novel prefigures a deconstruction of the humanist concept of the self and authorship well before its later theorisations by Derrida, Barthes and Foucault, it is therapeutic. In other words, fiction helps the Unnamable (the author by implication) to turn a destructive force – an unlocatable voice that threatens to destroy the very integrity of the self – into a creative one and avoid a complete ontological annihilation that many haunted by voices, such as Virginia Woolf, have faced.

At some point in our lives, we all have experienced, one way or another, the natural phenomenon of hearing the voice. For instance, name hearing is a natural sensation that everyone might go through such as when they have the impression that their name is heard in public whereas the sound actually comes from an inhuman source such as the wind blowing through a passage. As Ralph Hoffman has it, 'your occasional illusionary perception of your name spoken in a crowd occurs because this utterance is uniquely important. Our brains are primed to register such events; so on rare occasions the brain makes a mistake and reconstructs unrelated sounds (such as people talking indistinctly) into a false perception of the spoken name' (**Hoffman, 2019**). Hearing our name, we turn our head and begin the excavation to find the source, as the voice implies the existence of a body that houses that source. Another example would be what G. Lynn Stephens and George Graham call '*delusions of reference*' which occur in schizophrenic patients. As they explain, 'the subject may have overheard another saying "Give cancer to the crippled bastard" but may mistakenly believe that the speech was directed at him' (**Stephens & Graham, 2000: 16**). To be unable to locate the voice is to feel less in control and consequently to become anxious since a disembodied voice carries an uncanny effect (because it is one cannot locate its source) and is consequently experienced as more authoritative. Connor mentions historical accounts of ghostly (disembodied and eerie like a ghost) voices when for example the voices of dead children are heard from cellars, dungeons, vaults, or when Alexandre Vattemare made cadavers seem to speak in an act of ventriloquism in the nineteenth century. He speaks of the frenzy and dread that these voices would raise in people as they would 'testify to the dread of premature burial that would bubble up at intervals during the 19th century' (**Stevens, 2000: 258**). We normally tend to feel insecure at voices whose source and origin is not locatable. As Connor puts it, '[s]ound, and especially the sound of the human voice, is experienced as enigmatic or anxiously incomplete until its source can be identified, which is usually to say, visualized' (**Ibid: 20**).

If it is the unlocability of the voice that creates the uncanny effect – that is, the ghostlike, threatening and authoritative effect – then that is all the more compounded if the voice is heard more frequently, even incessantly. The condition is further exacerbated if the voice hearer finds him or herself in a universe where there is no other who might ascertain one's existence; this becomes a powerful source of ontological insecurity. Such is the condition of the Unnamable. He is entirely alone: 'I alone am man and all the rest divine' (**Beckett 1953: 302**). *The Unnamable* shows the 'breakdown of the Cartesian *Cogito*, which Lacan also recognises' (**Stewart, 1999: 108**), reaching its climax in the existential crisis of the Unnamable himself. As the Cartesian *Cogito ergo sum* implies, when we doubt, we can be sure that we doubt. And if doubt is a form of thinking, according to Descartes, then we can be sure of the existence of the subject who does the thinking because there must be a subject that does the thinking. Accordingly, the existence of the thinking subject is undoubtable. It also implies that thinking is the representation of being. '"I think" is equivalent to representation; "I am", naturally, to being' (**Burke, 1998: 69**). To use Descartes's own words:

> *Then too there is no doubt that I exist, if he is deceiving me. And let him do his best at deception, he will never bring it about that I am nothing so long as I shall think that I am something. Thus, after everything has been most carefully weighed, it must finally be established that this pronouncement "I am, I exist" is necessarily true every time I utter it or conceive it in my mind.* (quoted in **Burke, 1998: 64**)

Therefore, this thinking being becomes a firm and undoubtable foundation on which to build the subject's knowledge of the world – because 'I am, I exist – that is certain. But for how long? For as long as I am thinking' (**Ibid: 18**). Yet, the Unnamable is an example of a dissociation of *Cogito ergo sum* as the narrator cannot presume he is the subject of the act of thinking. As the Unnamable says from the very beginning, 'I seem to speak (it is not I) about me (it is not me)' (**Beckett 1953: 293**). The speaker doubts that he is the subject who does the thinking/speaking. When the speaker's consciousness breaks down and is no longer able to attribute to the self the projections of its own consciousness, he is therefore incapable of ascertaining his own agency, authority and existence; hence occurs the complete dissolution of the Cartesian *Cogito*.

But, what causes this experience to happen so often, more frequently than is generally considered 'normal'? Why does this disembodiment happen so that a source and a place has to be found for this disembodied voice? A convincing answer, as Stephens and Graham suggest, is that it happens when self-consciousness breaks.[i] To be self-conscious is to have self-awareness that the feelings and thoughts are your own, that you own

them, a process called introspection. However, if this self-awareness dissipates, you begin to doubt that your thoughts and feeling belong to you and come to assume that there are other agents who have entered your consciousness. Thought insertion and hearing voices are two forms of alienation or what Stephens and Graham call '*alienated self-consciousness*' (**2000: 4**). The thinker is still self-conscious as he or she is aware of the experiences, be they thoughts or voices, but assumes they are coming from an alien source. In other words, such experiences are attributed, by the subject, 'to another person rather than to the subject' (**Ibid: 4**). In thought insertion – which is very common among schizophrenic patients – they may be quite conscious that they are the subject where the thoughts happen – 'They regard them [the thoughts] as occurring within their ego boundaries' (**Ibid: 126**) – but believe that some other subject has put the thoughts in their mind. As Stephens and Graham explain:

> *The subject regards the thoughts as alien not because she supposes that they occur outside her, but in spite of her awareness that they occur within her. Her distress arises not (as Freud or Sims would have it) from loss of ego boundaries and uncertainty about whether things are inside or outside the boundary, but from her sense that her ego boundary has been violated and that something alien has been placed within it.* (**Stephens & Graham, 2000: 127**)

Accordingly, voice hearers understand the subjectivity of the hallucinatory thoughts; however, they deny they are the author (producer or projector) of the thoughts and therefore infer that such thoughts must have come or been put in their mind from and by other subjects.

It could be inferred from Stephens and Graham that if subjectivity does not negate the thought insertion, there must be a split between subjectivity and agency both of which constitute the founding conditions of authorship. In other words, authorship is here understood as bound up with conditions of subjectivity and agency:

> *We propose that the sense of agency and the sense of subjectivity represent distinct strands or components of self-consciousness, and that it is possible for these strands to unravel or break apart. More specifically, I may experience a thought as subjectively but not agentically my own. This possibility is realized in experiences of thought insertion and voices. Recognition of the distinction between the senses of subjectivity and agency helps to make the experiences intelligible.* (**Stephens & Graham, 2000: 153**)

Subjectivity is a self-awareness of one's consciousness and its process, of the subjectivity of thoughts and voices (that is, the awareness that they occur in the subject). Agency, on the other hand, is a sense of controlling one's own thoughts, feelings and emotions. It is '[m]y sense that *I think* a certain thought involves more than the sense that the thought occurs in me. It also consists in a sense that I am *author* of that thought, that I carry out the activity of thinking' (**Stephens & Graham, 2000: 8-9**; 2nd emphasis added).[ii] Consequently, authorship – to be the author of one's own thoughts, feelings, emotions, voices, etc. – might be defined with regard to a particular combination of subjectivity and agency. In the absence of any of the elements, authorship is lost.

In voice hearing experiences too, subjectivity might be kept in the sense that the subject recognises the existence of the voices in his consciousness but he is unable to attribute them; hence, deterioration of agency. Therefore, it could be said that our sense of self-consciousness works with regards to both that subjectivity and agency which also make up authorship. Nonetheless, a sense of alienation, which could be regarded as one level further away from authorship, occurs when the subject locates the voices (thoughts, emotions, etc.) in other agents: others are the authors of the voice. As Stephens and Graham suggest, 'in externality and alienation the sense of agency breaks apart from the sense of subjectivity. In alienation, in addition, the sense of agency places the agency in another' (**Ibid: 155**). In explaining why alienation occurs in the subject, for example in the case of voice hearing, Stephens and Graham propose that the subject confuses their own imaginary introspective inner voices with hearing another person's speech. He cannot tell their own introspection from 'a perceptual experience of someone else's speech' (**Ibid: 33-4**). In other words, introspection is confused with perception of external objects and events.

Strikingly similar to the agentless patient who hears voices is the condition of the Unnamable who holds onto a certain level of self-awareness of thoughts and voices but is not necessarily able to self-attribute them. As the Unnamable self-consciously puts it, the voice 'issues from me, it fills me, it clamours against my wall. It is not mine' (**Beckett 1953: 309**). Rather he mislocates them but in a therapeutic act creates characters such as Mahood through the substantiation of the voices: 'I'll call him [the voice] Mahood instead . . . . It is his voice which has often, always, mingled with mine, and sometimes drowned it completely' (**Ibid: 311**). The inability to transmute and transform voices into fictional characters and telling stories could be life threatening while the ability to do so is therapeutic. Virginia Woolf, who was unable to write and living in isolation at the outbreak of the war, wrote in her 1941 suicide note: 'I feel certain I am going mad again. I feel we can't go through another of those terrible times. And I

shan't recover this time. I begin to hear voices, and I can't concentrate. . . You see I can't even write this properly. I can't read' (**Woolf, 1941**). Woolf's inability to communicate her memories any longer lead to a total dissolution of the self and finally to a total writing paralysis and therefore suicide. But a controlled liberation of verbal auditory hallucinations in the form of writing has a therapeutic function. It re-integrates a dissociative self, that would otherwise be subject to total ontological annihilation. This is the valuable insight into authorship that *The Unnamable* provides. The Unnamable represents Beckett's own alter ego and stands for the author-figure. Beckett underwent psychotherapy for two years (1934–35) with Wilfred Bion in London before moving to Paris where he wrote his most important novels. In *Outselves: Beckett, Bion and Beyond*, Luke Thurston (**2009**) argues that Beckett's art is a transformation of his own experience with Bion's therapeutic methods (**Ibid: 123**). Similarly, Ian S. Miller argues that Beckett translates 'his own therapeutic experience into art' (**Miller, 2013: xiv**). Therefore, fiction is the externalisation and slow transformation of inner voices into fully fledged characters. If the Unnamable is Beckett's double, then we can also conclude that here lies the novelist's ability in transmuting voices into the deflected ontology of the fictional world, with seemingly palpable characters who are externalisations of inner voices. Beckett explores the precarious line between the harnessing of voices that is the conversion of mediumship into authorial control and the creation of externalised characters and the breakdown of that process where the voices instead take over the agential and authorial role as vehicles of social and cultural prescriptiveness.

Moreover, the novel itself is exemplary of the critique of the Romantic humanist conception of authorship, before poststructuralists like Derrida and Barthes give shape to theories of the death of the author. Beckett masterfully shows that if the world is no longer the place where the subject might ascertain the structure of existence, he or she turns the attention inwards. The subject becomes hyper-reflexive and hyper-aware of their own introspection which is highly likely to result in the dissolution of the self and therefore of authority.[iii] Sass defines hyper-reflexive qualities as 'acute self-consciousness and self-reference, and . . . alienation from action and experience' (**Sass, 1992: 8**); hence, the hyper-reflexive person is alienated from their own thoughts, feelings, voices and consequently authorship[iv] The speaker, referred to as the Unnamable, has self-awareness that he is alone but is simultaneously overwhelmed by voices whose origin is not known although they occur in or to him. He keeps wondering where these voices and thoughts come from: 'These notions of forbears, of houses where lamps are lit at night, and other such: where do they come to me from? And all these questions I ask myself? It is not in a spirit of curiosity: I cannot be silent. About myself I need know nothing'

(**Beckett 1953: 296**). His wonder in the form of questions is not epistemological but ontological. If the speaker manages to find the answer, he will restore or find agency and authority or his ontology will stay under the threat of annihilation.

The voices that the Unnamable hears are disembodied and therefore perplexing. They express awe and are uncanny and therefore have authority as well as agency over the speaker. The feelings of perplexity and fear – '[s]o there is nothing to be afraid of. And yet I am afraid: afraid of what my words will do to me, to my refuge, yet again' (**Beckett 1953: 305**) – are due to the fact that the voices appear in the absence of external stimuli. As he wonders:

> *But when, through what channels, did I communicate with these gentlemen? Did they intrude on me here? No, no one has ever intruded on me here. Elsewhere then. But I have never been elsewhere. But it can only have been from them I learnt what I know about men and the ways they have of putting up with it. It does not amount to much. I could have dispensed with it. I don't say it was all to no purpose. I'll make use of it, if I'm driven to it. It won't be the first time. What puzzles me is the thought of being indebted for this information to persons with whom I can never have been in contact. Can it be innate knowledge? Like that of good and evil? This seems improbable to me. Innate knowledge of my mother, for example, is that conceivable? Not for me.* (**Beckett, 1953: 299-300**)

The speaker, like the schizophrenic, thinks that thoughts and voices have been put into his mind as he has no innate knowledge; nor does he relate to thoughts and voices. Like the schizophrenic, his doubts, confusion, fear, stem from his failure to make a match between his own intentions and those of the thoughts/voices. Mladen Dolar says of the intentionality of the voice that '[t]he voice is something which points toward meaning, it is as if there is an arrow in it which raises the expectation of meaning, the voice is an opening toward meaning…with an inner intentionality' (**Dolar, 2006: 14**). Therefore, the problem arises when the voices and thoughts deny expression (representation) of the speaker's state of mind, intentions and feelings and underlying beliefs. As Stephens and Graham clarify, '[i]ndeed, perhaps on some occasions a person fails to find an intentional explanation for a given thought because there isn't one. Thoughts may occur in her that do not express, or do not express suitably, any of her underlying intentional states' (**Stephens & Graham, 2000: 170**).[v] The expressive or Romantic theory of art has it that words directly express thoughts and feelings coming from consciousness; the Romantic theory of authorship might be seen to be founded on such assumptions. In Beckett's work it manifestly undoes itself.

Contrary to the expressive theory, here the speaker is oscillating between mediumship (implying lack of authorship) on the one hand and agency on the other. He is pitched between having no control over the voices as well as being their slave, and an attempt to master them through materialising and entering a dialogue with them. As for the first, the voices are the speaker's master: 'I have never spoken enough to me, never listened enough to me, never replied enough to me, never had pity enough on me. I have spoken for my master, listened for the words of my master never spoken: 'Well done, my child, well done, my son, you may stop, you may go, you are free, you are acquitted, you are pardoned, never spoken' (**Beckett 1953: 312**). The Unnamable feels a medium through which the disembodied voices get uttered and heard:

> *Ah if I could only find a voice of my own, in all this babble, it would be the end of their troubles, and of mine. That's why there are all these little silences, to try and make me break them. They think I can't bear silence, that some day, somehow, my horror of silence will force me to break it. That's why they are always leaving off, to try and drive me to extremities. But they dare not be silent for long, the whole fabrication might collapse.* (**Beckett, 1953: 351**)

This shows the speaker's attempt to gain agency, to find his own voice amongst all the voices which forces him to utter: 'Sometimes I say to myself, they say to me, Worm says to me, the subject matters little, that my purveyors are more than one' (**Beckett, 1953: 353**).

A disembodied voice is more authoritative; it generates obedience in the audience. As Connor explicates:

> *And yet it is precisely because of this that we seem to have become much more able to mistrust our eyes than our ears. Thus, if a god or a tyrant wants to ensure unquestioning obedience, he had better make sure that he never discloses himself to the sight of his people, but manifests himself and his commands through the ear. Do we not call such a person a dictator? Ex auditu fides, as St Paul puts it in Romans 10:17 – from hearing comes belief. The very word obedience derives from the Latin audire.* (**Connor, 2000: 23**)

In a similar vein, Pythagoras had his instructions and religious ceremonies held behind a curtain for his pupils merely to hear so they could not see him. This created authority and compelled obedience for his students as the voice was disembodied. The disembodied voice whose origin is not locatable is more likely to be experienced as a kind of strange authority. Yet, unlike Pythagoras's students, for the Unnameable, the voices are not physical wave sounds; nor do they occur in his own subjectivity, nor

outside his consciousness. They are also happening incessantly without his volition. Thus they take on a ghostly character.

Now, in order to overcome these authoritative disembodied voices, to fix them and even disobey their commands (not worrying about the dire consequences such as punishment or death), one way is to materialise and substantialise them, to give them body by turning them into a fully-fledged character in the act of writing. At a certain point, the Unnamable starts to name a few of the voices: Mahood, Worm, Murphy, Molloy. In other words, characters are the embodiment of the dislocatable disembodied voices and thoughts:

> *I'll call him Mahood instead, I prefer that, I'm queer. It was he told me stories about me, lived in my stead, issued forth from me, came back to me, entered back into me, heaped stories on my head. I don't know how it was done. I always liked not knowing, but Mahood said it wasn't right. He didn't know either, but it worried him. It is his voice which has often, always, mingled with mine, and sometimes drowned it completely. Until he left me for good, or refused to leave me any more, I don't know. Yes, I don't know if he's here now or far away, but I don't think I am far wrong in saying that he has ceased to plague me.* (**Beckett 1953: 311**)

I argue that the novel is representative of Beckett's later writing style (the 1950s). Shane Weller traces an aspect of Beckett's writing style, what he calls 'a language of derangement' (**2008: 35**), to his prose and comments, '[i]t is precisely such an irreparable fragmentation that Beckett will identify in his own prose works of the later 1940s, and for which he will employ the terms "disintegration" and "mess"' (**Ibid: 40**). But the novel is also suggestive of the writing process itself because turning voices into fictional characters and stories has a therapeutic function and repairing capabilities. As opposed to Weller's 'irreparable fragmentation,' which could potentially lead the person to committing suicide, madness and schizophrenia can be an intellectual, artistic and ontological breakthrough if it is turned into fiction because it helps prevent a total disintegration of the self.

Interestingly, substantialising verbal/auditory hallucinations is not only a source of character development by writers but also a therapeutic technique employed by Professor Julian Leff. In 2014, he initiated a research project to help schizophrenic patients transform their disembodied voices into characters that feel more embodied. His aim, and his colleagues', was '[t]o encourage them [the patients] to engage in a dialogue with the avatar' (**Leff et al., 2013: 428**). As Leff expounds, '[t]hese people are giving a face to an incredibly destructive force in their mind. Giving them control to create the avatar lets them control the situation and even make friends with it' (quoted in **Brauser, 2014**). Rather than

suppressing the voices, an act which is futile and ineffective, they engage in a dialogue in the course of a few weeks during which 'the avatar progressively changes from being persecutory to becoming appreciative and supportive' (**Leff et al., 2013: 167**). This is precisely what the Unnamable does in the novel by creating a fictional figure out of the voices.

In failing to recognise oneself as the author of one's own voices, the writer, similar to the schizophrenics, tends to get other agents involved, to look for other sources of production. This inclination to postulate the involvement of others is due to the person's tendency to locate unattributable thoughts, feelings and voices in order to overcome the creepiness of sourceless voices and thoughts, which might finally end in a complete dissociation of the self and loss of the sense of being. Often voices are condescending, destroying the person's self-esteem and confidence.[vi] Likewise, the Unnamable observes the voice as enumerating his shortcomings and failures:

> *When he was away I tried to find myself again, to forget what he had said, about me, about my misfortunes, fatuous misfortunes, idiotic pains, in the light of my true situation, revolting word. But his voice continued to testify for me, as though woven into mine, preventing me from saying who I was, what I was, so as to have done with saying, done with listening. And still today, as he would say, though he plagues me no more his voice is there, in mine, but less, less. And being no longer renewed it will disappear one day, I hope, from mine, completely. But in order for that to happen I must speak. Speak.* (**Beckett 1953: 311**)

Talking of the speaker's misfortunes and failures, making him feel idiotic, the voice is an impediment in his way towards self-realisation: 'who I was.' Yet, the materialisation of the voice through its transformation into a character and the authorial act of entering into a dialogue with it helps curb its pestering features – 'Ah if only this voice could stop!' (**Beckett 1953: 58**) – to overturn the master/slave relation of power, in the hope that one day it will totally disappear. As the speaker says, '"I want all to be well with you, do you hear me?" That's what he keeps on dinning at me. To which I reply, in a respectful attitude: "I too, your Lordship". I say that to cheer him up, he sounds so unhappy. (I am good-hearted, on the surface.)' (**Ibid: 16**). However, to aim at the goal, the Unnamable has to 'speak,' that is, to write, to substantialise the disembodied voices. Perhaps the speaker is aware that all is his invention: 'I invented it all, in the hope it would console me, help me to go on, allow me to think of myself as somewhere on a road, moving, between a beginning and an end - gaining ground, losing ground, getting lost, but somehow in the long run making headway' (**Ibid: 17**). Therefore, it could be inferred that writers turn a

destructive force – that threatens to destroy the very integrity of the self – into a creative one through characterisation and fiction. Dialogue with hallucinatory voices transforms them into characters, as in the case of Avatar therapy, and creates a system of differentiation so that the self might ascertain its existence in opposition to, or with regards to, the other. As Milton Rickels says of the novel, '[o]ne may begin by defining the work [*The Unnamable*] as a recreation of the search for the self' (**1962: 134**).

Steven Connor argues that although voices are produced by bodies, they also give shape to bodies as we can hardly imagine a voice without a body. Thus, the voice has a kind of quasi-corporeality that he calls 'the vocalic body.' It is 'the idea – which can take the form of dream, fantasy, idea, theological doctrine, or hallucination – of a surrogate or secondary body, a projection of a new way of having or being a body, formed and sustained out of the autonomous operations of the voice' (**Connor, 2000: 35**). The idea of a body formed out of the autonomous voice occurs when the voice we hear is attributed to another being, not to ourselves. Therefore, 'a disembodied voice must be inhabited in a plausible body' (**Ibid: 35**).[vii] Thus, voices result in the production (materialisation) of bodies. Similarly, Elizabeth Barry suggests that the novel is a product of, and then reversal of, an anti-incarnation process. As she has it, '[t]his is a kind of anti-Incarnation, as Bruno Clément has pointed out, making flesh back into word – simply words on the page (Clément, 370)' (**Barry, 2006: 149**). Similar to the embodiment of God's word in Christ, she concludes that Beckett imagines 'the protagonist as God himself' in *The Unnamable* (**Ibid: 151**) and gives a few examples such as 'a few puppets' that the speaker has and can 'scatter' 'to the winds' (**Beckett 1953: 1**) to support her argument.

This anti-incarnation or materialisation of voices is achieved through writing, telling stories. Daniel Dennett in *Consciousness Explained* (**1993**) argues that story telling is an act of creation, protection and definition of our self in a similar vein to that of a spider as it spins webs and that '[o]ur fundamental tactic of self-protection, self-control, and self-definition is not spinning webs or building dams, but telling stories, and more particularly concocting and controlling the story we tell others – and ourselves – about who we are' (**Ibid: 418**). Nevertheless, he explains that unlike the professional storyteller, '[o]ur tales are spun, but for the most part we don't spin them; they spin us. Our human consciousness, and our narrative selfhood, is their product, not their source' (**Ibid: 418**). Therefore, hearing voices and turning them into stories is a capability.[viii]

Yet, turning voices into characters and stories and entering a dialogue with them risks experiencing the self as fundamentally split, so losing more and more the sense of agency and authority as the self-conscious subject becomes an object of its own scrutiny. The climax of the breakdown of consciousness and the consequent loss of agency is manifest in the following humorous passage:

> *Who says "That proves my innocence"? He says it. Or they say it - yes, they who reason, they who believe. No, in the singular: he who lived, or saw some who had. He speaks of me, as if I were he, as if I were not he (both), and as if I were others (one after another). He is the afflicted. "I am far, do you hear me?" He says I'm far, as if I were he - no, as if I were not he: for he is not far, he is here. It's he who speaks. He says it's I, then he says it's not, I am far. Do you hear him?* (**Beckett 1953: 84**)

The ultimate confusion of a person who is seriously struggling to find his agency through desperately locating the referents of pronouns might look strangely comical. This results in a signifier with no identified signified. As a case in point, the two 'I's in 'He says it's I, then he says it's not, I am far' are not locatable. We cannot be sure to whom they refer. By the first 'I' is he [the voice] referring to himself or does he refer to the speaker, the Unnamable? Who is the 'I' of 'I am far'? Such effect is intensified due to the use of free indirect speech as the first 'I am far' is a direct quotation, where we understand the speaker is the voice talking to the Unnamable. However, immediately after the quotation, it is not clear who is speaking.

The Unnamable's losing a sense of agency is backed up by Elizabeth Barry's argument that Beckett uses middle voice sentences to suggest agentless subjects and to question agency. As she explains, '[t]he position of the middle voice, as the name suggests, between active and passive forms, allows it to function in the construction of what might be called agentless sentences' (**Barry, 2008: 116**). A middle voice sentence is one that is grammatically active but suggests the passive. A couple of examples are: it feels good; it sounds good. The agentless sentences suggest the agentlessness of the text itself. The novel ends with agentless voice(s) which supports Barthes' dictum that 'writing is the destruction of every voice, of every point of origin' (**Barthes, 2008: 146**):

> You must go on.
> I can't go on.
> I'll go on (**Beckett 1953: 93**).

It is not clear to whom or to what the pronouns refer. Are they disembodied voices in the Unnamable's head with which the Unnamable does not identify? Is the first or the second 'I' the embodied voice of the Unnamable? They have lost their referents. As Derrida observes, '[t]he

absence of the transcendental signified extends the domain and the play of signification infinitely' (**Derrida, 2008: 91**). Moving from agentless voices to a vocal embodiment of them and then again back to agentless voices suggests that although writing is therapeutic for a person who has voice hearing experiences and can prevent a total disintegration of the self, there is a constant need for re-location of alien voices. In this sense, writing might not be a final cure but an efficient treatment. The writing subject is pitched between some degrees of authorship and mediumship, being the medium of other voices. This paradoxical state is related to the ironic texture of Beckett's writing style – that it posits and disavows a proposition simultaneously. Beckett's writing anticipates poststructuralist theories. Therefore, it is not a surprise that Derrida never wrote on Beckett, because, as Derrida comments, 'he writes – in my language, in a language which is his up to a point, mine up to a point (for both of us it is a 'differently' foreign language) – texts which are both too close to me and too distant for me even to be able to 'respond' to them' (**Derrida, 1992: 60**).

Thus, the speaker hears self-produced but alien and intermittent voices. Because they do not echo the person's underlying intentional state as far as the person is aware, they are viewed as autonomous – '[p]erhaps there are others here, with me' (**Beckett 1953: 57**)– due to the person's self-consciousness breaking down: 'These voices are not mine, nor these thoughts, but the voices and thoughts of the devils who beset me' (**Ibid: 41**). Therefore, the speaker feels the loss of an autonomous self-contained unified self and consequently tries to locate them, to find bodies for them. Yet, if the source is found, anxiety does not necessarily disappear as the problem of how others are able to put their thoughts/voices in him/her still remains an enigma. Writing, conceived thus, although an attempt to materialise the voice, agency and authority, is a cancellation of authority. On the one hand, it is an attempt to (re)locate the voice and give it body (substantialisation similar to Avatar therapy) but it is also a place where all origins are lost. Although being able to substantialise the voices, the Unnamable is still wavering between mediumship (being the medium of others' voices) and agency.

References

Barry, Elizabeth. *Beckett and Authority: The Uses of Cliché*. Basingstoke: Palgrave Macmillan, 2006.

Barry, Elizabeth. "One's Own Company: Agency, Identity and the Middle Voice in the Work of Samuel Beckett." *Journal of Modern Literature* 31.2 (Winter, 2008): 115-32.

Barthes, Roland. "The Death of the Author." *Modern Criticism and Theory: A Reader*. Eds. Lodge, David and Nigel Wood. Harlow; New York: Pearson, 2008. 146-72.

Beckett, Samuel. *The Unnamable*. 1953. Reprint. London: Calder, 2003.

Bernini, Marco. "Samuel Beckett's Articulation of Unceasing Inner Speech." *The Guardian* August 2014.

Brauser, Deborah. "Novel 'Avatar Therapy' May Silence Voices in Schizophrenia." *MedScape* (July 2014). Available at: https://www.medscape.com/viewarticle/827797#vp_2 [Accessed: 25 March 2019].

Burke, Seán. *The Death and Return of the Author: Criticism and Subjectivity in Barthes, Foucault and Derrida*. 2nd ed. Edinburgh: Edinburgh University Press, 1998.

Connor, Steven. *Dumbstruck: A Cultural History of Ventriloquism*. Oxford: Oxford University Press, 2000.

Connor, Steven "Postmodernism Grown Old." *Supplanting the Postmodern: An Anthology of Writings on the Arts and Culture of the Early 21st Century*. Eds. Rudrum, David and Nicholas Stavris. New York; London: Bloomsbury, 2015. 31-48.

Dennett, D. C. *Consciousness Explained*. London: Penguin, 1993.

Derrida, Jacques. "Structure Sign and Play in the Discourse of the Human Sciences." *Modern Criticism and Theory: A Reader*. Eds. Lodge, David and Nigel Wood. 3rd ed. Harlow; New York: Pearson, 2008. 88-103.

Derrida, Jacques. "This Strange Institution Called Literature: An Interview with Jacques Derrida." *Acts of Literature*. Ed. Attridge, Derek. The United States of America: Routledge, 1992. 33-75.

Dolar, Mladen. *A Voice and Nothing More*. Cambridge, Mass.: MIT Press, 2006.

Hoffman, Ralph. "Auditory Hallucinations: What's It Like Hearing Voices?" *HealthyPlace* (March 2016). Available at: https://www.healthyplace.com/thought-disorders/schizophrenia-articles/auditory-hallucinations-whats-it-like-hearing-voices [Accessed: 25 March 2019].

Gallagher, Shaun. "Self-Reference and Schizophrenia: A Cognitive Model of Immunity to Error through Misidentification." *Exploring the Self: Philosophical and Psychopathological Perspectives on Self-Experience*. Ed. Zahavi, Dan: John Benjamins, 2000. 203-39.

Leff, Julian, et al. "Avatar Therapy for Persecutory Auditory Hallucinations: What Is It and How Does It Work?" *Psychosis* 6.2 (2014): 166-76.

Leff, Julian, et al. "Computer-Assisted Therapy for Medication-Resistant Auditory Hallucinations: Proof-of-Concept Study." *British Journal of Psychiatry* 202.6 (2013): 428-33.

Miller, Ian. Beckett and Bion: *The (Im)Patient Voice in Psychotherapy and Literature*. Great Britain: Karnac, 2013.

Rickels, Milton. "Existential Themes in Beckett's *Unnamable*." *Criticism* 4.2 (1962): 134-47.

Sass, Louis A. *Madness and Modernism: Insanity in the Light of Modern Art, Literature, and Thought*. New York, NY: BasicBooks, 1992.

Sass, Louis A. "Schizophrenia, Self-Experience, and the So-Called 'Negative Symptoms'." *Exploring the Self: Philosophical and Psychopathological Perspectives on Self-Experience*. Ed. Zahavi, Dan: John Benjamins, 2000. 149-82.

Stephens, G. Lynn, and George Graham. *When Self-Conciousness Breaks: Alien Voices and Inserted Thoughts*. Cambridge, Mass; London: The MIT Press, 2000.

Stewart, Michael. "The Unnamable Mirror: The Reflective Identity in Beckett's Prose." *Samuel Beckett Today / Aujourd'hui* 8 (1999): 107-15.

Thurston, Luke. "Outselves: Beckett, Bion and Beyond." *Journal of Modern Literature* 32.3 (Spring, 2009): 121-143.

Waugh, Patricia. "Hilary Mantel and Virginia Woolf on the Sounds in Writers' Minds." *The Guardian* August 2014.

Weller, Shane. "'Some Experience of the Schizoid Voice': Samuel Beckett and the Language of Derangement." *Forum for Modern Language Studies*. 45.1 (October-2008): 32-50.

Woolf, Virginia. "Virginia Woolf Suicide Note." Wikisource (March 1941). Available at: https://en.wikisource.org/wiki/Virginia_Woolf_suicide_note [Accessed: 25 March 2019].

To cite this article:

Aryan, A., 2021. Fiction as Therapy: Agency and authorship in Samuel Beckett's The Unnamable. *Exchanges: The Interdisciplinary Research Journal*, 9(1), 107-123. Available at: https://doi.org/10.31273/eirj.v9i1.825.

Endnotes

[i] In *When Self-Conciousness Breaks* (2000), Stephens and Graham's main argument is that "sometimes, when self-consciousness breaks down or becomes disturbed, it appears to the self-conscious person as if *other* selves or agents are involved in his or her stream of consciousness" (2).

[ii] Stephens and Graham give an example to elucidate the difference between subjectivity and agency. If I raise my own arm, the act of raising occurs in or to me (my arm), therefore I am the subject. Yet, I am not the perpetrator of the act. As they have it, "admitting that a thought occurs in my mind while insisting that somebody else thinks that thought is like insisting that somebody else raised my arm" (153). They continue, "[h]e is the agent who carries out the arm movement, even though the movement happened in or to my body" (154).

[iii] Shaun Gallagher calls this process of hyper-reflexivity "metarepresentation" which results in a false ascription of thoughts: "In metarepresentation the patient may start to ascribe the thought to some particular force or individual and report that it is inserted" (228).

[iv] As Sass clarifies, "[t]he term 'reflexive' refers to situations or processes whereby some being, especially an agent or self, takes itself or some aspect of itself as its own object of awareness" ("Schizophrenia, Self-Experience, and the So-Called 'Negative Symptoms'" 152). Therefore, self-reference is when one's self becomes an object of its own scrutiny.

[v] "Whatever one's view of Hoffman's detailed account, his assumption that a thought occurring in my mind might fail to impress me as expressive of my underlying beliefs and desires is quite plausible" (Stephens and Graham 171).

[vi] As Stephens and Graham explain: "Some patients find it difficult to make out what their voices are saying. Usually, though, they report the very words and even the manner (sneeringly, consolingly, threateningly, and so on) in which the voice conveys its message. Subjects typically also report that the voice addresses them directly or makes special reference to them. They regard the message as salient to their person or circumstances" (14).

[vii] "[P]henomenologically, the fact that an unassigned voice must always imply a body means that it will always partly supply it as well" (Connor *Dumbstruck* 36).

[viii] Marco Bernini calls this capability an "imaginary engine." As he puts it, "[i]f inner speech is the raw material for hallucinatory phenomena, it is also at the centre of our imaginary engine – supporting our simple need for, as the homonymous text by Beckett portrays, an intimate Company (1980) in the inaccessible dark of our subjectivity" ("Samuel Beckett's Articulation of Unceasing Inner Speech"). Likewise, Waugh refers to it as "visionary genius" and "a negative capability" examples of which are Hilary Mantel and Woolf: "For writers like Woolf and Mantel, afflicted in body and mind, haunted by voices, but gifted with kinds of visionary genius, the profession of novelist, the performance of a necessary negative capability, might be the only way of feeling that one is indeed a self" ("Hillary Mantel and Virginia Woolf on the Sounds in Writers' Minds").

A Teacher's Autoethnography: The impact of lifelong experiences in shaping worldviews and teacher identity

Kamal Nasrollahi[1], Mehdi Moharami[2] & Samran Daneshfar[3]

Islamic Azad University, Urmia, Iran[1]; Monash University, Australia[2,3].
Correspondence: Kamalnasrollahi78@gmail.com[1], mehdi.moharami@monash.edu[2], Samran.daneshfar@monash.edu[3]
ORCID: 0000-0003-4725-7009[1], 0000-0001-6435-8501[2], 0000-0002-2731-673X[3].

Peer review: This article has been subject to a double-blind peer review process

Abstract

Literature has explored education and its values, highlighting the significance of experience in learning. However, a paucity of research has investigated the importance of teachers' lifelong experiences in shaping their views toward education. Employing a collaborative autoethnographic methodology, this study attempts to provide insights into the significance of teachers' lifelong experiences in shaping their views and their teacher identity. The narratives highlight the influence of the living environment and life events in shaping worldviews, along with affirmation of the individual's agency in self-regulation. A dynamic accumulation of various lifelong experiences like losing Author 1's father, war, and harassment at school shaped his teacher identity. Understanding the significance of this process helps teachers to appreciate their experiences and recognise their role in shaping students' views and identifies. In conclusion, teachers' socially constructed identity shapes their educational perspectives, reminding them of teachers' role in shaping students' experiences. This knowledge could be valuable in future teacher education programs and developing educational material for learners.

Keywords: education; collaborative autoethnography; lifelong experience; worldview; teacher's identity

Introduction

The notion of experience forms a significant part of John Dewey's (1925, 1934, and 1938) works and he attempted to define its meaning and significance in education. For Dewey, the experience did not culminate in knowing or reflection as it had more layers of the individual 'who acts, suffers and enjoys' (**Muhit, 2013: 10**). Dewey's holistic view on experience enables exploration of how the interaction with the environment empowers learning and education. Similarly, Lave and Wenger's (**1991**) study highlighted this in their theory of situated learning. The impact of situated learning stays with individuals and forms their worldviews. Harder, Nicol and Martin (**2020**) in a study on the value of self-reflection emphasised that individuals' personal experiences change their way of thinking.

Teachers as educators play a certain role in shaping their students' learning experiences. An individual's lifetime experiences influence their becoming and development (**Callary, 2012**). de Bruin claims that 'we teach, who we are' (**2016: 408**). Teachers' background and experiences influence their perceptions and views. It would be valuable to understand how teachers who wish to enable students in their life experiences, have formed their agency and power of determination considering their lifelong experiences. Varghese, Morgan, Johnston and Johnson (**2005**) highlight the significance of language teachers' identity in the socio-cultural and socio-political view of teaching. Exploring teachers' reflections on their lived experiences illuminates the impacts on shaping their professional identity and views.

Not all teachers necessarily wanted to be a teacher; teaching as a career was a decision made based on life circumstances in addition to other factors. Jarvis (**2009**) believes that our experiences, learnings, reflections, and engagements influence our identity. Wenger states 'gaining a competence entail becoming someone for whom the competence is a meaningful way of living in the world' (**2010: 182**). He further adds that our participation in life and experiences define who we are.

Beauchamp and Thomas (**2009**) in a study reviewed the issues with understanding an individual teachers' identity and the implications for teacher education programs. We believe, a teacher's identity is a gradual process and happens by having continuous interactions with the world. A teacher's lifelong experiences contribute to their teaching, shaping their worldviews and assisting personal and social development through social-emotional processes (**Giovanelli, 2015**). Teachers with different life experiences may have concurrently different views about teaching since their lifelong experiences partly drive them to take different attitudes towards teaching as their job (**Gloviczki, 2020; Liu & Lederman, 2007**).

Reflecting on an individual's lived experiences offers invaluable insights into a person's understanding of change and its impact on the person they become (**Guérin, Arcand, & Durand-Bush, 2010**). This study looks back at Author 1's life experiences as an English language teacher, to understand the significance of his experiences in shaping his worldviews in teaching. Author 1 as a teacher holds certain views. Using a critical lens, we attempt to understand the significance of his views and his professional identity as an English teacher. Discussing the significance of life experiences on his worldviews, we explored the 'process of becoming' and the impacts of life experiences in shaping views. We noticed the importance of previous experiences and how personal and social contexts are interrelated in shaping an individual's being.

Collaborative Autoethnography (CAE) as a Research Methodology

According to Denzin & Lincoln 'Qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meaning people bring to them' (**2000: 3**). The real-life interactions between people and their environment form the explored reality in qualitative research (**Freebody, 2003**). Exploring the researcher's personal experiences is a form of investigation to understand real-life experiences (**Reed-Danahay, 2006**). Autoethnography (AE) as a research method enables the researchers to understand the various impacts of experiences on the research process (**Ellis, Adams, & Bochner, 2011**). Collaborative autoethnography (CAE) is a form of AE which includes more than one autoethnographer collaborating at different stages of research projects (**Pheko, 2018**). CAE is still focused on self-interrogation but collectively and in a cooperative manner within a team and authors can contribute at different stages (**Chang, Ngunjiri & Hernandez, 2013**).

Qualitative studies and AE appreciate the reflexivity of researchers to enhance the authenticity of their practice in research (**Wiesner, 2020**). The researchers in AE gauge their experiences considering theories and practices to unfold the studied phenomenon (**Mcilveen, 2008**). AE requires either an evocative or analytical storytelling style focusing on personal experiences. In this study, we have narrative interpretation (analytical) of the autobiographical data.

This study is a collaboration among the researchers as we are all experienced English language teachers. Authors 2 and 3 as more experienced researchers interviewed Author 1 to form an understanding of his life experiences. The nature of our collaboration was partial (see Chang et al., 2013) as authors 2 and 3 did not contribute to the pool of data but actively contributed in different stages of the process. Author 1

narrated his life story and other authors were asking probing questions to understand the implications in a wider context. 'In CAE researchers wrestle with these stories to discover the meanings of the stories in relation to their socio-cultural contexts' (**Chang et al., 2013: 17**). This collaboration enables the study of self, overseen with others.

In AE studies, researchers hold a critical lens to examine lived experiences (**Bartleet & Ellis, 2009**). The selection of life events enables the researchers to reflect and see how these experiences have gradually formed their worldviews. Exploring this gradual process helps to understand shaping perceptions, beliefs, and worldviews. This study relies on Author 1 to narrate his thus far unspoken experiences and their impacts on his identity. In this study, the researcher, teacher, and student are one without any boundaries, summarised in Author 1's experiences.

Author 1 attempted to answer the following questions in his narrative:

1. What is the relationship between reading habits and social background?
2. What are the impacts of life events including, the loss of your father, the eight-year war between Iran and Iraq, studying at university on your identity?
3. How witnessing others' behaviour and taking their life experiences into account can be profitable and effective to us?
4. What is the significance of education?

The data in AE is not separate from the researcher as it contains information about the researcher. Author 1, focusing on the vicissitude of his life, portrays the significance of his experiences on his career path. This puts the researcher in a vulnerable position as it needs an openness toward experiences (**Custer, 2014**). As Campbell states, 'autoethnography is both process and product' (**2016: 96**); researchers reflect on their experiences with no gap between them and what is being investigated.

The researchers analysed his narration employing Ritchie and Spencers' (**1994**) five-step analysis. These five steps include familiarisation, finding a thematic framework, indexing, charting and mapping the interpretations. In this study, we attempt to understand the influence of life experiences on identity formation and Author 1's interest in learning and teaching English. From this point forward, first-person narration is employed to portray Author 1's life experiences throughout this paper.

Life is the Best Teacher

I was born in 1978 in a Kurdish heritage family in Iran, a country approaching an Islamic revolution that changed people's lives in various forms and brought about internal and external rebellions. I spent the first two years of my life in an evergreen village named Darband. A pretty village located on a wide plain surrounded by three cities namely Piranshahr, Oshnavyeh, and Naghadeh. This village had a lot of gardens and lovely slow-flowing rivers.

As my father was an Imam[i] and loved reading, my childhood was shaped by being surrounded by a plethora of books. Plunging into these books formed an important part of my childhood experiences. In families in which one or both parents read, it is more likely that their children's language abilities and development will be affected (**Dale, Crain-Thoreson, Notari-Syverson, & Cole, 1996**).

I was only about two years old, on September 22, 1980, when two neighbour countries, Iran and Iraq, started a protracted war by Iraq's formal declaration. The war ultimately lasted eight years and resulted in shocking numbers of around 200 thousand Iranians killed and 400 thousand sustaining injuries (**Salamati et al., 2013**). No one could predict the unendurable suffering of the Kurdish people living in different regions of Iran. This was more extreme in Piranshahr as it is located on the border of these two countries. During these years of my life, my family went through a nomadic life for seven years, moving from one village to another to escape the terrible and frightening shadow of the war.

Due to Saddam Hussain's daily air bombardments, I witnessed many families experiencing the demise of their members and other relatives and friends. Concurrently, West Asian governments believed that Kurds had become a problem and the reason was the formation of independence movements in Kurd living areas (**Tatsumura, 1980**). I remember, there was a clash between the Democratic Party of Iranian Kurdistan (PDKI) and the Islamic Republic of Iran in many villages and areas. They were fighting for the independence of Kurdish people seeking autonomy within a federal system. My father was a respected and reputed charismatic leader among the people of my hometown and the rural area was under high pressure from both sides of the Islamic Republic government and the PDKI. With all this local unrest, every day of my life used to begin with the sound of gunshots and the noise of Iraqi jet fighters manoeuvring in the sky.

Unlike many children in other parts of the world, my amusement was listening to war music or chasing the flying jet fighters in the sky with my frightened eyes. My father spent most of his free time reading different

books to soothe me. Research indicates that parents who are interested in reading distinctly seek particular goals, for instance, the purpose of enjoying books and soothing their children (**Audet, Evans, Williamson, & Reynolds, 2008**). These reading habits were like sweet dreams in my eventful childhood. Reviewing all those years, I strongly believe that those books affected my personality and worldview.

In March 1990, another disastrous incident beclouded my family life. My father, who had been suffering from backache for several years due to torture and hard life, and my eldest brother travelled to Urmia–the centre of West Azerbaijan province in Iran–for my father to have an operation on his back. The night before the operation, their hotel went through a fire, which could not be controlled. The dire consequence was the untimely demise of nine people, including my father who had been suffocated by the smoke. My brother had been fighting the fire for hours on the wooden staircase and inside the rooms. He was hospitalised for a week with burns to ninety percent of his body. Ultimately brother passed away without our family being able to say goodbye.

These terrible incidents brought my family into new disasters, both emotionally and financially. My mother felt that the sky was falling, dealing with the terrible sorrow of missing the pillar of her life, in my father, as well as her eldest child. For mothers who experience child raising without a father's support, there is more dispute with their children than do mothers who live with the child's father (**MacCallum & Golombok, 2004**). My younger brother used to skip some school classes sporadically and my mother was called by school authorities to handle the situation. The problems did not stop and many of our relatives recommended to my mother that she make me quit school to earn a living for the family. Being raised by a single mom, I soon became the target of others' bullying for not having enough money to buy suitable clothes and a schoolbag! The sweet part of this sad story is that the hero of my life (my mother) never listened to others who told her to stop her sons from gaining an education. Unfortunately, my sister was victimised as the community was still too narrow-minded and not many girls had the chance to have formal education. Today after almost three decades, I clearly remember the very words of my mother who asked me not to discontinue the path which my father had gone through all his life, which was to educate people and show them how to live honestly and happily. Today her big and sweet wish has been fulfilled, but for me, despite being known as a reputed English teacher in my city, it is just the beginning of the road to becoming a better teacher.

When I was twelve years old and a bit after my losses, I had to work along with continuing my education to help my mother to make ends meet. It is often argued that there is an inverse relationship between child labour and school attendance, i.e. the more hours a child works the longer they will be away from school (**Jensen & Nielsen, 1997**). In summer breaks, when most of my classmates and friends could rest for three months, I had to hunt part-time jobs and make a little money for food and clothing. It frequently happened that my mother and my sister were working all weekdays and I used to join them on weekends to do menial jobs. These jobs included working on farmlands on scorching summers days or picking fruit in the gardens on chilly days of the mid-fall seasons. In this phase of my life, I could relate to the miserable character of the novel 'Oliver Twist' that I had already read about as a child. By the age of twenty-one, I had worked in almost twenty-five different jobs. From every single person whom I worked for, I learned something and took a lesson for my life. Meeting and working with so many people unexpectedly provided me with numerous opportunities to make connections with diverse social characters in the next coming years.

An aspect of human life, in terms of success, depends on social learning that is mainly through observation and multilateral interaction(s) between an individual and others (**Rendell et al., 2010**). It was time to meet my life challenges in different ways. Reading books and learning from prominent figures' experiences taught me that not many things are lasting. I reconnected my life with reading books and tried to spend more time with them. The books soothed me and answered many of my questions without being told off for asking them. Every single word in lines of the books along with bits of advice from some sympathetic and considerate people formed parts of my identity and personality to become a bookworm and a voracious reader. I hardly ever remember a time in which reading was to be missed in my life. As Tootle (**2003**) puts it, by the time I could read on my own, I started reading to be gratified to live such a life and I never stopped.

An Intermixture of Two Cultures

In 1991, the dawn of attacking Saddam Hussain by the United States and coalition forces led to the emigration of tens of thousands of Iraqi refugees seeking a place in Iran's Kurdistan. This was more prominent in border cities especially Piranshahr in which by then I had been living for almost five years. I can recall a few of those refugees in my city were interviewed in French and English by 'Reporters Without Borders' whose English impressed me. It is worth mentioning that the people of Kurdistan, as an Indo-European ethnolinguistic group in Iraq, think positively towards the

English language and they appreciate English higher than Arabic (**Sofi-Karim, 2015**).

The throng of refugees in my city was so massive that the families living in this city decided to portion them all around the city and nearby villages. When the refugees entered their new accommodations, they spread their cooking, fashions, and eating habits. To me, the top priority was their language as it was enriched with a considerable amount of English words with a similar pronunciation as in the English language. Some examples of these words were party, point, factor, secretary, bicycle, centre, company, group, propaganda, tomato, potato and so forth. When community individuals from two different cultural backgrounds interact through cultural intermixture, cultural acceptance or resistance are two likely responses to the contact (**Bochner, 2013**). The refugees who were living with the people of my city and as their new family members, spread their cultural and language features and this affected the culture and language of our people.

As a very curious teenager that had always been so interested in communicating with people of different walks of life, I was mesmerised by them, speaking the Iraqi Kurdish language while using frequent English words mentioned above. It is not so easy to speak with others and it becomes more formidable when you are worried about being underestimated or overlooked, you need to find the atmosphere friendly and relaxing (**Klippe, Klippel, & Ur, 1984**). Every single occasion that I was talking to an Iraqi, I learned something about their culture and language. Speaking with new Iraqi settlers in Kurdistan of Iran sparked my interest in the English language so much that I purchased my first Oxford Elementary English Pocket Dictionary. Extracting words from this dictionary and using them while talking with others made me feel positive about myself. Speakers who apply English words in their conversations, especially from British English, feel highly prestigious (**Rindal, 2010**). A few of my school teachers and a number of my close friends told me how good I was at using words and talking articulately. I vividly remember that I read almost all the fictional stories about Sherlock Holmes. I loved his words in terms of specific vocabulary that he had used to speak with his clients and criminals. An outstanding increase in the number of English loanwords by the Kurdish language was witnessed in the years 2005 to 2011, resulting from significant changes that the society and community of Kurdistan experienced in terms of both economy and politics (**Sedeeq, 2018**).

Back in 1998, there was only one English grammar class in my city to which I could not enrol as I could not afford it. Disappointed about not attending the private school, I talked to the teacher (who happened to be my school teacher) and asked him to let me take their final exams. Surprisingly, I got

the second top mark in the exam without even attending the classes. Students who outperform their peers or classmates, get motivated, try more and consider various tasks and activities as opportunities that provide them with more language development (**Thompson, Aizawa, Curle, & Rose, 2019**). The main reason was a pack of English exams that I had borrowed from a former student, which I had studied about fifteen times along with my school English textbooks. These books incredibly improved my English. I was impressed by this success and pushed myself one step further to study English at a university. Students may discover the best ways for themselves to learn English if they recognise their learning styles and strategies which can be profitable enough to their language learning success (**Brown, 2002**).

I have an uncle who currently lives in Canada. He moved there the same year that I took my university entrance exam. He recommended studying majors other than English convincing me to apply English as a means to pursue higher education. He believed that English was more of a means for communication that could be employed to succeed in other fields. For a myriad of non-native speakers of the English language, it is mostly a contact language that is used as a means of communication with foreign speakers of either English or other languages (**Firth, 1996**). Meanwhile, studying for the national university entrance exam, I was working in a company as a warehouseman from nine to five.

A Diversion in the Educational Path

My youngest brother who was ten years younger fainted out of the blue in an alley. The doctors diagnosed it as malnutrition and due to his poor bone structure, the fall had broken his pelvis, so he had to go under a tough medical operation. This surgery was even difficult for his doctors to operate as they confessed later. The problem that worsened this tough predicament for my family was the money needed for his operation. We had to ask charity organisations to lend us the money for the medical examinations and the operation. Life had decided to challenge my family so unkindly again, and we were not ready for this unfair combat, but we had to fight for life because there was no other alternative. Finally, some altruists and philanthropists assisted to raise the needed money for his operation which took almost eight hours. We were impatiently waiting for the doctors to inform us about my brothers' post-operative conditions. At these heartbreaking moments, I remembered Karl Marx who was reading books while nursing his dying wife. I did the same and read the English signs in different parts of the hospital to learn more. I spent almost ten days in the hospital with my brother to look after him along with the doctors and nurses. During that dramatic but educational time, I read and learned more about life. After being discharged from the hospital my

brother had to stay in bed for almost a year. This incident broke my mother's spirit and drowned us in sadness, sorrow, and frustration.

No wonder, I failed to get accepted into any university to study Economics. For the next year, I had to work in a power plant located outside the city, where the weather was so windy and cold. One day on the job, cold weather inflicted me with a terrible backache alike my late father. I had to visit a specialist. I was told if my back is not operated I would be paralysed within a week. I needed to stop working hard, so again I looked for a less demanding job and worked for a gas company. Meanwhile, I started to study to take the university entrance exam, but this time I listened to my inner voice and picked English as my major which by then had become a part of my life. I got accepted at Urmia University to study English Language and Literature. Shortly after attending this university, the English language profoundly caused changes in my attitudes and thoughts. Familiarity with English as a foreign language in a formal and educational environment and meeting likeminded people brought me to brand new experiences. From day one, I took part-time jobs both in and out of university to be able to cover my living costs. My dorm was about four kilometres far from the campus and some weekdays I had to walk to save money. My other three studying years were a little easier than the past concerning my finances as I started doing translations for students of other fields. After a while, getting a part-time job at the university library assisted me to read more books. Although being a freelance translator was very time consuming and even arduous, I liked it as it was relevant to my field of study, and every new time it was giving me an in-service experience. An enormous number of English learners apply translation as a viable learning strategy to enhance both receptive and productive language skills (**Liao, 2006**). Translation for other students deepened my interest in English and I was driven by the idea of translating books, especially when I read some translated novels and found out that a few of them had a poor and partly rough translation.

Back in time from 2000 to 2003, I felt my life was smoothly being surrounded more and more by English as my identity was tangibly and effectively shaped by it. Whenever English learners are provided with chances to interact with advanced or native speakers of the English language, their social identity and social world may be affected (**Peirce, 1994**). In 2003, I graduated from Urmia University and needed to look for a job. When I went back to my city, my younger brother was doing his compulsory military service, my only sister was married, and my mother who was suffering from numerous health issues due to working hard for so many years was living with my younger brother. Just a few days later, we had to demolish our house as it was too old and cramped despite its memories and tranquillity. When all the family members were working to

renovate the house, we had to work 24/7 so that we could build it cheaper and prevent ourselves from sinking into debt. I was exhausted with work and desperate.

These days were the time that the internet started to become more popular in Iran and it was spreading among people especially among teenagers. The use of the internet is salient in terms of education so that you can leave behind the limitations of time and space and employ technology on an equal footing with the new generation who are incredibly technophile (**Dogruer, Eyyam, & Menevis, 2011**). Still, I could not afford to buy a computer to help with my English.

Teaching English, My Best Suited Job

One day when I was working hard with construction workers, an interesting event happened which pushed me through a new route in my life. I had a friend named Awat from my school days that by then was doing his military service in a government office. I clearly remember the moment that he came to me at noon asking me to accompany him to visit a highly educated tourist from Norway who had come to travel to Iraq through the border of our city as he had not been able to find anyone to speak English within the city. The further opportunities a language learner is given to indicate and develop their language skills and abilities, the more motivated they will become (**Wu & Marek, 2009**). The moment was very exhilarating as it was ages since I had met any Westerner. When I met the tourist and welcomed him in English, he was so excited that he hugged me. I still remember his name 'Oley'. I spent the whole evening with him speaking English. I knew that my English was not perfect, but still, he admired my English and speaking skill. After this, I was motivated to improve my language skills and try to acquire a better command of English. It was just the next day when an old friend of mine who was a supervisor in an English language school, invited me to teach, as some of the parents had told him about my encounter with the tourist. It goes without saying how inspiring the offer was, I accepted on the spot as the job was in line with my education, profession and character, besides its financial benefits. The first week, I taught so passionately and eagerly that I was offered a few more classes. Every night, I studied the books meticulously to plan the topics for the next teaching session so that I could motivate my students and improve their English skills. Powell (**2005**) states that effective teaching is more possible when learners have a sense of belonging towards their learning environment. I was young, energetic, eager, passionate and very ambitious in my job. I was teaching about eight hours a day concurrently busy supervising my house construction. Working three shifts was exhausting, but I had no other option as my previous years had been the same. Fortunately, after seven months, we finished the house, and it was

time to allocate more energy to my English and teaching skills. The language school in which I was teaching, and the children's parents were satisfied with my teaching. That meant that I was being offered more classes and even private tutoring in students' homes.

The English language had dominated my life, changed my thoughts and lifestyle, and was tangibly giving me a new identity and a new social personality. Learning a foreign language has always assisted learners with meeting new social and cultural features which gradually bring about latent slight shifts in their life and thinking style (**Mirhosseini, Sazvar, & Rashed, 2017**). Going back in 2006, income through teaching was enough to cover a single person's life. By that time, I needed to improve my listening skill using a very old 'Sharp cassette player' inherited from my father which I could only listen to the news and English music, amalgamated with background noises from the radio. I tried to buy a computer for my study, but I needed to work harder to save up money. Within nine months I could buy one with which I spent most of my free time especially for improving my listening skill. Learning with multimedia plays a significant role in developing English language listening skills (**Khosravi, Moharami & Karimkhanlouei, 2015**). My English skills were increasingly improving every single day. Every time I taught more classes, I learned and earned more.

One day, in addition to my teaching I was offered a job as a salesperson in a jewellery shop. I accepted the job and divided my time between both teaching and working in the shop. I did both jobs for two years but being a salesperson could not make me satisfied or happy. In the same year through an election, I became the chief of the directing board of the 'Saham-e- Edalat' firm and worked there for almost two years. Even this job could not quench my insatiable desire and I quit my full-time job but kept my role for twelve years. I continued teaching English and even began teaching evening shifts to adults and business people.

In 2008, I participated in an interview for a competitive job in a governmental office named 'Institute for the Intellectual Development of Children and Young Adults'. I liked the new place as it had a very big library consisting of twelve thousand books for children and teenagers aged from five to nineteen. I registered to pursue my higher education in 2012 and received my Master of Arts in Teaching English at Islamic Azad University of Urmia and graduated in 2016. Since 2008, I have been working in the 'Institute for the Intellectual Development of Children and Young Adults' as a full-time employee mostly in the morning shifts and also have been teaching English in two consecutive afternoons and evenings.

In 2016, I founded my own English Language school 'Bayan' which became very promising in the very first year, having about two hundred language learners between ages 4 to 40 years old. At the time of writing this reflective paper, I have been teaching English to various age groups for seventeen years in a row using a variety of textbooks. Thus far, nothing in my social and working life has made me as prestigious as teaching English. Teaching English for so long nurtured my plan for the future. It has changed my values, has reshaped my personality, and has provided me with unique opportunities to review my beliefs and attitudes towards life and the world. Teaching English always has something to add to the teacher's existing values. It subtly affects their personality and identity but does not seem to change them into completely new individuals (Le Ha, 2008). Now, I think that I was born a teacher and through teaching, I make a difference for both myself and my students. I strongly believe a teacher does not merely teach a special subject but also gives the students a taste of life, humanity, love, consideration, commitment, and honour. The teachers' worldview and teaching approach considerably affect both performance and personality of their learners and help them to shape a new attitude (**Ulug, Ozden, & Eryilmaz, 2011**). Nobody can change and affect children and teenagers as well as a teacher, but on one condition, if they trust their teacher.

Discussion

There are a few works in the literature on the significance of teachers' lifelong experiences (**Callary, 2012; Harder et al., 2020; Reed-Danahy, 2006**). Most of the current studies are on the importance of lifelong learning and how to develop lifelong learners without pointing to the value of experience. This study highlights the significance of lived experiences in shaping teachers' views and professional identity formation. There are key experiences described as being critical to Author 1's journey in being and becoming a teacher. In Author 1's case, reflecting on his excruciating childhood memories of loss, violence, segregation and exclusion, issues pertaining to intersections of gender and ethnic identities, the accidental becoming of a teacher, relational aspects of forming the teacher identity and accessing opportunities, the blurring of the teacher-learner boundaries, and the self and socioeconomic mobility through English language highlighted the impacts of his lifelong experiences on forming his view toward language education and his teacher identity. An Individual's identity develops through activities and membership in communities (**Giovanelli, 2015**). The narration illustrates being raised in a family in which reading and gaining knowledge was always praised no matter what difficulties emphasised the significance of education. Author 1 developed an interest in learning English when he was a child and grew that interest from interacting with Iraqi-Kurd immigrants in Iran. The interaction with

people and the sense of understanding cultural and linguistic differences instigated his passion for education and language learning in particular.

Ellis (**2003**) states English teachers' views toward their profession manifest their unique perspectives toward the language. Unlike many other teachers who formed their views about education after attending a university and taking specialised courses in education, Author 1's life experiences were synchronised with learning in every aspect as he explained about his experience in the hospital. Ates and Alsal define lifelong learning as 'the lifewide, voluntary and self-motivated pursuit of knowledge' (**2012: 4092**) which is in line with Author 1's experiences. Giovanelli (**2015**) believes English language teachers becoming depends on their series of self-images as the projection of their experiences. Teachers' self-images portray an enhanced projection of personal self and professional identity.

We assessed Author 1's view of teaching and education against other authors and noticed his distinct views and due to differences in his lifelong experiences. Sze and Southcott (**2019**) emphasised the influence of living in a certain environment, culture, interactions with people and a sense of belonging to a community in forming views. Experience is a process that renders a mutually dependable emotion and cognition (**Hohr, 2012**). Regarding Dewey's view, the experience is based on the interaction between an individual as the agent and their environment. There is a dynamic relationship between undergoing (action from the environment) and doing (actions from the agent) in shaping life experiences (**Muhit, 2013**). The voracity for teaching English being so deeply rooted in his adolescent years has always doubled Author 1's energy for his profession. He has been emphasising that teaching and learning the English language not only is an inevitable necessity, but also a means of conveying the values of life that helps one to discover the various areas in their life which ultimately led to better-off life for him. Author 1 notices being a teacher as being a different person for the better (**Lave & Wenger 1991**).

This pivotal point cannot be ignored that Author 1 has been living with his lifelong experiences every single moment of his teaching time. 'Memory works as intersubjective practice' (**Hunter, 2015: 1050**) in which Author 1's memories shaped his view on teaching. 'The continuity of experience means that every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after' (Dewey 1938: 35, as cited in **Kolb, 1984: 27**). To him, teaching has a significant value that he has never ignored his students' emotions and feelings and never wants to let them drop out attending the classes due to pecuniary problems. This can be explained as his intention to not see the tragic scene of his life be replayed anew by others.

Author 1 finds sharing and retelling his life events to his students, in terms of language learning teaching forms, inspiring and motivating since he has received marvellous feedback from his English learners. The positive notes are not just in the form of comments as some of his students have picked out the English language as their field of study and have turned them into enthusiastic teachers. He believes his students who became a teacher pass on a nice blend of all amassed experiences to their students so that this process goes on and links with different layers of avid English learners. Ellis (**2003**) believes English teachers have a deep interest in wanting to share the subject with young people.

Conclusion

This study highlights the impacts of experiences in teachers' formed professional identity and views. We witnessed that 'teacher identity is a profoundly individual and psychological matter' (**Varghese et al., 2005: 39**). The findings of this study is in line with current literature (**Ellis, 2016; Skott, 2018; Varghese et al., 2005; Nichols, Schutz, Rodgers, & Bilica, 2016; Giovanelli, 2015; Beauchamp, & Thomas, 2009; Ellis, 2003**) confirming that the depth, variety and diversity of teacher experiences impact on teacher views and identities. Author 1 experiences demonstrate that previous experiences are influential on his current practices and self-development. He relates to his students, and they form a team instigating a positive student and teacher relationship. This knowledge can be employed in teacher training programs. Teachers should cherish their experiences and assess theirs with students to find mutual ground in teaching. Reflecting, sharing and discovering experiences is a good way to bond with students to recognise their needs and develop their teaching methods along with their identity.

Kamal Nasrollahi was born in Naghadeh, Iran, in 1978. He is an MA graduate in English Language Teaching from Islamic Azad University, Urmia. He has been teaching English to language learners aged 6 to 40 for approximately 18 years. Currently, he is managing his language school in Piranshahr. His areas of interest are language teaching, TESOL, ESP and EAP.

Mehdi Moharami is a recent PhD graduate from the faculty of Education at Monash University. He is an English teacher and has explored the impacts of learning English on the Iranian community. Mehdi is interested in cultural studies, TESOL, educational policy and applied linguistics.

Samran Daneshfar is a PhD candidate in the Faculty of Education at Monash University. Samran holds qualifications in English literature and teaching English. He worked as a primary teacher and a secondary English teacher across schools in Iran. His PhD project investigates adult multilingual English learners' private speech. His areas of interest include second language education and Cultural-historical Theory

References

Ates, H., & Alsal, K. (2012). The importance of lifelong learning has been increasing. *Procedia-Social and Behavioral Sciences*, 46, 4092-4096. DOI: 10.1016/j.sbspro.2012.06.205 [Accessed: 23 June 2021].

Audet, D., Evans, M. A., Williamson, K., & Reynolds, K. (2008). Shared book reading: Parental goals across the primary grades and goal–behavior relationships in junior kindergarten. *Early Education and Development*, 19(1), 112-137. DOI: 10.1080/10409280701839189 [Accessed: 23 June 2021].

Bartleet, B.-L., & Ellis, C. (2009). Making autoethnography sing/making music personal. In B. L. Bartleet & C. Ellis (Eds.), *Music autoethnographies* (pp. 1-20). Bowen Hills, Queensland: Australian Academic Press. DOI: 10.3316/informit.159366247396981 [Accessed: 23 June 2021].

Beauchamp, C. & Thomas, L. (2009). Understanding teacher identity: an overview of issues in the literature and implications for teacher education. *Cambridge Journal of Education*, 39(2), 175-189. DOI: 10.1080/03057640902902252 [Accessed: 23 June 2021].

Bochner, S. (Ed.). (2013). *Cultures in contact: Studies in cross-cultural interaction: Vol. 1*. Elsevier. DOI: 10.1016/C2013-0-05963-4 [Accessed: 23 June 2021].

Brown, H. D. (2002). *Strategies for success: A practical guide to learning English*. New York: Longman.

Callary, B., Werthner, P., & Trudel, P. (2012). The lived experience of a doctoral student: The process of learning and becoming. *The Qualitative Report,* 17(86), 1-20. Available at: http://www.nova.edu/ssss/QR/QR17/callary.pdf [Accessed: 23 June 2021].

Campbell, E. (2016). Exploring autoethnography as a method and methodology in legal education research. *Asian Journal of Legal Education*, 3(1), 95-105. DOI: 10.1177%2F2322005815607141 [Accessed: 23 June 2021].

Chang, H., Ngunjiri, F., & Hernandez, K. A.C. (2013). Collaborative Autoethnography (1st ed.). UK: Routledge. DOI: 10.4324/9781315432137 [Accessed: 23 June 2021].

Custer, D. (2014). Autoethnography as a transformative research method. *The qualitative report*, 19(37), 1-13. Available at: http://www.nova.edu/ssss/QR/QR19/custer21.pdf [Accessed: 23 June 2021].

Dale, P. S., Crain-Thoreson, C., Notari-Syverson, A., & Cole, K. (1996). Parent-child book reading as an intervention technique for young children with language delays. *Topics in Early Childhood Special Education*, *16*(2), 213-235. DOI: 10.1177%2F027112149601600206 [Accessed: 23 June 2021].

de Bruin, L. R. (2016). The influence of situated and experiential music education in teacher-practitioner formation: An autoethnography. *The Qualitative Report*, *21*(2), 407-427. Available at: https://nsuworks.nova.edu/tqr/vol21/iss2/14 [Accessed: 23 June 2021].

Denzin, N. K., & Lincoln, Y. S. (2000). Introduction: The discipline and practice of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 1-28). London: Sage.

Dogruer, N., Eyyam, R., & Menevis, I. (2011). The use of the internet for educational purposes. *Procedia-Social and Behavioral Sciences*, *28*, 606-611. DOI: 10.1016/j.sbspro.2011.11.115 [Accessed: 23 June 2021].

Dwyer, S. C, & Buckle, J. L. (2009). The space between: On being an Insider-Outsider in qualitative research. *International Journal of Qualitative Methods, 8*(1), 54–63. DOI: 10.1177%2F160940690900800105 [Accessed: 23 June 2021].

Ellis, E. (2016). *The plurilingual TESOL teacher: The hidden languaged lives of TESOL teachers and why they matter*. ProQuest Ebook Central. Available at: https://ebookcentral.proquest.com [Accessed: 23 June 2021].

Ellis, V. (2003). The love that dare not speak its name? The constitution of the English subject and beginning teachers' motivations to teach it. *English Teaching: Practice and Critique* 2(1), 3-14. Available at: https://bit.ly/3B9rNU6 [Accessed: 23 June 2021].

Ellis, C., Adams, T., & Bochner, A. (2011). Autoethnography: An Overview. *Historical Social Research / Historische Sozialforschung, 36*(4 (138)), 273-290. Available at: http://www.jstor.org/stable/23032294 [Accessed: 23 June 2021].

Firth, A. (1996). The discursive accomplishment of normality: On 'lingua franca' English and conversation analysis. *Journal of pragmatics*, *26*(2), 237-259. DOI: 10.1016/0378-2166(96)00014-8 [Accessed: 23 June 2021].

Freebody, P. R. (2003). *Qualitative research in education: Interaction and practice*. SAGE.

Giovanelli, M. (2015). Becoming an English language teacher: linguistic knowledge, anxieties and the shifting sense of identity. *Language and Education*, 29(5), 416-429. DOI: 10.1080/09500782.2015.1031677 [Accessed: 23 June 2021].

Gloviczki, P. J. (2020). Always a student of autoethnography. *The Qualitative Report*, *25*(1), 197-198. Available at: https://nsuworks.nova.edu/tqr/vol25/iss1/13/ [Accessed: 23 June 2021].

Guérin, E., Arcand, I., & Durand-Bush, N. (2010). A view from the inside: an in-depth look at a female university student's experience with a feel-based intervention to enhance self-confidence and self-talk. *Qualitative Report,* 15(5), 1058-1079. Available at: http://www.nova.edu/ssss/QR/QR15-5/guerin.pdf [Accessed: 23 June 2021].

Harder, R., Nicol, J. J., & Martin, S. L. (2020). "The power of personal experiences": Post-publication experiences of researchers using autobiographical data. *The Qualitative Report,* 25(1), 238-253. Available at: https://nsuworks.nova.edu/tqr/vol25/iss1/16 [Accessed: 23 June 2021].

Hohr, H. (2012). The concept of experience by John Dewey revisited: Conceiving, feeling and "enliving". *Studies in Philosophy and Education*, 32(1), 25-38. DOI: 10.1177/103841620801700204 [Accessed: 23 June 2021].

Hunter, J. E. (2015). Intersubjective sensibilities: Memory, experience, and meaning in natural history interpretation. *The Qualitative Report,* 20(7), 1046-1061. Available at: http://www.nova.edu/ssss/QR/QR20/7/hunter5.pdf [Accessed: 23 June 2021].

Jarvis, P. (2009). *Learning to be a person in society*. London, UK: Routledge.

Jensen, P., & Nielsen, H. S. (1997). Child labour or school attendance? Evidence from Zambia. *Journal of population economics*, *10*(4), 407-424. Available at: https://www.jstor.org/stable/pdf/20007557.pdf [Accessed: 23 June 2021].

Klippel, F., Klippel, J. H., & Ur, P. (1984). *Keep talking: Communicative fluency activities for language teaching*. Cambridge university press.

Kolb, D. A. (1984). Experience as the source of learning and development. *Upper Sadle River: Prentice Hall*.

Khosravi, R., Moharami, M., & Karimkhanlouei, G. (2014). Perspectives and achievement of EFL students in teaching culture via two modes: Books vs. books plus films. *Journal of Language Teaching and Research*, *5*(5), 1210-1217. DOI: 10.4304/jltr.5.5.1210-1217 [Accessed: 23 June 2021].

Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation* (Learning in Doing: Social, Cognitive and Computational Perspectives). Cambridge: Cambridge University Press. DOI: 10.1017/CBO9780511815355 [Accessed: 23 June 2021].

Le Ha, P. (2008). *Teaching English as an international language: Identity, resistance and negotiation*. ProQuest Ebook Central.

Liao, P. (2006). EFL learners' beliefs about and strategy use of translation in English learning. *RELC Journal*, *37*(2), 191-215. DOI: 10.1177%2F0033688206067428 [Accessed: 23 June 2021].

Liu, S. Y., & Lederman, N. G. (2007). Exploring prospective teachers' worldviews and conceptions of nature of science. *International Journal of Science Education*, *29*(10), 1281-1307. DOI: 10.1080/09500690601140019 [Accessed: 23 June 2021].

MacCallum, F., & Golombok, S. (2004). Children raised in fatherless families from infancy: a follow-up of children of lesbian and single heterosexual mothers at early adolescence. *Journal of child psychology and psychiatry*, *45*(8), 1407-1419. DOI: 10.1111/j.1469-7610.2004.00324.x [Accessed: 23 June 2021].

Mcilveen, P. (2008). Autoethnography as a Method for Reflexive Research and Practice in Vocational Psychology. *Australian Journal of Career Development*, *17*(2), 13–20. DOI: 10.1177/103841620801700204 [Accessed: 23 June 2021].

Mirhosseini, S. A., Sazvar, A., & Rashed, F. (2017). "I love foreigners' attitudes towards life": Reproducing lifestyles in an Iranian English language teaching context. *Compare: A Journal of Comparative and International Education*, *47*(5), 756-772. DOI: 10.1080/03057925.2016.1274880 [Accessed: 23 June 2021].

Muhit, M. A. (2013). Notion of experience in John Dewey s philosophy. *Philosophy and Progress, 53*(1-2), 9-24. DOI: 10.3329/pp.v53i1-2.21944 [Accessed: 23 June 2021].

Nichols, S. L., Schutz, P. A., Rodgers, K., & Bilica, K. (2016). Early career teachers' emotion and emerging teacher identities. *Teachers and Teaching*, 23(4), 406–421. DOI: 10.1080/13540602.2016.12110 99 [Accessed: 23 June 2021].

Payne, P. (1999). The significance of experience in SLE research. *Environmental Education Research*, *5*(4), 365-381. DOI: h10.1080/1350462990050403 [Accessed: 23 June 2021].

Peirce, B. N. (1994, March 28). *Language learning, social identity, and immigrant women*. [Paper presented]. 1994 Annual Meeting of the Teachers of English to Speakers of Other Languages, Baltimore, MD, USA. Available at: https://files.eric.ed.gov/fulltext/ED373582.pdf [Accessed: 23 June 2021].

Pheko, M. (2018). Investigating workplace bullying and mobbing using collaborative autoethnography. In *SAGE Research Methods Cases.* DOI: 10.4135/9781526446183 [Accessed: 23 June 2021].

Powell, M. G. (2005). Passionate Teachers Create Passionate Students. *Delta Kappa Gamma Bulletin*, *71*(2), 52-54.

Reed-Danahay, D. (2006). Book Review: Ethnographic alternatives. *Qualitative Research*, *6*(1), 115-119. DOI: 10.1177/1468794106063543 [Accessed: 23 June 2021].

Rendell, L., Boyd, R., Cownden, D., Enquist, M., Eriksson, K., Feldman, M. W., Fogarty, L., Ghirlanda, S., Lillicrap, T., & Laland, K. N. (2010). Why copy others? Insights from the social learning strategies tournament. *Science*, *328*(5975), 208-213. DOI: 10.1126/science.1184719 [Accessed: 23 June 2021].

Rindal, U. (2010). Constructing identity with L2: Pronunciation and attitudes among Norwegian learners of English 1. *Journal of Sociolinguistics*, *14*(2), 240-261. DOI: 10.1111/j.1467-9841.2010.00442.x [Accessed: 23 June 2021].

Ritchie, J., & Spencer, L. (2002). Qualitative data analysis for applied policy research. *The qualitative researcher's companion*, *573*(2002), 305-329. DOI: 10.4135/9781412986274.n12 [Accessed: 23 June 2021].

Salamati, P., Razavi, S. M., Shokraneh, F., Torabi, S. M., Laal, M., Hadjati, G., ... & Movaghar, V. R. (2013). Mortality and injuries among Iranians in Iraq-Iran war: a systematic review. *Archives of Iranian medicine*, *16*(9), 542-550. Available at: http://ams.ac.ir/AIM/NEWPUB/13/16/9/0012.pdf [Accessed: 23 June 2021].

Salkind, N. J. (2010). *Encyclopedia of research design: Vol. 1*. Thousand Oaks, CA: SAGE Publications. DOI: 10.4135/9781412961288.n96 [Accessed: 23 June 2021].

Sedeeq, D. (2018). The impact of the English loanwords in the Central Kurdish dialect on media discourse. *British Journal of Middle Eastern Studies*, 45(4), 607-626. DOI: 10.1080/13530194.2018.1430535 [Accessed: 23 June 2021].

Sofi-Karim, M. (2015). *English Language Teaching in the Kurdistan Region of Iraq* [Doctoral dissertation, Webster University]. Available at: https://www.kurdipedia.org/files/books/2016/97345.PDF [Accessed: 23 June 2021].

Sze, J. L., & Southcott, J. (2019). In Jen's Shoes – Looking Back to Look Forward: An Autoethnographic Account. *The Qualitative Report*, *24*(3), 606-618. Available at: https://nsuworks.nova.edu/tqr/vol24/iss3/13 [Accessed: 23 June 2021].

Tatsumura, A. (1980). Music and Culture of the Kurds. *Senri Ethnological Studies*, *5*, 75-93. DOI: http://doi.org/10.15021/00003441 [Accessed: 23 June 2021].

Thompson, G., Aizawa, I., Curle, S., & Rose, H. (2019). Exploring the role of self-efficacy beliefs and learner success in English medium instruction. *International Journal of Bilingual Education and Bilingualism*, 1-14. DOI: 10.1080/13670050.2019.1651819 [Accessed: 23 June 2021].

Tootle, R. (2003). My Reading Choices Soothe Me. In M. Commeyras, B. S. Bisplinghoff & J. Olson (Eds), *Teachers as readers: perspectives on the importance of reading in teachers' classrooms and lives (pp.* 78-83). The international reading association. Available at: https://bit.ly/2YVlwhn [Accessed: 23 June 2021].

Ulug, M., Ozden, M. S., & Eryilmaz, A. (2011). The effects of teachers' attitudes on students' personality and performance. *Procedia-Social and Behavioral Sciences*, *30*, 738-742. DOI: 10.1016/j.sbspro.2011.10.144 [Accessed: 23 June 2021].

Varghese, M., Morgan, B., Johnston, B., & Johnson, K. A. (2005). Theorizing Language Teacher Identity: Three Perspectives and Beyond. *Journal of Language, Identity & Education*, *4*(1), 21-44. DOI: 10.1207/s15327701jlie0401_2 [Accessed: 23 June 2021].

Wenger, E. (2010). Communities of Practice and Social Learning Systems: the Career of a Concept. In C. Blackmore (Ed.), *Social Learning Systems and Communities of Practice* (pp. 179-198). Springer London. DOI: 10.1007/978-1-84996-133-2_11 [Accessed: 23 June 2021].

Wiesner, A. (2020). Contemplating Reflexivity as a Practice of Authenticity in Autoethnographic Research. *The Qualitative Report,* 25(3), 662-670. Available at: https://nsuworks.nova.edu/tqr/vol25/iss3/7 [Accessed: 23 June 2021].

Wu, W. C., & Marek, M. (2009). The impact of teleconferencing with native English speakers on English learning by Taiwanese students. *International Journal on E-learning*, *8*(1), 107-126. Available at: https://www.learntechlib.org/primary/p/24460/ [Accessed: 23 June 2021].

To cite this article:

Nasrollahi, K., Moharami, M., & Daneshfar, S., 2021. A Teacher's Autoethnography: The impact of lifelong experiences in shaping worldviews and teacher identity. *Exchanges: The Interdisciplinary Research Journal*, 9(1), 124-144. Available at: https://doi.org/10.31273/eirj.v9i1.857.

Endnotes

[i] The person who is a religious leader and preacher in Islam

A Tasty Encounter with Routine Dynamics Ideas: Some 'after action' reflections

Huayi Huang

Usher Institute, The University of Edinburgh, UK
Correspondence: huayi.the.researcher@gmail.com
ORCID: 0000-0003-1166-485X

Editorial review: This article has been subject to an editorial review process

Abstract

On Friday 9th April 2021, I attended my first conference with the Routine Dynamics research community. As an interested newcomer to this scene, the event inspired some personal reflections for my own work. To go beyond these personal benefits though, I was also inspired to share the new thinking and wider research directions from this research encounter, with our Exchanges readership. The emerging thoughts and practices from the Routines Dynamics community seems to be a welcoming and inclusive oasis, in the latticework of ideas being developed across our natural, social, and humanities worlds of scholarship. What follows is my attempt to make a little difference to the work of colleagues, in sharing the impact of this intellectual encounter for a wider audience. In reflecting on the events of this conference, I was guided by Johnson (2018)'s suggestions for possible structure and content for this type of article (as distinct and different from original empirical contributions).

Keywords: Routine Dynamics; post conference; critical reflection

Introduction

As developing scientists and scholars, we are intrigued by new ideas, technologies, or practices with the potential to fruitfully change our minds. Particularly, when these proposals and emerging innovations have a potential for a last impression, on our academic development, learnings, and careers.

I'm thinking more intensely recently, around ideas of change and stability and how this may play out in making sense of our research data, evidence, and phenomena. With this concern in mind, I approached the recent Routine Dynamics Zoom conference – a half day conference taking place on Friday 9th April 2021.

What I found in this introduction to the Routine Dynamics (RD) research community, seemed worth sharing. Like others I critically reflect on the thoughts and ideas exchanged during this excellent conference below (**Crealock-Ashurst et al. 2018, Mulcahy 2018**), in hope of these first-order constructs (**Toye et al., 2014, Dixon-Woods et al., 2007**) from my first hand experiences in this scholarly encounter, making a difference to your academic life. Because this critical reflection is limited to an initial taster of developing ideas from the Routine Dynamics community, the reader may benefit from more in-depth reviews of *emerging intentionality* (**Dittrich & Seidl 2018**), *complexity* (**Hærem et al. 2021**), *design issues* (**Wegener & Glaser, 2021**), and the *interplay between spaces for reflection and experimentation* (**Bucher & Langley 2016**) in routine dynamics, to complement my later reading of *RD ideas on tasks and 'guiding artifacts' for thought or action*, and *the performative and ostensive aspects of routines and their abstractions*.

The Event

In participating as a 'new researcher' in this conference, I was welcomed into the community. The theme for the day was of course the exchange of old and new ideas in Routine Dynamics research – which turns out to be an ongoing blending, mix, and 'latticework' of ideations – aimed at enriching our understanding of the *routinised* and *dynamically emerging* faces of our thoughts and actions (**Feldman et al., 2020**).

This understanding is asserted to be different, from received wisdom shaping the new ideas shared by this coalescing academic community. As a new way of seeing, and exchanging knowledge on the unfolding of our professional and personal routines (e.g. from brushing your teeth, to more complex examples), this community currently includes a rich panoply of academic thoughts contributed from colleagues across 17 countries (including Europe, North America, Brazil, China, Singapore, Turkey and

Australia). In terms of its academic heritage, the roots of Routine Dynamics thinking can be traced back to at least the 1950s in time, and intellectually located as outgrowths from studies of *organizational routines*, receiving increasing attention in the Organization Sciences (**Howard-Grenville et al., 2016**), Sociology of Organizations (**Feldman et al., 2019**), and studies on *processes* of organization (**Howard-Grenville et al., 2016**) over the last 20 years in particular

The specific events I participated in were:

1. The introduction to the field by senior Routine Dynamics researchers: Drs *Katharina Dittrich* (Associate Professor in Organisation Studies, Warwick Business School) and *Luciana D'Adderio* (Chancellor's Fellow, University of Edinburgh College of Medicine and Veterinary Medicine).

2. A keynote presentation about 'Recent developments in process based research' by a leading organisational and RD theorist: Professor Haridimos Tsoukas (Columbia Ship Management Professor of Strategic Management, University of Cyprus).

3. A round table session about The Paradox of Temporary Organising by an experienced RD researcher: Dr Simon Addyman (Associate Professor in Project Management, UCL Faculty of the Built Environment).

4. And, finally an excellent open session for all members old and new, on the future governance of this coalescing community of thought, hosted by the excellent Dr Conor Horan (Lecturer, Technological University Dublin School of Marketing).

Many informative contributions were also made by other colleagues, too many to name individually here. In the next section, I will try to introduce some of the key ideas we discussed in this research event and community; illustrated through reflecting on examples from 'routines'…drawn from my music performance (BMus) and academic experiences in the safety sciences (**Huang, 2015**), computing sciences and Artificial Intelligence (BSc) (**Masci et al., 2012**).

New Thinking and Directions from this Intellectual Encounter

To start understanding the basics of Routine Dynamics thought, we might start by wondering why the diverse routines we are intimately familiar with (eg brushing teeth, taking your children to school, doing 'research', etc.) almost never remain *entirely static* entities in our empirical worlds. When you brush your teeth for the *nth* time later today for example, the patterning and sequencing of actual actions as they will unfold is unlikely to be absolutely identical or replicated identically, to those you did

yesterday; maybe you are a little more tired, bored, or perhaps have a toothache today…yet you will still manage to muddle through and get your teeth done?

Broadening this illustrative example out to the empirical observations from RD researchers of the past, evidence increasingly suggested a need to be more attentive to seemingly significant variation and changes, to 'the routine' of performing music on the piano for example. The key paradox to be addressed here is the existence of both *stability* alongside *change* within the 'same routine' – which when studied across various organizational contexts seemed to suggest the regular co-presence of both the new and unstable, and the old and stable – often *mutually constituted* with each other (**Tsoukas & Chia 2002**). In another words, the *dynamic adaptations* we make when going through a 'new research day' for example, cannot readily exist without the co-existence of a background of somewhat routinised practices, that then provide at least a semi-stable infrastructure upon which we can then enact the *dynamic adaptations* of 'that research day', as it unfolds. Perhaps memorably summarised in the 'paradox of the (n)ever-changing world' (**Birnholtz et al., 2007: 316**), of many of the organisational routines we engage in.

To deepen our conception of this 'dynamic routine', it may help to not only consider the 'dead' and fairly mindless facets of our conventional/habitual patterns and sequences of thoughts and actions, but also pay attention to those *lively*, *reflective*, *moral, and emotional* facets of how we *habitualise* and *routinise* (**Feldman et al., 2020**). These *lively* and *reflective* dimensions of our thoughts and ongoing actions, speaks strongly to our place in the world as agents with conscious wills – to actively change, consolidate, and move each other, etc. The *moral* and *emotional* dimensions of our actions, perhaps then speaking to our general strivings to accomplish our social roles in service of some sense of a 'greater good' (including 'instrumental goods' of simply getting stuff done), alongside phenomena of 'routine repairs' and 'expansions' of the portfolios of action patterns and sequences we direct towards some accomplishment (spoken about in Tsoukas's unpublished keynote from the RD conference, see also **Sinnicks 2019**). Sometimes we might fall back on simply continue to try…even as our efforts to 'repair' our task and routines continue to fail us in a situation (eg. when we hear of hear of heroic last-minute efforts from pilots of planes which still end up crashing).

Tasks and 'Guiding Artifacts' for Thought or Action?

Routine Dynamics theorists find it useful to consider the idea of *tasks*, as well as the *artifacts* guiding 'routinely dynamic' processes - as referring ultimately to the particular thought and action sequences of these processes unfolding in particular circumstances. In reviewing across the

cognitive, practice, and ontological dimensions of existing knowledge on routines (**Wegener et al., 2021**), we learn that understanding of core problems in changing our routines and habits of thought, may lie partly in empirical contradictions to a common assumption: that once tacit knowledge has been articulated by actors, subsequent change implementation (as planned) unfolds unproblematically. This common assumption can be seen in the general strategy prevalent in the management of health services and medical knowledge (**Wyatt, 2001**), prioritising codification practices *for* explicit knowledge forms (from people -> documents), at the expense of *personalised*, *more tacit*, forms of knowledge sharing (people <-> people). Linking then to Schon's (**1991; 2016**) documentation of the 'Technical-Rationality' image of knowledge production, circulation and dissemination, where the professional branches (and practitioners) of some knowledge discipline is left simply in the role of 'application' – of the ideally 'basic', 'general', and ideally explicit knowledge forms produced by its home knowledge discipline (e.g. mathematics being home discipline to the 'less prestigious' applied-maths of statistics).

As noted in Feldman et al (**2020**)'s recent introductory chapter, 'one aspect that characterizes routines as particular practices is the fact that routines are ostensibly directed at the accomplishment of particular tasks'. In terms of artifacts 'acting' to sometimes guide our actions, action sequences and routines then, referents for RD conceptions of 'artifact' may be drawn from across diverse practice domains – referring to musical scores, clinical guidelines, Standard Operating Procedures, and algorithms, for example.

A Routine Dynamics lens then, directs research attention to the 'assumptions, views and goals embedded in the [guiding artifact] at design and/or usage stage' (**Feldman et al., 2020**), in considering the abstractly expressed and defined contents of artifacts (such as musical scores and algorithmic procedures). In considering the wider circumstances in which these abstract contents play out in the unfolding of routines in practice, RD theorists also attend to the wider socio-technical or social-material 'assemblages' (**D'Adderio & Pollock, 2020**) or underlying 'infrastructures for action', shaping the empirical expressions and 'playing out in practice' of our daily routines. For a musical score, part of its 'infrastructures for action' might be the underlying influences from the particular musical training previously received by a performer, on the routines in a musical performance today; for an abstractly defined algorithmic procedure, part of its 'infrastructures for action' could be the particular range of instantiations made possible by the particular programming environments available at an institution, which both opens up and delimits particular possibilities for actual routines and subroutines to be readily writable, in the computer code to implement the algorithm more concretely. The

musician's previous training, and the routines and subroutines of the programming environment software in interaction with the programmers then – illustrate some of the elements from the wider circumstances contextualising the particular routine dynamics being studied.

To encourage us to dissolve some of our received distinctions – between *actors* and *artifacts*, and the *animate* and *inanimate* for example – Routine Dynamics theory currently encourages a sort of research reality which is neither overly anthropocentric or ethnocentric, or overly materialist in its conception of the sort of world that is possible to know. In particular, offering a *network* and *process* centric approach to ontology for underpinning applied RD studies – where 'actions' are not only an idea born of our imaginations, but refer to *those 'empirical things' enacted in time and in space –which tend towards 'displays of intentionality, control over [our] body, and social autonomy'* (**Wegener & Glaser, 2021**). In such a revised conception, the *processes* and *networks* which we are able to document hold centre stage – on which 'routines are ontologically processes rather than entities' (**Feldman et al., 2020**); the various *actors* and *entities* being brought into particular relationships by these processes and networks – are demoted to the background of a study.

D'Adderio (**2011**) provides a good introduction to some of the new ideas in this way of thinking about artifacts and materiality, in differentiating the RD view from realist and social constructivist insights on agency and artifacts. In this reading, properties of artifacts (such as 'agency') can be both *stable* and *inherent* to their existence (realist), but could also result from an artifact's *relational* and *emergent* roles within networks of 'actants' (social constructivism, see e.g. Jones 2009) as processes and networks shift, reconfigure themselves, and evolve.

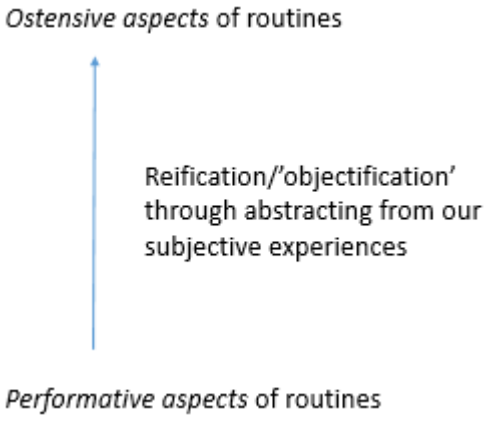
The identification of 'artifactual actants' and their properties in Routine Dynamics studies and theorising then, will often be interwoven with the sources and insights 'from the field' (in a qualitative research sense), perhaps in addition to the predefinitions of key artifacts, things, and their properties typical of quantitative studies of routines. An example from the domain of science and technology studies, could be the 'artifactual actants' identified as the books, papers, etc., and the emerging properties such artifacts take on - in *processes* of knowledge circulation within networks of Science documents and 'scientific actors' in labs and elsewhere (**Latour, 1987**). A more recent example (**D'Adderio, 2014**) extensively studied ethnographically the 'replication dilemma' as a property of routines – arising in their transfer between sites of replication and innovation in a Fortune 500 electronics manufacturer.

When one juxtaposes a current definition of 'work' as 'activity involving mental or physical effort done in order to achieve a result' (**ODE, 2011**), alongside the RD focus on patterns of *actions/action sequences* as its primary research objects for empirical investigation (Feldman et al 2020), a thought emerges around the patterning of sequences of mental or physical activity directed at some organising aim or goal. In another words, could Routine Dynamics research evolve in the future to also overcome known difficulties around investigations of empirical patterns of *ideations/thought sequences*, in addition to its foundational focus on *actions/action sequences* (**Feldman et al., 2020**) in service of the purposes of organising and organisations?

Performative and Ostensive Aspects of Routines and their Abstractions

In reflecting on the various 'guiding artifacts' for our thoughts or action then, Routine Dynamics theorising places a strong emphasis on the distinction between the 'performative' and 'ostensive' aspects of our routine actions (**Feldman et al., 2020**).

Figure 1: Ostensive and Performative Aspects of Routines



(adapted from **Feldman et al., 2020**)

In my current reading, the *ostensive* in this context refers to the 'more portable' ideas we try to exchange with each other, as we seek to share abstract understanding of processes for example. In discussing the *ostensive aspects of routines*, RD theorists highlight the point that we cannot avoid some degree of 'thing-ification' – in making 'more fixed' the substance of what we are trying to communicate about, in the very process of exchanging abstractions from our experiences with each other. Examples from qualitative research include the often encountered difficulties of its practitioners around pinning down 'the' qualitative research process as an 'overarching ostensive pattern or goal' in the abstract (cf. **D'Adderio, 2014**) – in exchanging knowledge on study plans

with ethics processes and committees; In exchanging knowledge on that which was found from studies, qualitative researchers may also face demands from funders and reviewers for 'a couple of high level diagrammatic summaries', of what in practice are highly emic processes or practices at the level of field observations of phenomena (**Routine Dynamics Conference, 2021**).

As a way to refer to those emic experiences 'less portable' across particular minds, times, and spaces then, Routine Dynamics theorists discuss the *performative aspects of routines,* routinely through narrative (and natural languages like English); as the empirical counterpart to our more etic and *ostensive* languages of representation (e.g. maths, or controlled vocabularies as used in medicine for example). With the insight (**Feldman et al., 2020**) that whilst we can and sometimes do create artifacts with only the most tenuous link to the far more *fluid, plastic,* etc. existence of ideas as we experience them 'in the moment' (e.g. some new policy with little thought from anyone…to its mechanisms of implementation), to do so risks creating systems of abstract thought and possible actions devoid of strong empirical meaning, or clear implications for action in the real world.

Routine Dynamics theorists also commit to the idea that both the performative and ostensive aspects of routines ought to be *mutually constitutive* of each other – in delivering fruitful knowledge on the dynamics of our routines. Perhaps in this commitment then, opening up a productive link with mixed methods of (academic) knowledge, in the shared commitment to integrating the more *fluid, plastic,* etc. existence of key ideas as e.g. discovered through qualitative inquiry practices, with the more 'thing-ified' and predefined ideas…about which we may learn – typical of quantitative study processes and learning patterns. In the mixed methods spirit, perhaps the (qualitative) commitment to more *fluid, plastic,* etc. relationships with the key ideas driving our learning in and of the field, speaks to our broader need for 'performative aspects of concepts' in their practice and everyday expressions; but in speaking more strongly to the need for 'ostensive concepts' we can 'point to' in theorising then, perhaps finding satisfaction in the language and analyses of statistics for example.

Task analyses and business process modelling then (e.g. how does a member of a family 'do schooling' in general terms, or how does a customer service department 'do tendering for new business'), involve a kind of move from the *performative* to *ostensive* aspects of routines; in trying to produce abstract descriptions largely removed of their dynamicism as experienced practically – which nevertheless try to reasonably cover a diversity of real performances of tasks and business processes (in their circumstantial particularities). In doing so inevitably

leaving out *some* of the substance of that which is being described – depending on the partialities of the unfolding abstraction processes of the analysis or modelling (as their own actions are performed in context of particular minds, times, and places).

In Conversation with Academic Pasts and Present

For me, Routine Dynamics has fruitful links which might be explored, in connection with the current interest in a new ontology of 'Safety II' developing across the safety sciences (**Sujan et al., 2017**). In this connection, perhaps asking the (theoretical) research question, of how the *network* and *process* centric approaches to ontology for RD theorists, might be brought into fruitful collaboration: with the idea of safety (II) evidence as being about the *presence* of safety things and related ideas in our empirical studies, in contrast to the received wisdom of focusing on things and ideas relating to the *absences* of safety (e.g. accidents and incidents, risk assessments to try to predict the unsafe). Perhaps there is a productive place for this connection, in the intersection between the emerging sciences and realities of the Routine Dynamics and Safety II communities.

In living through the *meaningful* moments and *purposeful* experiences of praxis, in the routines we engage within our individual and collective 'practice worlds', the *phenomenological connection* is actively being explored by Routine Dynamics researchers such as (**Sandberg & Tsoukas, 2020**). As qualitative researchers we are of course interested in Sandberg and Tsoukas's distinction between language in its *performative and prereflective* roles and functions (of somebody shouting 'fire' to get fire-fighting started for example, cf. Given (**2011**), and at other times as a way to *represent and reflect* on the routines we've already participated in (e.g. at time of the 'performance and progression review'). In all of this perhaps joining in the recent turn towards practice, and emerging interest in studying the complexity of routines as an enacted phenomenon (**Hærem et al., 2021**). Also being intrigued by Routine Dynamics research questions around how the *lively, (pre?)reflective, moral,* and *emotional* dimensions of our efforts at routinising the new ideas, technologies, and practices encountered in our lives and circumstances – can be placed into more meaningful roles within the networks of ideas, things, actions, and meanings already intelligible to us prior to these intrusions of the 'new'.

In seeking to relate existing work treating learning as expansion (**Engeström, 2015**), to the 'latticework' of ideations developing within the Routine Dynamics community, a fruitful connection might be in more deeply exploring (in another study) the similarities and differences across these two bodies of thought: on mediating/'guiding artifacts' for thoughts or actions, and their performative and ostensive aspects. Perhaps a

comparative study describing what the routine, dynamic, or expansive facets of learning processes are, in service of 'central activities' (**Engeström, 2015**) of reorganisations in existing forms of work and systems of activity (**Charitonos & Littlejohn, 2021**) – e.g. in ongoing reorganisations to reduce the burden on specialised curative or palliative care services through changing existing way of patient treatment, triage, routing, etc. in primary care (**NHS, 2019**)? A related question then, might be in how the expansive facets of learning are born: from changes in the range of professionals involved, in their divisions of labour/job descriptions, repertoires of actions/action sequences, and sites of work established in the unfolding of larger projects of change (**Charitonos & Littlejohn, 2021**); which empirical data are reflective of key ideas in these 'master conceptual schemes' (**Merton, 1968**) on offer for example, in considering the routine, dynamic, or expansive ingredients of change?

Finally, in my ongoing attempt to find general senses and meanings from existing academic ideas around 'generative mechanisms', 'generative systems', etc., perhaps worth sharing here my idea from attending the Routine Dynamics conference – of drawing a distinction between *sterile* and *fruitful* resources for our mutable routines of thought and action. In this conception, 'old' facets of the *wilful* routines we engage in helping to give us the relatively stable yet flexible 'infrastructure' with which to govern and order our existing lives, in co-reproduction and adaptive constitution with the 'new' ideas, technologies, and elements of practice(s) we are exposed to as we develop through a new day.

In this daily interplay between the *fruitful* sources of active consolidation or change in our ideas and actions then, perhaps becoming excited together – to develop collectively the generative mechanisms and systems of Routine Dynamics ways of seeing and knowing.

A Short Note on these 'Observations'

For those colleagues insistent on the distinction between *description*, and *interpretation* in knowledge shared, it might be informative to have a look at Bogen's (**2020**) account of ongoing evidence and arguments over whether observation is theory laden within 'scientific' knowledge systems. For now let's just see as a limitation in the active interpretative-descriptions above, the paucity of clearly passive-descriptive abstractions of the events shared.

But the liberal sprinkling of citations to original and secondary sources of related knowledge throughout should hopefully provide reassurance to these colleagues, and strengthen the case for the idea that the interpretations offered here go beyond 1 early career researcher 'doing

their own thing'. In deriving sense, wider meaning, and inspiration, from this exciting intellectual intervention and encounter on Friday.

Huayi has mixed-methods experience and research expertise across both academia and industry, routinely collaborating with senior colleagues in both spheres. Huayi works mostly as a qualitative primary care health scientist currently, but past collaborations include for example working with a chief statistician in searching for new variables viable for statistical modelling. His original research has been published in top Elsevier publications such as *Safety Science*, as well as *Lecture Notes in Computer Science* and journals for secondary and primary care (e.g. a recent editorial in *British Journal of General Practice*). He is also an occasional columnist for drkriukow.com.

References

BOGEN, JAMES, "THEORY AND OBSERVATION IN SCIENCE" 2020. *The Stanford Encyclopedia of Philosophy* (Winter 2020 Edition), Edward N. Zalta (ed.). Available at: https://plato.stanford.edu/archives/win2020/entries/science-theory-observation/ [Accessed: 12 April 2021].

BIRNHOLTZ, J.P. COHEN, M.D. & HOCH, S.V. 2007. Organizational character: On the regeneration of Camp Poplar Grove. *Organization Science*, 18(2), 315-332.

BUCHER, S., & LANGLEY, A. (2016). The interplay of reflective and experimental spaces in interrupting and reorienting routine dynamics. O*rganization Science*, 27(3), 594-613.

CHARITONOS, K., & LITTLEJOHN, A. (2021). Professional learning in healthcare settings in resource-limited environments: what are the tensions for professionals' knowing and learning about antimicrobial resistance? *Studies in Continuing Education*, DOI: 10.1080/0158037X.2021.1883577 [Accessed: 12 April 2021].

CREALOCK-ASHURST, B., ET AL., 2018. A Critical Reflection on the 28th International Biology Olympiad. *Exchanges: The Warwick Research Journal*, 5(1), 127-136. Available at: 10.31273/eirj.v5i1.221 [Accessed: 12 April 2021].

D'ADDERIO, L. 2011. Artifacts at the centre of routines: performing the material turn in routines theory. *Journal of Institutional Economics,* 7**,** 197-230.

D'ADDERIO, L. & POLLOCK, N. 2020. Making routines the same: Crafting similarity and singularity in routines transfer. *Research Policy,* 49**,** 104029.

D'ADDERIO, L. 2014. The Replication Dilemma Unravelled: How Organizations Enact Multiple Goals in Routine Transfer. *Organisation Science*, 25**,** 1325-1350. DOI: 10.1287/orsc.2014.0913 [Accessed: 12 April 2021].

DITTRICH, K., & SEIDL, D. (2018). Emerging intentionality in routine dynamics: A pragmatist view. *Academy of Management Journal*, 61(1), 111-138.

DIXON-WOODS, M., BOOTH, A. & SUTTON, A. J. 2007. Synthesizing qualitative research: a review of published reports. *Qualitative Research*, 7**,** 375-422. DOI: 10.1177%2F1468794107078517 [Accessed: 12 April 2021].

ENGESTRÖM, Y. (2015). *Learning by expanding* (2nd edition). Cambridge: Cambridge University Press.

FELDMAN ET. AL. 2020. Chapter 1. What is Routine Dynamics? Prepared for inclusion in *Cambridge Handbook of Routine Dynamics*. 2021. (Eds. Feldman M. S., Pentland B. T., D'Adderio L., Dittrich K., Rerup C., & Seidl D.) Cambridge Handbook of Routine Dynamics. Cambridge: Cambridge University Press. (Unpublished, forthcoming).

FELDMAN, M. S. D'ADDERIO, L. JARZABKOWSKI, P. AND DITTRICH, K. (EDS.) 2019. Routine Dynamics in Action: Replication and Transformation. *Research in the Sociology of Organizations*, 61, Emerald Publishing Limited.

GIVEN, L. M. 2011. "Phenomenology" ('Lived experience' section). In: *The Sage Encyclopedia of Qualitative Research Methods*. Newcastle: Sage.

HÆREM, T., YOOEUN, J., & HANSSON, M. (2021). Complexity in Routine Dynamics. In: *Cambridge Handbook of Routine Dynamics*. Cambridge: Cambridge University Press.

HOWARD-GRENVILLE, J. A., RERUP, C., LANGLY, A. & TSOUKAS, H. 2016. *Organizational routines: how they are created, maintained, and changed*. Oxford: OUP.

HUANG, H. 2015. *Development of New Methods to Support Systemic Incident Analysis*. Doctoral dissertation, Queen Mary University of London.

JONES 2009. Nature-Culture: Actor-Network Theory: A World of Networks. In: *International Encyclopedia of Human Geography* 2009 (Elsevier, Eds. Rob Kitchin, Nigel Thrift), pages 309-323. DOI: 10.1016/B978-008044910-4.00716-1 [Accessed: 12 April 2021].

JOHNSON, G.J. 2018. *Article Focus On: Critical reflections – what's their value?* Editorial Reflections from Warwick's Interdisciplinary Journal [blog]. Available at: https://blogs.warwick.ac.uk/exchangesias/entry/article_focus_on_1/ [Accessed: 1 April 2021].

LATOUR, B. 1987. *Science in Action.* Cambridge, MA: Harvard University Press.

MASCI, P., HUANG, H., CURZON, P., & HARRISON, M. D. 2012. Using PVS to investigate incidents through the lens of distributed cognition. In: NASA Formal Methods Symposium (pp. 273-278). Springer, Berlin, Heidelberg.

MERTON, ROBERT K. (1968). *Social Theory and Social Structure*. New York: The Free Press.

MULCAHY, S., 2018. Dissents and Dispositions. Reflections on the Conference of the Law, Literature and Humanities Association of Australasia. *Exchanges: The Interdisciplinary Research Journal*. DOI: 10.31273/eirj.v5i2.247 [Accessed: 12 April 2021].

NHS (2019). *The NHS Long Term Plan*. National Health Service. Available at: https://www.longtermplan.nhs.uk/ [Accessed: 10 May 2021].

OXFORD DICTIONARY OF ENGLISH (ODE) 2011. Edited by Stevenson, Angus (Third edition). Oxford: Oxford University Press.

ROUTINE DYNAMICS CONFERENCE, ON FRIDAY 9TH APR 2021. International half-day Zoom conference.

SANDBERG, J. & TSOUKAS, H. 2020. Sensemaking Reconsidered: Towards a broader understanding through phenomenology. *Organisation Theory*. DOI: 10.1177/2631787719879937 [Accessed: 12 April 2021].

SCHÖN, D. A. (1991/2016). Chapter 2: From Technical Rationality to Reflection-in-Action. In: *The reflective practitioner: How Professionals Think in Action.* Oxford: Routledge.

SINNICKS, M. 2019. Moral Education at Work: On the Scope of MacIntyre's Concept of a Practice. *Journal of Business Ethics*, 159, 105–118. DOI: 10.1007/s10551-017-3753-6 [Accessed: 12 April 2021].

SUJAN, M. A., HUANG, H. & BRAITHWAITE, J. 2017. Learning from incidents in health care: Critique from a Safety-II perspective. *Safety Science,* 99**,** 115-121.

TOYE, F., SEERS, K., ALLCOCK, N., BRIGGS, M., CARR, E. & BARKER, K. 2014. Meta-ethnography 25 years on: challenges and insights for synthesising a large number of qualitative studies. *BMC Medical Research Methodology,* 14**,** 80.

TSOUKAS, H. & CHIA, R. 2002. On organizational becoming: Rethinking organizational change. *Organization Science*, 13(5), 567–582.

WEGENER, F. E., & GLASER, V. L. (2021). DESIGN AND ROUTINE DYNAMICS. In: *Cambridge Handbook of Routine Dynamics*. Cambridge: Cambridge University Press.

WYATT, J. C. (2001) '10. Management of explicit and tacit knowledge'. *Journal of the Royal Society of Medicine*, 94(1), pp. 6–9. DOI: 10.1177/014107680109400102 [Accessed: 12 April 2021].

To cite this article:

Huang, H., 2021. A Tasty Encounter with Routine Dynamics Ideas: Some 'after action' reflections. *Exchanges: The Interdisciplinary Research Journal*, 9(1), 145-158. Available at: https://doi.org/10.31273/eirj.v9i1.825.